COASTAL ZONE MANAGEMENT

HEARINGS

BEFORE THE

SUBCOMMITTEE ON OCEANS AND ATMOSPHERE

OF THE

COMMITTEE ON COMMERCE
UNITED STATES SENATE

NINETY-SECOND CONGRESS

FIRST SESSION

ON

S. 582, S. 632, S. 638, and S. 992

NATIONAL COASTAL AND ESTUARINE ZONE MANAGEMENT ACT OF 1971

MAY 5, 6, AND 11, 1971

Serial No. 92–15

Printed for the use of the Committee on Commerce

U.S. GOVERNMENT PRINTING OFFICE
63-902 O WASHINGTON : 1971

COMMITTEE ON COMMERCE

WARREN G. MAGNUSON, Washington, *Chairman*

JOHN O. PASTORE, Rhode Island
VANCE HARTKE, Indiana
PHILIP A. HART, Michigan
HOWARD W. CANNON, Nevada
RUSSELL B. LONG, Louisiana
FRANK E. MOSS, Utah
ERNEST F. HOLLINGS, South Carolina
DANIEL K. INOUYE, Hawaii
WILLIAM B. SPONG, JR., Virginia

NORRIS COTTON, New Hampshire
WINSTON PROUTY, Vermont
JAMES B. PEARSON, Kansas
ROBERT P. GRIFFIN, Michigan
HOWARD H. BAKER, JR., Tennessee
MARLOW W. COOK, Kentucky
MARK O. HATFIELD, Oregon
TED STEVENS, Alaska

FREDERICK J. LORDAN, *Staff Director*
MICHAEL PERTSCHUK, *Chief Counsel*
H. CRANE MILLER, *Staff Counsel*
ARTHUR PANKOPF, Jr., *Minority Staff Director*
HENRI F. RUSH, Jr., *Staff Counsel*

SUBCOMMITTEE ON OCEANS AND ATMOSPHERE

ERNEST F. HOLLINGS, South Carolina, *Chairman*

JOHN O. PASTORE, Rhode Island
PHILIP A. HART, Michigan
RUSSELL B. LONG, Louisiana
DANIEL K. INOUYE, Hawaii
WILLIAM B. SPONG, JR., Virginia

TED STEVENS, Alaska
ROBERT P. GRIFFIN, Michigan
MARLOW W. COOK, Kentucky
MARK O. HATFIELD, Oregon

CONTENTS

	Page
Opening statement by the chairman	1
Text of bills:	
S. 582	3
S. 638	23
S. 632	42
S. 992	98
Agency comments on S. 582:	
Comptroller General	113
Department of the Interior	114
Environmental Protection Agency	116
Agency comments on S. 638, Comptroller General	117

CHRONOLOGICAL LIST OF WITNESSES

MAY 5, 1971

Goodwin, James, coordinator for natural resources, State of Texas	148
Jackson, Hon. Samuel, Assistant Secretary, Metropolitan Planning and Development, Department of Housing and Urban Development; accompanied by Frederick A. McLaughlin, Office of Plans, Programs, and Evaluation; and Robert Paul, Director of the Division of Program Development, Office of Community Planning and Management	140
Loesch, Harrison, Assistant Secretary, Public Land Management, Department of Interior	146
Prepared statement	147
Train, Hon. Russell, Chairman, Council on Environmental Quality; accompanied by Boyd H. Gibbons, III, Secretary; and William K. Reilly, staff member	119
Prepared statement	137
Questions of Senator Stevens and the answers thereto	139

MAY 6, 1971

Asplund, John, chairman, Greater Anchorage Area Borough, Anchorage, Alaska; accompanied by Larry E. Naake, legislative assistant, National Association of Counties	158
Letter of May 14, 1971	161
Curran, Hon. Frank, mayor, San Diego, Calif.; accompanied by Frank Goff, planning director	172
Guess, Clair P., executive director, South Carolina Water Resources Commission; accompanied by R. Deane Conrad, of the Council of State Governments	178
Harris, Shearon, chairman of the board, Carolina Power & Light Co.; accompanied by H. J. Young, vice president, Edison Electric Institute	166
Prepared statement	170
Terry, Gary A., executive vice president, American Land Development Association	187

MAY 11, 1971

Opening statement by Senator Stevens	195
Chiles, Hon. Lawton M., U.S. Senator from Florida	234

Page

Ela, Jonathan, assistant to the conservation director of the Sierra Club.. 264
Prepared statement 269
Letter of May 21, 1971 273
Hargis, Dr. William, director, Virginia Institute of Marine Science, representing Coastal States Organization; accompanied by Thomas H. Sudduth, executive director, Ocean Science Center of the Atlantic Commission, Georgia, and secretary of the Coastal States Organization; and R. Deane Conrad, special consultant 253
Prepared statement 261
Letter of August 3, 1971 804
Smeal, Frank, Investment Bankers Association of America; accompanied by John Petersen, director of Municipal Finance 237
Weidenbaum, Hon. Murray L., Assistant Secretary of the Treasury for Economic Policy 225
Prepared statement 231
White, Dr. Robert M., Administrator, National Oceanic and Atmospheric Administration; accompanied by James Brennan, general counsel's office, Department of Commerce; and Dr. Roland Smith, Plans and Programs Office 196
Letter with attachments of November 6, 1970 213

ADDITIONAL ARTICLES, LETTERS, AND STATEMENTS

Alexander, Donald G., legislative counsel, National League of Cities, U.S. Conference of Mayors, letter of May 20, 1971 175
American Association of Port Authorities, statement 322
American Law Institute, a Model Development Code, draft of April 22, 1971 430
Appleby, Elizabeth R., letter of February 9, 1971 426
Capper, John R., deputy director, Department of Chesapeake Bay Affairs, Maryland, letter of July 8, 1971 424
Clary, Ronald G., P.E., M.S.C.E., letter of February 15, 1971 427
Clusen, Mrs. Donald E., chairman, Committee on Environmental Program and Projects, League of Women Voters of the United States, statement 293
Coastal Zone Activities of the National Oceanic and Atmospheric Administration, memorandum 207
Coastal Zone Committee Regarding Proposed Federal Coastal Zone Management Legislation, report 322
Coastal Zone Management for Delaware, report dated February 18, 1971 345
Deleur, Nina Van, National Lead Co., Research and Development Department, letter of February 17, 1971 426
Economic Factors in the Development of a Coastal Zone, Massachusetts Institute of Technology, report 596
Flordia College of Architecture and Fine Arts, Department of Architecture, letter with attachments 329
Greenfield, David W., associate professor, Biological Sciences, Northern Illinois University, letter of February 8, 1971 425
Gundersen, Martin G., president, American Institute of Architects, Flordia southwest chapter, letter of September 28, 1970 327
Hamlin, Cyrus, letter of February 3, 1971 424
Hastings, Robert F., president, American Institute of Architects, letter of May 21, 1971 325
Hodges, Randolph, chairman, Coastal Coordinating Council, Department of Natural Resources, Florida, letter with attachments of May 17, 1971 388
Intergovernmental Relations Committee of the National Legislative Conference, policy positions and final reports:
August 1970 789
August 1971 794
Ives, Laura K., letter of February 14, 1971 427
Jacobson, Anne, chairman, Nisqually Committee, Tacoma-Pierce County and Thurston County League of Women Voters, letter of May 4, 1971 322
Kent, J. A., dean, Michigan Technological University, letter of January 28, 1971 425
Leatherwood, J. S., scientific staff assistant, Naval Undersea Research and Development Centers, Department of the Navy, letter of February 16, 1971 427

Page

Licht, Hon. Frank, Governor, State of Rhode Island, letter of July 30, 1971 ---- 801
Mathes, Graham E., letter of February 15, 1971 ---- 426
Melich, Mitchell, Solicitor, Department of the Interior, letter of March 29, 1971 ---- 283
Muller, Louis H. R., letter of February 8, 1971 ---- 424
National Governors' Conference, policy positions report of August 1970 ---- 779
Oceanic Commission of Washington, statement ---- 343
Pearce, W. B., letter of January 30, 1971 ---- 426
Purdy, Ralph W., executive secretary, Michigan State Department of Natural Resources, letter with attachments of May 11, 1971 ---- 297
Rush, Henri, counsel, Senate Commerce Committee, memorandum ---- 274
Shore protection program, Department of the Army, Office, Chief of Engineers ---- 566
Smith, Hon. Preston, Governor of Texas, letter of May 4, 1971 ---- 148
Southern California Edison Co., statement ---- 295
Statement of policy adopted by the city council, city of Newport Beach, Calif ---- 428
Tatlock, Richard, president, Coastal Research Corp., letter of January 28, 1971 ---- 425
Vermeulen, Dr. Carl W., campus environment committee, department of biology, College of William and Mary, letter of April 12, 1971 ---- 325
Wise, Harold F., American Institute of Planners, letter of May 28, 1971 ---- 343

COASTAL ZONE MANAGEMENT

WEDNESDAY, MAY 5, 1971

U.S. SENATE,
COMMITTEE ON COMMERCE,
SUBCOMMITTEE ON OCEANS AND ATMOSPHERE,
Washington, D.C.

The subcommittee met at 10 a.m., in room 1202, New Senate Office Building, Hon. Ernest F. Hollings (chairman of the subcommittee), presiding.

Present: Senators Hollings, Spong, Stevens, and Hatfield.

OPENING STATEMENT BY THE CHAIRMAN

Senator HOLLINGS. The committee will please come to order.

We open once again our hearings on coastal zone management, continuing considerations begun last year. We have before us two coastal zone management bills, one of which, S. 582, is the direct result of the work of this subcommittee. The other, S. 638, introduced by Senator Tower, is similar except principally as to dollar amounts to be available for the program, and its omission of estuarine sanctuaries from its provisions.

Under a previous agreement with Senator Jackson and the Committee on Interior and Insular Affairs, the Committee on Commerce is also considering the coastal zone aspects of the two national land use policy bills introduced in this Congress, S. 632, authored by Senator Jackson, and S. 992, introduced by Senator Jackson on behalf of the President.

The extensive hearings that we held last year clearly showed the importance of the coastal zone to a broad cross-section of the American people. Of course, no one stated the case more succinctly than the Honorable Russell Train, our first witness this morning, Chairman of the Council on Environmental Quality, in hearings on Senator Jackson's national land use policy bill last year, when he referred to the administration's coastal zone management bills:

> That bill provides a useful start on a massive national problem. It is aimed at reform of land and water use in the coastal regions of our country where intense development pressures and overlapping regulatory jurisdiction are causing alarming and unnecessary damage to the natural environment.
>
> In other words, we have acted here because the coastal zone is an area where something must be done now, and where it is not difficult to demonstrate the need or to find support at the State level.

Staff member assigned to this hearing: H. Crane Miller.

That, of course, was an excellent statement of the reasons we have given such high priority to the coastal zone management legislation last year and now this year. We are ready to move. The coastal States are ready to move. It is time that we move.

I am pleased to welcome the Honorable Russell E. Train, Chairman of the Council on Environmental Quality; the Honorable Samuel C. Jackson, Assistant Secretary for Community Planning and Management, Department of Housing and Urban Development; the Honorable Harrison Loesch, Assistant Secretary of the Interior for Public Land Management; and Mr. James Goodwin, coordinator of natural resources, State of Texas, representing the Council of State Governments.

(The bills and agency comments on S. 582 and S. 638 follow:)

92D CONGRESS
1ST SESSION

S. 582

IN THE SENATE OF THE UNITED STATES

FEBRUARY 4 (legislative day, JANUARY 26), 1971

Mr. HOLLINGS (for himself, Mr. BOGGS, Mr. CHILES, Mr. CRANSTON, Mr. ERVIN, Mr. GRAVEL, Mr. HART, Mr. HARTKE, Mr. HUMPHREY, Mr. INOUYE, Mr. JAVITS, Mr. JORDAN of North Carolina, Mr. KENNEDY, Mr. MCGEE, Mr. MCGOVERN, Mr. MCINTYRE, Mr. MAGNUSON, Mr. PACKWOOD, Mr. PASTORE, Mr. PELL, Mr. RANDOLPH, Mr. RIBICOFF, Mr. SPONG, Mr. STEVENS, Mr. THURMOND, and Mr. WILLIAMS) introduced the following bill; which was read twice and referred to the Committee on Commerce

A BILL

To establish a national policy and develop a national program for the management, beneficial use, protection, and development of the land and water resources of the Nation's coastal and estuarine zones.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That the Act entitled "An Act to provide for a comprehen-
4 sive, long-range, and coordinated national program in marine
5 science, to establish a National Council on Marine Resources
6 and Engineering Development, and a Commission on Marine
7 Science, Engineering and Resources, and for other purposes",

1 approved October 15, 1966, as amended (16 U.S.C. 1121 et
2 seq.), is amended by adding at the end thereof the follow-
3 ing new titles:

4 "TITLE III—PLANNING AND MANAGEMENT OF
5 THE COASTAL AND ESTUARINE ZONE

6 "SHORT TITLE

7 "SEC. 301. This title may be cited as the 'National
8 Coastal and Estuarine Zone Management Act of 1971'.

9 "CONGRESSIONAL FINDINGS

10 "SEC. 302. The Congress finds—

11 "(a) That the well-being of American society now de-
12 mands that manmade laws be extended to regulate the impact
13 of man on the biophysical environment.

14 "(b) That there is a national interest in the effective
15 management, beneficial use, protection, and development
16 of the Nation's coastal and estuarine zone.

17 "(c) That the coastal and estuarine zone is rich in a
18 variety of natural, commercial, recreational, industrial, and
19 esthetic resources of immediate and potential value to the
20 present and future well-being of our Nation.

21 "(d) That the increasing and competing demands upon
22 the lands and waters of our coastal and estuarine zone oc-
23 casioned by population growth and economic development,
24 including requirements for industry, commerce, residential
25 development, recreation, extraction of mineral resources and

1 fossil fuels, transportation and navigation, waste disposal,
2 and harvesting of fish, shellfish, and other living marine re-
3 sources, have resulted in the loss of living marine resources,
4 wildlife, nutrient-rich areas, permanent and adverse changes
5 to ecological systems, decreasing open space for public use,
6 and shoreline erosion.

7 "(e) That the coastal and estuarine zone, and the fish,
8 shellfish, other living marine resources, and wildlife therein,
9 are ecologically fragile and consequently extremely vulner-
10 abe to destruction by man's alterations.

11 "(f) That present land and water uses in the more
12 populated coastal areas do not adequately accommodate the
13 diverse requirements of the coastal and estuarine zone.

14 "(g) That in light of competing demands and the
15 urgent need to protect our coastal and estuarine zone, the
16 institutional framework responsible is currently diffuse in
17 focus, neglected in importance, and inadequate in regulatory
18 authority.

19 "(h) That the key to more effective use of the coastal
20 and estuarine zone is the introduction of a management sys-
21 tem permitting conscious and informed choices among
22 alternative uses.

23 "(i) That the absence of a national policy and an in-
24 tegrated management and planning mechanism for the

1 coastal and estuarine zone resource has contributed to the
2 impairment of the Nation's environmental quality.

3 "DECLARATION OF POLICY

4 "SEC. 303. Congress finds and declares that it is the
5 policy of Congress to preserve, protect, develop, and where
6 possible to restore, the resources of the Nation's coastal and
7 estuarine zone for this and succeeding generations. The
8 Congress declares that it is necessary to encourage and assist
9 the coastal States to exercise effectively their responsibilities
10 over the Nation's coastal and estuarine zone through the
11 preparation and implementation of management plans and
12 programs to achieve wise use of the coastal and estuarine
13 zone through a balance between development and protection
14 of the natural environment. Congress declares that it is the
15 duty and responsibility of all Federal agencies engaged in
16 programs affecting the coastal and estuarine zone to cooper-
17 ate and participate in the purposes of this Act. Further, it is
18 the policy of Congress to encourage the participation of the
19 public and Federal, State, and local governments in the
20 development of coastal and estuarine zone management plans
21 and programs.

22 "DEFINITIONS

23 "SEC. 304. For the purposes of this title—

24 "(a) 'Estuary' means that part of a river or stream or
25 other body of water having unimpaired natural connection

1 with the open sea, where the sea water is measurably diluted
2 with fresh water derived from land drainage, or with the
3 Great Lakes.

4 "(b) 'Coastal and estuarine zone' means the land,
5 waters, and lands beneath the waters near the coastline (in-
6 cluding the Great Lakes) and estuaries. For purposes of
7 identifying the objects of planning, management, and regula-
8 tory programs the coastal and estuarine zone extends sea-
9 ward to the outer limit of the United States territorial sea,
10 and to the international boundary between the United States
11 and Canada in the Great Lakes. Within the coastal and
12 estuarine zone as defined herein are included areas and lands
13 influenced or affected by water such as, but not limited to,
14 beaches, salt marshes, coastal and intertidal areas, sounds,
15 embayments, harbors, lagoons, in-shore waters, rivers, and
16 channels.

17 "(c) 'Coastal State' means any State of the United
18 States in or bordering on the Atlantic, Pacific, and Arctic
19 Oceans, gulf coast, Long Island Sound, or the Great Lakes,
20 and includes Puerto Rico, the Virgin Islands, Guam, Ameri-
21 can Samoa, and the District of Columbia.

22 "(d) 'Secretary' means the Secretary of Commerce.

23 "(e) 'Estuarine sanctuary' is a research area, which
24 may include waters, lands beneath such waters, and adjacent
25 uplands, within the coastal and estuarine zone, and constitut-

1 ing to the extent feasible a natural unit, set aside to provide
2 scientists the opportunity to examine over a period of time
3 the ecological relationships within estuaries.

4 "MANAGEMENT PLAN AND PROGRAM DEVELOPMENT
5 GRANTS

6 "SEC. 306. (a) The Secretary is authorized to make an-
7 nual grants to any coastal State for the purpose of assisting
8 in the development of a management plan and program for
9 the land and water resources of the coastal and estuarine
10 zone. Such grants shall not exceed 66⅔ per centum of the
11 costs of such program development in any one year. Other
12 Federal funds received from other sources shall not be used
13 to match such grants. In order to qualify for grants under
14 this subsection, the coastal State must demonstrate to the
15 satisfaction of the Secretary that such grants will be used to
16 develop a management plan and program consistent with
17 the requirements set forth in section 306(c) of this title.
18 Successive grants may be made annually for a period not to
19 exceed two years: *Provided,* That no such grant shall be
20 made under this subsection until the Secretary finds that the
21 coastal State is adequately and expeditiously developing such
22 management plan and program.

23 "(b) Upon completion of the development of the
24 coastal State's management plan and program, the coastal
25 State shall submit such plan and program to the Secretary

1 for review, approval pursuant to the provisions of section 306
2 of this title, or such other action as he deems necessary. On
3 final approval of such plan and program by the Secretary,
4 the coastal State's eligibility for further grants under this
5 section shall terminate, and the coastal State shall be eligible
6 for grants under section 306 of this title.

7 "(c) No annual grant to a single coastal State shall be
8 made under this section in excess of $600,000.

9 "(d) With the approval of the Secretary, the coastal
10 State may allocate to an interstate agency a portion of the
11 grant under this section for the purpose of carrying out the
12 provisions of this section.

13 "ADMINISTRATIVE GRANTS

14 "SEC. 306. (a) The Secretary is authorized to make an-
15 nual grants to any coastal State for not more than 66⅔ per
16 centum of the costs of administering the coastal State's man-
17 agement plan and program, if he approves such plan and
18 program in accordance with subsection (c) hereof. Federal
19 funds received from other sources shall not be used to pay
20 the coastal State's share of costs.

21 "(b) Such grants shall be allotted to the States with ap-
22 proved plans and programs based on regulations of the
23 Secretary.

24 "(c) Prior to granting approval of a comprehensive

1 management plan and program submitted by a coastal State,
2 the Secretary shall find that:

3 "(1) The coastal State has developed and adopted
4 a management plan and program for its coastal and
5 estuarine zone adequate to carry out the purposes of this
6 title, in accordance with regulations published by the
7 Secretary, and with the opportunity of full participation
8 by relevant Federal agencies, State agencies, local gov-
9 ernments, regional organizations, and other interested
10 parties, public and private.

11 "(2) The coastal State has made provision for pub-
12 lic notice and held public hearings in the development of
13 the management plan and program. All required public
14 hearings under this title must be announced at least
15 thirty days before they take place, and all relevant ma-
16 terials, documents, and studies must be made readily
17 available to the public for study at least thirty days in
18 advance of the actual hearing or hearings.

19 "(3) The management plan and program and
20 changes thereto have been reviewed and approved by
21 the Governor.

22 "(4) The Governor of the coastal State has desig-
23 nated a single agency to receive and administer the
24 grants for implementing the management plan and pro-
25 gram set forth in paragraph (1) of this subsection.

1 "(5) The coastal State is organized to implement
2 the management plan set forth in paragraph (1) of this
3 subsection.
4 "(6) The coastal State has the regulatory authori-
5 ties necessary to implement the plan and program, in-
6 cluding the authority set forth in subsection (g) of this
7 section.
8 "(d) With the approval of the Secretary, a coastal
9 State may allocate to an interstate agency a portion of the
10 grant under this section for the purpose of carrying out the
11 provisions of this section, provided such interstate agency
12 has the authority otherwise required of the coastal State
13 under subsection (c) of this section, if delegated by the
14 coastal State for purposes of carrying out specific projects
15 under this section.
16 "(e) The coastal State shall be authorized to amend the
17 management plan and program at any time that it determines
18 the conditions which existed or were foreseen at the time of
19 the formulation of the management plan and program have
20 changed so as to justify modification of the plan and pro-
21 gram. Such modification shall be in accordance with the pro-
22 cedures required under subsection (c) of this section. Any
23 amendment or modification of the coastal State's management
24 plan and program must be approved by the Secretary before

63-902 O - 71 - 2

1 additional administrative grants are made to the coastal
2 State under the plan and program as amended.
3 "(f) At the discretion of the coastal State and with the
4 approval of the Secretary, a management plan and program
5 may be developed and adopted in segments so that immediate
6 attention may be devoted to those areas of the coastal zone
7 which most urgently need comprehensive management plans
8 and programs: *Provided,* That the coastal State adequately
9 allows for the ultimate coordination of the various segments
10 of the management plan into a single unified plan and pro-
11 gram and that such unified plan and program will be com-
12 pleted as soon as is reasonably practicable, and in no event
13 more than three years from inception.
14 "(g) Prior to granting approval of the management
15 plan and program, the Secretary shall find that the coastal
16 State, acting through its chosen agency or agencies (includ-
17 ing local governments), has authority for the management
18 of the coastal and estuarine zone in accordance with the man-
19 agement plan and program and such authority shall include
20 power—
21 "(1) to administer land and water use regulations,
22 control public and private development of the coastal
23 and estuarine zone in order to assure compliance with
24 the management plan and program, and to resolve con-
25 flicts among competing uses;

1 "(2) to acquire fee simple and less than fee simple
2 interests in lands, waters, and other property within
3 the coastal and estuarine zone through condemnation or
4 other means when necessary to achieve conformance
5 with the management plan and program;
6 "(3) to develop land and facilities and to operate
7 such public facilities as beaches, marinas, and other
8 waterfront developments, as may be required to carry out
9 the management plan and program;
10 "(4) to borrow money and issue bonds for the pur-
11 pose of land acquisition or land and water development
12 and restoration projects; and
13 "(5) to exercise such other functions as the Secre-
14 tary determines are necessary to enable the orderly de-
15 velopment of the coastal and estuarine zone in accord-
16 ance with the management plan and program.
17 "(h) Prior to granting approval, the Secretary shall
18 find that the coastal State, acting through its chosen agency
19 or agencies (including local governments), has authority
20 to review all development plans, projects, or land and water
21 use regulations, including exceptions and variances thereto,
22 proposed by any State or local authority or private devel-
23 oper to determine whether such plans, projects, or regulations
24 are consistent with the principles and standards set forth
25 in the management plan and program and to reject a develop-

1 ment plan, project, or regulation which fails to comply with
2 such principles and standards: *Provided,* That such deter-
3 mination shall be made only after there has been a full oppor-
4 tunity for hearings.

5 "(i) No annual administrative grant to a coastal State
6 shall be made under this section in excess of 15 per
7 centum of the total amount appropriated to carry out the
8 purposes of this section.

9 "BOND AND LOAN GUARANTIES

10 "SEC. 307. In addition to grants-in-aid, the Secretary is
11 authorized under such terms and conditions as he may pre-
12 scribe, to enter into agreements with coastal States to under-
13 write by guaranty thereof bond issues or loans for the pur-
14 poses of land acquisition, or land and water development and
15 restoration projects: *Provided,* That the aggregate principal
16 amount of guaranteed bonds and loans outstanding at any
17 time may not exceed $140,000,000.

18 "REGULATIONS

19 "SEC. 308. The Secretary shall develop and promul-
20 gate, pursuant to section 553 of title 5, United States Code,
21 after appropriate consultation with other interested parties,
22 both public and private, such rules and regulations as may
23 be necessary to carry out the provisions of this title.

24 "REVIEW OF PERFORMANCE

25 "SEC. 309. (a) The Secretary shall conduct a continu-
26 ing review of the comprehensive management plans and pro-

1 grams of the coastal States and of the performance of each
2 coastal State.

3 "(b) The Secretary shall have the authority to termi-
4 nate any financial assistance extended under section 306 and
5 to withdraw any unexpended portion of such assistance if
6 (1) he determines that the coastal State is failing to adhere
7 to and is not justified in deviating from the program ap-
8 proved by the Secretary; and (2) the coastal State has been
9 given notice of proposed termination and withdrawal and an
10 opportunity to present evidence of adherence or justification
11 for altering its program.

12 "RECORDS

13 "SEC. 310. (a) Each recipient of a grant under this
14 title shall keep such records as the Secretary shall prescribe,
15 including records which fully disclose the amount and dis-
16 position of the funds received under the grant, and the total
17 cost of the project or undertaking supplied by other sources,
18 and such other records as will facilitate an effective audit.

19 "(b) The Secretary and the Comptroller General of the
20 United States, or any of their duly authorized representa-
21 tives, shall have access for the purpose of audit and examina-
22 tion to any books, documents, papers, and records of the
23 recipient of the grant that are pertinent to the determination
24 that funds granted are used in accordance with this title.

1 "ADVISORY COMMITTEE

2 "SEC. 311. (a) The Secretary is authorized and directed
3 to establish a coastal and estuarine zone management advi-
4 sory committee to advise, consult with, and make recommen-
5 dations to the Secretary on matters of policy concerning
6 the coastal and estuarine zones of the coastal States of the
7 United States. Such committee shall be composed of not more
8 than fifteen persons designated by the Secretary and shall
9 perform such functions and operate in such a manner as the
10 Secretary may direct.

11 "(b) Members of said advisory committee who are not
12 regular full-time employees of the United States, while serv-
13 ing on the business of the committee, including traveltime,
14 may receive compensation at rates not exceeding the daily
15 rate for GS–18; and while so serving away from their homes
16 or regular places of business may be allowed travel expenses,
17 including per diem in lieu of subsistence, as authorized by
18 section 5703 of title 5, United States Code, for individuals in
19 the Government service employed intermittently.

20 "ESTUARINE SANCTUARIES

21 "SEC. 312. The Secretary, in accordance with his regu-
22 lations, is authorized to make available to a coastal State
23 grants up to 50 per centum of the costs of acquisition, devel-
24 opment, and operation of estuarine sanctuaries for the purpose
25 of creating natural field laboratories to gather data and make

1 long-term studies of the natural and human processes occur-
2 ring within the estuaries of the coastal and estuarine zone.
3 The number of estuarine sanctuaries provided for under this
4 section shall not exceed fifteen, and the Federal share of
5 the cost for each such sanctuary shall not exceed $2,000,000.
6 No Federal funds received pursuant to section 306 shall be
7 used for the purpose of this section.

8 "INTERAGENCY COORDINATION AND COOPERATION

9 "SEC. 313. (a) The Secretary shall not approve the
10 management plan and program submitted by the State pur-
11 suant to section 306 unless the views of Federal agencies
12 principally affected by such plan and program have been
13 adequately considered. In case of serious disagreement be-
14 tween any Federal agency and the State in the development
15 of the plan the Secretary, in cooperation with the Executive
16 Office of the President, shall seek to mediate the differences.

17 "(b) (1) All Federal agencies conducting or supporting
18 activities in the coastal and estuarine zone shall seek to make
19 such activities consistent with the approved State manage-
20 ment plan and program for the area.

21 "(2) Federal agencies shall not undertake any develop-
22 ment project in a coastal and estuarine zone which, in the
23 opinion of the coastal State, is inconsistent with the manage-
24 ment plan of such coastal State unless the Secretary, after
25 receiving detailed comments from both the Federal agency

1 and the coastal State, finds that such project is consistent
2 with the objectives of this title, or is informed by the Secre-
3 tary of Defense and finds that the project is necessary in the
4 interest of national security.

5 "(3) Any applicant for a Federal license or permit to
6 conduct any activity in the coastal and estuarine zone subject
7 to such license or permit, shall provide in the application to
8 the licensing or permitting agency a certification from the
9 appropriate State agency that the proposed activity complies
10 with the State coastal and estuarine zone management plan
11 and program, and that there is reasonable assurance, as
12 determined by the State, that such activity will be conducted
13 in a manner consistent with the State's coastal and estuarine
14 zone management plan and program. The State shall estab-
15 lish procedures for public notice in the case of all applications
16 for certification by it, and to the extent it deems appropriate,
17 procedures for public hearings in connection with specific
18 applications. If the State agency fails or refuses to act on
19 a request for certification within six months after receipt of
20 such request, the certification requirements of this subsection
21 shall be waived with respect to such Federal application. No
22 license or permit shall be granted until the certification re-
23 quired by this section has been obtained or has been waived
24 as provided in the preceding sentence, unless, after receipt
25 of detailed comments from the relevant Federal and State

1 agencies, and the provision of an opportunity for a public
2 hearing, the activity is found by the Secretary to be consist-
3 ent with the objectives of this title or necessary in the interest
4 of national security. Upon receipt of such application and
5 certification, the licensing or permitting agency shall im-
6 mediately notify the Secretary of such application and cer-
7 tification.

8 "(c) State and local governments submitting applica-
9 tions for Federal assistance in coastal and estuarine areas
10 shall indicate the views of the appropriate State or local
11 agency as to the relationship of such activities to the approved
12 management plan and program for the coastal and estuarine
13 zone. Such applications shall be submitted in accordance with
14 the provisions of title IV of the Intergovernmental Coordina-
15 tion Act of 1968. Federal agencies shall not approve pro-
16 posed projects that are inconsistent with the coastal State's
17 management plan and program, except upon a finding by the
18 Secretary that such project is consistent with the purposes
19 of this title or necessary in the interest of national security.

20 "(d) Nothing in this section shall be construed—

21 "(1) to diminish either Federal or State jurisdiction,
22 responsibility, or rights in the field of planning, develop-
23 ment, or control of water resources and navigable
24 waters; nor to displace, supersede, limit, or modify any
25 interstate compact or the jurisdiction or responsibility of

1 any legally established joint or common agency of two
2 or more States, or of two or more States and the Federal
3 Government; nor to limit the authority of Congress to
4 authorize and fund projects;
5 "(2) to change or otherwise affect the authority or
6 responsibility of any Federal official in the discharge of
7 the duties of his office except as required to carry out the
8 provisions of this title;
9 "(3) as superseding, modifying, or repealing exist-
10 ing laws applicable to the various Federal agencies,
11 except as required to carry out the provisions of this
12 title; nor to affect the jurisdiction, powers, or preroga-
13 tives of the International Joint Commission, United
14 States and Canada, the Permanent Engineering Board,
15 and the United States Operating Entity or Entities estab-
16 lished pursuant to the Columbia River Basin Treaty,
17 signed at Washington, January 17, 1961, or the Inter-
18 national Boundary and Water Commission, United
19 States and Mexico.
20 "ANNUAL REPORT
21 "SEC. 313. (a) The Secretary shall prepare and submit
22 to the President for transmittal to the Congress not later
23 than January 1 of each year a report on the administration
24 of this title for the preceding Federal fiscal year. Such re-
25 port shall include but not be restricted to (1) an identification

1 of the State programs approved pursuant to this title during
2 the preceding Federal fiscal year and a description of those
3 programs; (2) a listing of the States participating in the pro-
4 visions of this title and a description of the status of each
5 State's programs and its accomplishments during the pre-
6 ceding Federal fiscal year; (3) an itemization of the allot-
7 ment of funds to the various coastal States and a breakdown
8 of the major projects and areas on which these funds were
9 expended; (4) an identification of any State programs which
10 have been reviewed and disapproved or with respect to which
11 grants have been terminated under this title, and a statement
12 of the reasons for such action; (5) a listing of the Federal
13 development projects which the Secretary has reviewed under
14 section 313 of this title and a summary of the final action
15 taken by the Secretary with respect to each such project; (6)
16 a summary of the regulations issued by the Secretary or in
17 effect during the preceding Federal fiscal year; (7) a sum-
18 mary of a coordinated national strategy and program for the
19 Nation's coastal and estuarine zones including identification
20 and discussion of Federal, regional, State, and local re-
21 sponsibilities and functions thereof; (8) a summary of out-
22 standing problems arising in the administration of this title
23 in order of priority; and (9) such other information as may
24 be required under the National Environmental Policy Act
25 of 1969.

1 "(b) The report required by subsection (a) shall con-
2 tain such recommendations for additional legislation as the
3 Secretary deems necessary to achieve the objectives of this
4 title and enhance its effective operation.

5 "APPROPRIATIONS

6 "SEC. 314. (a) There are authorized to be appropri-
7 ated—

8 "(1) the sum of $12,000,000 for fiscal year 1972
9 and such sums as may be necessary for the fiscal years
10 thereafter prior to June 30, 1976, for grants under section
11 305;

12 "(2) such sums, not to exceed $50,000,000, as may
13 be necessary for the fiscal year ending June 30, 1973,
14 and such sums as may be necessary for each succeeding
15 fiscal year thereafter for grants under section 306;

16 "(3) such sums, not to exceed $6,000,000 for fiscal
17 year 1972; $6,000,000 for fiscal year 1973; $6,000,000
18 for fiscal year 1974; $6,000,000 for fiscal year 1975;
19 and $6,000,000 for fiscal year 1976 as may be neces-
20 sary for grants under section 312; and

21 "(b) There are also authorized to be appropriated to
22 the Secretary such sums, not to exceed $3,000,000 annually,
23 as may be necessary for administrative expenses incident
24 to the administration of this title."

92D CONGRESS
1ST SESSION

S. 638

IN THE SENATE OF THE UNITED STATES

FEBRUARY 8 (legislative day, JANUARY 26), 1971

Mr. TOWER introduced the following bill; which was read twice and referred to the Committee on Commerce

A BILL

To assist the States in establishing coastal zone management plans and programs.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That the Act entitled "An Act to provide for a comprehen-
4 sive, long-ranged, and coordinated national program in ma-
5 rine science, to establish a National Council on Marine Re-
6 sources and Engineering Development, and a Commission
7 on Marine Science, Engineering and Resources, and for other
8 purposes", approved October 15, 1966, as amended (16
9 U.S.C. 1121 et seq.), is amended by adding at the end
10 thereof the following new titles:

1 "TITLE III—PLANNING AND MANAGEMENT OF
2 THE COASTAL ZONE

3 "SHORT TITLE

4 "SEC. 301. This title may be cited as the 'National
5 Coastal Zone Management Act of 1971'.

6 "CONGRESSIONAL FINDINGS

7 "SEC. 302. The Congress finds—

8 "(a) That the well-being of American society now
9 demands that manmade laws be extended to regulate the
10 impact of man on the biophysical environment.

11 "(b) That there is a national interest in the effective
12 management, beneficial use, protection, and development
13 of the Nation's coastal zone.

14 "(c) That the coastal zone is rich in a variety of natural,
15 commercial, recreational, industrial, and esthetic resources
16 of immediate and potential value to the present and future
17 well-being of our Nation.

18 "(d) That the increasing and competing demands upon
19 the lands and waters of our coastal zone occasioned by popu-
20 lation growth and economic development, including require-
21 ments for industry, commerce, residential development, rec-
22 reation, extraction of mineral resources and fossil fuels trans-
23 portation and navigation, waste disposal, and harvesting of
24 fish, shellfish, and other living marine resources, have re-
25 sulted in the loss of living marine resources, wildlife,

1 nutrient-rich areas, permanent and adverse changes to eco-
2 logical systems, decreasing open space for public use, and
3 shoreline erosion.

4 "(e) That the coastal zone, and the fish, shellfish, other
5 living marine resources, and wildlife therein, are ecologically
6 fragile and consequently extremely vulnerable to destruction
7 by man's alterations.

8 "(f) That present land and water uses in the more
9 populated coastal areas do not adequately accommodate the
10 diverse requirements of the coastal zone.

11 "(g) That in light of competing demands and the urgent
12 need to protect our coastal zone, the institutional framework
13 responsible is currently diffuse in focus, neglected in impor-
14 tance, and inadequate in regulatory authority.

15 "(h) That the key to more effective use of the coastal
16 zone is the introduction of a management system permitting
17 conscious and informed choices among alternative uses.

18 "(i) That the absence of a national policy and an in-
19 tegrated management and planning mechanism for the coastal
20 zone resource has contributed to the impairment of the Na-
21 tion's environmental quality.

22 "DECLARATION OF POLICY

23 "SEC. 303. Congress finds and declares that it is the
24 policy of Congress to preserve, protect, develop, and where
25 possible to restore, the resources of the Nation's coastal zone

1 for this and succeeding generations. The Congress declares
2 that it is necessary to encourage and assist the coastal States
3 to exercise effectively their responsibilities over the Nation's
4 coastal zone through the preparation and implementation
5 of management plans and programs to achieve wise use of
6 the coastal zone through a balance between development
7 and protection of the natural environment. Congress declares
8 that it is the duty and responsibility of all Federal agencies
9 engaged in programs affecting the coastal zone to cooperate
10 and participate in the purposes of this Act. Further, it is the
11 policy of Congress to encourage the participation of the
12 public and Federal, State, and local governments in the
13 development of coastal zone management plans and pro-
14 grams.

15 "DEFINITIONS

16 "SEC. 304. For the purposes of this title—

17 "(a) 'Estuary' means that part of a river or stream or
18 other body of water having unimpaired natural connection
19 with the open sea, where the sea water is measurably diluted
20 with fresh water derived from land drainage, or with the
21 Great Lakes.

22 "(b) 'Coastal zone' means the land, waters, and lands
23 beneath the waters near the coastline (including the Great
24 Lakes) and estuaries. For purposes of identifying the ob-
25 jects of planning, management, and regulatory programs the

1 coastal zone extends seaward to the outer limit of the United
2 States territorial sea for water rights and to the depth of two-
3 hundred meters for sea-bed rights, or to a greater depth as the
4 Secretary may from time to time declare, and to the inter-
5 national boundary between the United States and Canada in
6 the Great Lakes. Within the coastal zone as defined herein
7 are included areas and lands influenced or affected by water
8 such as, but not limited to, beaches, salt marshes, coastal and
9 intertidal areas, sounds, embayments, harbors, lagoons, in-
10 shore waters rivers, and channels.

11 "(c) 'Coastal State' means any State of the United
12 States in or bordering on the Atlantic, Pacific, and Arctic
13 Oceans, Gulf of Mexico, Long Island Sound, or the Great
14 Lakes, and includes Puerto Rico, the Virgin Islands, Guam,
15 American Samoa, and the District of Columbia.

16 "(d) 'Secretary' means the Secretary of Commerce.

17 "MANAGEMENT PLAN AND PROGRAM DEVELOPMENT
18 GRANTS

19 "SEC. 305. (a) The Secretary is authorized to make
20 annual grants to any coastal State for the purpose of assist-
21 ing in the development of a management plan and program
22 for the land and water resources of the coastal zone. Such
23 grants shall not exceed 50 per centum of the costs of such
24 program development in any one year. Other Federal funds
25 received from other sources shall not be used to match such

1 grants. In order to qualify for grants under this subsection,
2 the coastal State must reasonably demonstrate to the satis-
3 faction of the Secretary that such grants will be used to de-
4 velop a management plan and program consistent with the
5 requirements set forth in section 306 (c) of this title. Suc-
6 cessive grants may be made annually for a period not to
7 exceed two years: *Provided,* That no such grant shall be
8 made under this subsection until the Secretary finds that
9 the coastal State is adequately and expeditiously developing
10 such management plan and program.

11 "(b) Upon completion of the development of the coastal
12 State's management plan and program, the coastal State shall
13 submit such plan and program to the Secretary for review,
14 approval pursuant to the provisions of section 306 of this
15 title, or such other action as he deems necessary. On final
16 approval of such plan and program by the Secretary, the
17 coastal State's eligibility for further grants under this sec-
18 tion shall terminate, and the coastal State shall be eligible
19 for grants under section 306 of this title.

20 "(c) No annual grant to a single coastal State shall
21 be made under this section in excess of $200,000.

22 "(d) With the approval of the Secretary, the coastal
23 State may allocate to an interstate agency a portion of the
24 grant under this section for the purpose of carrying out the
25 provisions of this section.

1 "ADMINISTRATIVE GRANTS

2 "SEC. 306. (a) The Secretary is authorized to make
3 annual grants to any coastal State for not more than 50 per
4 centum of the costs of administering the coastal State's man-
5 agement plan and program, if he approves such plan and
6 program in accordance with subsection (c) hereof. Federal
7 funds received from other sources shall not be used to pay
8 the coastal State's share of costs.

9 "(b) Such grants shall be allotted to the States with
10 approved plans and programs based on regulations of the
11 Secretary taking into account the amount and nature of the
12 coastline and area covered by the plan, population, and other
13 relevant factors.

14 "(c) Prior to granting approval of a comprehensive
15 management plan and program submitted by a coastal State,
16 the Secretary shall find that:

17 "(1) The coastal State has developed and adopted
18 a management plan and program for its coastal zone
19 adequate to carry out the purposes of this title, in ac-
20 cordance with regulations published by the Secretary,
21 and with the opportunity of full participation by relevant
22 Federal agencies, State agencies, local governments, re-
23 gional organizations, and other interested parties, public
24 and private.

25 "(2) The coastal State has made provision for pub-

1 lic notice and held public hearings in the development of
2 the management plan and program. All required public
3 hearings under this title must be announced at least
4 thirty days before they take place, and all relevant ma-
5 terials, documents, and studies must be made readily
6 available to the public for study at least thirty days in
7 advance of the actual hearing or hearings.

8 "(3) The management plan and program and
9 changes thereto have been reviewed and approved by
10 the Governor.

11 "(4) The Governor of the coastal State has desig-
12 nated a single agency to receive and administer the
13 grants for implementing the management plan and pro-
14 gram set forth in paragraph (1) of this subsection.

15 "(5) The coastal State is organized to implement
16 the management plan set forth in paragraph (1) of this
17 subsection.

18 "(6) The coastal State has the regulatory authori-
19 ties necessary to implement the plan and program, in-
20 cluding the authority set forth in subsection (g) of this
21 section.

22 "(d) With the approval of the Secretary, a coastal
23 State may allocate to an interstate agency a portion of the
24 grant under this section for the purpose of carrying out the
25 provisions of this section, provided such interstate agency

1 has the authority otherwise required of the coastal State
2 under subsection (c) of this section, if delegated by the
3 coastal State for purposes of carrying out specific projects
4 under this section.

5 "(e) The coastal State shall be authorized to amend the
6 management plan and program at any time that it determines
7 the conditions which existed or were foreseen at the time of
8 the formulation of the management plan and program have
9 changed so as to justfy modification of the plan and pro-
10 gram. Such modification shall be in accordance with the pro-
11 cedures required under subsection (c) of this section. Any
12 amendment or modification of the coastal State's management
13 plan and program may be reviewed by the Secretary before
14 additional administrative grants are made to the coastal State
15 under the plan and program as amended.

16 "(f) Prior to granting approval of the management plan
17 and program, the Secretary shall find that the coastal State,
18 acting through its chosen agency or agencies (including local
19 governments), has authority for the management of the
20 coastal zone in accordance with the management plan and
21 program and such authority shall include power—

22 "(1) to administer land and water use regulations,
23 coordinate and plan for public and private development
24 of the coastal zone in order to assure compliance with

1 the management plan and program, and to mediate con-
2 flicts among competing uses;
3 "(2) to acquire fee simple and less than fee simple
4 interests in lands, waters, and other property within the
5 coastal zone through condemnation or other means when
6 necessary to achieve conformance with the management
7 plan and program;
8 "(3) to control and develop land and facilities as
9 may be deemed necessary to carry out the management
10 plan and program; and
11 "(4) to borrow money and issue bonds for the pur-
12 pose of land acquisition or land and water development
13 and restoration projects.
14 "(h) No annual administrative grant to a coastal State
15 shall be made under this section in excess of 15 per centum
16 of the total amount appropriated to carry out the purposes
17 of this section, nor shall any coastal State having in effect
18 a plan approved by the Secretary receive less than 1 per
19 centum of the total amount appropriated to carry out the
20 purposes of this section.
21 "BOND AND LOAN GUARANTIES
22 "SEC. 307. In addition to grants-in-aid, the Secretary
23 is authorized under such terms and conditions as may be
24 prescribed by the Secretary of the Treasury, to enter into
25 agreements with coastal States to underwrite by guaranty

1 thereof bond issues or loans for the purposes of land
2 acquisition, or land and water development and restoration
3 projects: *Provided,* That the aggregate principle amount of
4 guaranteed bonds and loans outstanding at any time may
5 not exceed $140,000,000.

6 "REGULATIONS

7 "SEC. 308. The Secretary shall develop and promulgate,
8 pursuant to section 553 of title 5, United States Code, after
9 appropriate consultation with other interested parties, both
10 public and private, such rules and regulations as may be
11 reasonably necessary to carry out the provisions of this title.

12 "REVIEW AND PERFORMANCE

13 SEC. 309. (a) The Secretary shall conduct a continuing
14 review of the comprehensive management plans and pro-
15 grams of the coastal States and of the performance of each
16 coastal State.

17 "(b) The Secretary shall have the authority to termi-
18 nate any financial assistance extended under section 306 and
19 to withdraw any unexpended portion of such assistance if
20 (1) he reasonably determines that the coastal State is failing
21 to adhere to and is not justified in deviating from the pro-
22 gram aproved by the Secretary; and (2) the coastal State
23 has been given notice of proposed termination and with-
24 drawal and an opportunity to present evidence of adherence
25 or justication for altering its program: *Provided,* That such

1 determination shall be made only after there has been a full
2 opportunity for hearing.

3 "RECORDS

4 "SEC. 310. (a) Each recipient of a grant under this title
5 shall keep such records as the Secretary shall reasonably
6 prescribe, including records which fully disclose the amount
7 and disposition of the funds received under the grant, and the
8 total cost of the project or undertaking supplied by other
9 sources, and such other records as will facilitate an effective
10 audit.

11 "(b) The Secretary and the Comptroller General of the
12 United States, or any of their duly authorized representatives,
13 shall have access for the purpose of audit and examination to
14 any books, documents, papers, and records of the recipient
15 of the grant that are pertinent to the determination that funds
16 granted are used in accordance with this title.

17 "ADVISORY COMMITTEE

18 "SEC. 311. (a) The Secretary is authorized and directed
19 to establish a coastal zone management advisory committee
20 to advise, consult with, and make recommendations to the
21 Secretary on matters of policy concerning the coastal zones
22 of the coastal States of the United States on a regular basis.
23 Such committee shall be composed of not more than fifteen
24 persons designated by the Secretary and shall perform such

1 functions and operate in such a manner as the Secretary
2 may direct.
3 "(b) Members of said advisory committee who are not
4 regular full-time employees of the United States, while serv-
5 ing on the business of the committee, including traveltime,
6 may receive compensation at rates not exceediing the daily
7 rate for GS–18; and while so serving away from their homes
8 or regular places of business may be allowed travel expenses,
9 including per diem in lieu of subsistence, as authorized by
10 section 5703 of title 5, United States Code, for individuals
11 in the Government service employed intermittently.
12 "INTERAGENCY COORDINATION AND COOPERATION
13 "SEC. 312. (a) The Secretary shall not approve the
14 management plan and program submitted by the State pur-
15 suant to section 306 unless the views of Federal agencies
16 principally affected by such plan and program have been
17 adequately considered. In case of serious disagreement be-
18 tween any Federal agency and the State in the development
19 of the plan the Secretary, in cooperation with the Executive
20 Office of the President, shall seek to mediate the differences.
21 "(b) (1) All Federal agencies conducting or supporting
22 activities in the coastal zone shall seek to make such activities
23 consistent with the approved State management plan and
24 program for the area.
25 "(2) Federal agencies shall not undertake any devel-

1 opment project in a coastal zone which, in the opinion of
2 the coastal State, is inconsistent with the management
3 plan of such coastal State unless the Secretary, after receiv-
4 ing detailed comments from both the Federal agency and
5 the coastal State, finds that such project is consistent with
6 the objectives of this title, or is informed by the Secretary
7 of Defense and finds that the project is necessary in the
8 interest of national security.

9 "(3) Any applicant for a Federal license or permit to
10 conduct any activity in the coastal zone subject to such
11 license or permit, shall provide in the application to the licens-
12 ing or permitting agency a certification from the appro-
13 priate State agency that the proposed activity complies with
14 the State coastal zone management plan and program, and
15 that there is reasonable assurance, as determined by the
16 State, that such activity will be conducted in a manner con-
17 sistent with the State's coastal zone management plan and
18 program. The State shall establish procedures for public no-
19 tice in the case of all applications for certification by it, and
20 to the extent it deems appropriate, procedures for public
21 hearings in connection with specific applications. If the State
22 agency fails or refuses to act on a request for certification
23 within six months after receipt of such request, the certifi-
24 cation requirements of this subsection shall be waived with
25 respect to such Federal application. No license or permit

1 shall be granted until the certification required by this sec-
2 tion has been obtained or has been waived as provided in
3 the preceding sentence, unless, after receipt of detailed com-
4 ments from the relevant Federal and State agencies, and the
5 provision of an opportunity for a public hearing, the activity
6 is found by the Secretary to be consistent with the objectives
7 of this title or necessary in the interest of national security.
8 Upon receipt of such application and certification, the licens-
9 ing or permitting agency shall immediately notify the Sec-
10 retary of such application and certification.

11 "(c) State and local governments submitting applica-
12 tions for Federal assistance in coastal areas shall indicate
13 the views of the appropriate State or local agency as to
14 the relationship of such activities to the approved manage-
15 ment plan and program for the costal zone. Such applica-
16 tions shall be submitted in accordance with the provisions
17 of title IV of the Intergovernmental Coordination Act of
18 1968. Federal agencies shall not approve proposed projects
19 that are inconsistent with the coastal State's management
20 plan and program, except upon a finding by the Secretary
21 that such project is consistent with the purposes of this
22 title or necessary in the interest of national security.

23 "(d) Nothing in this section shall be construed—

24 "(1) to diminish either Federal or State jurisdic-
25 tion, responsibility, or rights in the field of planning,

1 development, or control of water resources and naviga-
2 ble waters; nor to displace, supersede, limit, or modify
3 any interstate compact or the jurisdiction or responsi-
4 bility of any legally established joint or common agency
5 of two or more States, or of two or more States and
6 the Federal Government; nor to limit the authority of
7 Congress to authorize and fund projects;
8 "(2) to change or otherwise affect the authority or
9 responsibility of any Federal official in the discharge of
10 the duties of his office except as required to carry out the
11 provisions of this title;
12 "(3) as superseding, modifying, or repealing exist-
13 ing laws applicable to the various Federal agencies,
14 except as required to carry out the provisions of this
15 title; nor to affect the jurisdiction, powers, or preroga-
16 tives of the International Joint Commission, United
17 States and Canada, the Permanent Engineering Board,
18 and the United States Operating Entity or Entities es-
19 tablished pursuant to the Columbia River Basin Treaty,
20 signed at Washington, January 17, 1961, or the Inter-
21 national Boundary and Water Commission, United
22 States and Mexico.
23 "ANNUAL REPORT
24 "SEC. 313. (a) The Secretary shall prepare and submit
25 to the President for transmittal to the Congress not later

1 than January 1 of each year a report on the administration
2 of this title for the preceding Federal fiscal year. Such re-
3 port shall include but not be restricted to (1) an identifica-
4 tion of the State programs approved pursuant to this title
5 during the preceding Federal fiscal year and a description of
6 those programs; (2) a listing of the States participating in
7 the provisions of this title and a description of the status of
8 each State's programs and its accomplishments during the
9 preceding Federal fiscal year; (3) an itemization of the allot-
10 ment of funds to the various coastal States and a breakdown
11 of the major projects and areas on which these funds were
12 expended; (4) an identification of any State programs which
13 have been reviewed and disapproved or with respect to which
14 grants have been terminated under this title, and a statement
15 of the reasons for such action; (5) a listing of the Federal
16 development projects which the Secretary has reviewed under
17 section 313 of this title and a summary of the final action
18 taken by the Secretary with respect to each such project; (6)
19 a summary of the regulations issued by the Secretary or in
20 effect during the preceding Federal fiscal year; (7) a sum-
21 mary of a coordinated national strategy and program for
22 the Nation's coastal zone including identification and discus-
23 sion of Federal, regional, State, and local responsibilities and
24 functions thereof; (8) a summary of outstanding problems

1 arising in the administration of this title in order of priority;
2 and (9) such other information as may be required under
3 the National Environmental Policy Act of 1969.

4 "(b) The report required by subsection (a) shall con-
5 tain such recommendations for additional legislation as the
6 Secretary deems necessary to achieve the objectives of this
7 title and enhance its effective operation.

8 "APPROPRIATIONS

9 "SEC. 314. (a) There are authorized to be appro-
10 priated—

11 "(1) the sum of $2,000,000 for fiscal year 1972
12 and such sums as may be necessary not to exceed
13 $7,000,000 annually, for each of the fiscal years there-
14 after prior to June 30, 1976, for grants under sec-
15 tion 305;

16 "(2) such sums, not to exceed $7,000,000 as may
17 be necessary for the fiscal year ending June 30, 1973,
18 and each succeeding fiscal year thereafter for grants
19 under section 306.

20 "(b) There are also authorized to be appropriated to
21 the Secretary such sums, not to exceed $1,000,000 annually,
22 as may be necessary for administrative expenses incident to
23 the administration of this title."

1 "LENGTH OF AUTHORIZATION

2 "SEC. 315. (a) This authorization for exercise of au-
3 thority and expenditure of funds shall expire ten years from
4 the date that this act shall finally become effective; and

5 "(b) The expiration of all authority under the Act shall
6 not, of itself, affect adversely any State agency operating
7 under the act.

8 "SPECIAL EXCEPTION

9 "SEC. 316. For the purpose of excluding Federal funds
10 from matching requirements, under this Act, any funds
11 appropriated pursuant to a Federal revenue sharing authori-
12 zation or a consolidation of existing Federal grant programs
13 into not more than ten general purpose grant programs shall
14 not be considered as 'other Federal revenue from other
15 sources' as mentioned in section 305 (a) of this Act and other
16 places in this Act."

92D CONGRESS
1ST SESSION

S. 632

IN THE SENATE OF THE UNITED STATES

FEBRUARY 5 (legislative day, JANUARY 26), 1971

Mr. JACKSON (for himself, Mr. ALLOTT, Mr. CHURCH, Mr. GRAVEL, Mr. JORDAN of Idaho, Mr. Moss, and Mr. STEVENS) introduced the following bill; which was read twice and referred to the Committee on Interior and Insular Affairs

A BILL

To amend the Water Resources Planning Act (79 Stat. 244) to include provision for a national land use policy by broadening the authority of the Water Resources Council and river basin commissions and by providing financial assistance for statewide land use planning.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That the Water Resources Planning Act (79 Stat. 244),
4 as amended (82 Stat. 935), is further amended by this Act
5 to read as follows:

6 "SECTION 1. This Act may be cited as the 'Land and
7 Water Resources Planning Act of 1971'.

8 "SEC. 2. In order to insure that the Nation's limited land

1 resource base is properly planned and managed and in order
2 to meet the Nation's rapidly expanding demands for water,
3 it is hereby declared to be the policy of the Congress to en-
4 courage the conservation, development, and utilization of
5 the land and water resources of the United States on a com-
6 prehensive and coordinated basis by the Federal Govern-
7 ment, States, localities, and private enterprise with the co-
8 operation of all affected Federal agencies, States, local
9 governments, individuals, corporations, business enterprises,
10 and others concerned.

11 "TITLE I—LAND AND WATER RESOURCES
12 COUNCIL

13 "SEC. 101. (a) There is hereby established a Land and
14 Water Resources Council (hereinafter referred to as the
15 'Council').

16 "(b) The Council shall be composed of the Vice Presi-
17 dent; the Secretaries of Agriculture; Commerce; Health,
18 Education, and Welfare; Housing and Urban Development;
19 the Interior; Transportation; and the Army; the Chair-
20 men of the Council on Environmental Quality and the Fed-
21 eral Power Commission; and the Administrator of the En-
22 vironmental Protection Agency.

23 "(c) The Vice President shall be the Chairman of the
24 Council.

25 "(d) The Chairman of the Council shall request the

1 heads of Federal agencies who are not members of the Coun-
2 cil to participate with the Council when matters affecting
3 their responsibilities are considered by the Council.

4 "(e) The Council shall have a Director, who shall be
5 appointed by the President by and with the consent of the
6 Senate. He shall serve at the pleasure of the President and
7 shall be compensated at the rate provided for level IV of the
8 Executive Schedule Pay Rates (5 U.S.C. 5315). The Di-
9 rector shall have such duties and responsibilities as the Chair-
10 man, after consultation with the members of the Council,
11 may assign.

12 "(f) Each member of the Council shall designate a
13 member of his staff to work with the Director in formulating
14 policies for the approval of the Council. These designees
15 shall meet at the call of the Director.

16 "(g) In addition to the designee appointed pursuant to
17 subsection (f), each member of the Council shall appoint one
18 member of his staff as a permanent liaison officer between
19 the Council and the department, council, or commission
20 represented by the member.

21 "SEC. 102. The Council shall—

22 "(a) prepare an inventory and maintain a continu-
23 ing study of the land resources of the United States, and
24 report biennially to the President and the Congress on
25 land resources and uses, projections of development and

1 uses of land, and analyses of current and emerging prob-
2 lems of land use;
3 "(b) maintain a continuing study of the adequacy
4 of administrative and statutory means of the coordina-
5 tion of Federal programs which have an impact upon
6 land use and of the compatibility of such programs with
7 State and local land-use planning and management ac-
8 tivities; it shall appraise the adequacy of existing and
9 proposed Federal policies and programs which affect
10 land use; and it shall make recommendations to the
11 President with respect to such policies and programs;
12 "(c) maintain a continuing study and issue bien-
13 nially or at such less frequent intervals as the Council
14 may determine, an assessment of the adequacy of sup-
15 plies of water necessary to meet the water requirements
16 in each water resource region in the United States and
17 the national interest therein; and
18 "(d) maintain a continuing study of the relation of
19 regional or river basin plans and programs to the re-
20 quirements of larger regions of the Nation and of the
21 adequacy of administrative and statutory means for the
22 coordination of the water and related land resources poli-
23 cies and programs of the several Federal agencies; it
24 shall appraise the adequacy of existing and proposed
25 policies and programs to meet such requirements; and it

1 shall make recommendations to the President with re-
2 spect to Federal policies and programs.
3 "SEC. 103. The Council shall establish, after such con-
4 sultation with other interested entities, both Federal and
5 non-Federal, as the Council may find appropriate, and with
6 the approval of the President, principles, standards, and
7 procedures for Federal participants in the preparation of
8 comprehensive regional or river basin plans and for the
9 formulation and evaluation of Federal water and related land
10 resources projects. Such procedures may include provision
11 for Council revision of plans for Federal projects intended to
12 be proposed in any plan or revision thereof being prepared
13 by a river basin planning commission.
14 "SEC. 104. Upon receipt of a plan or revision thereof
15 from any river basin commission under the provisions of
16 section 204 (c) of this Act, the Council shall review the plan
17 or revision with special regard to—
18 "(a) the efficacy of such plan or revision in achiev-
19 ing optimum use of the land and water resources in the
20 area involved;
21 "(b) the effect of the plan on the achievement of
22 other programs for the development of agricultural,
23 urban, energy, industrial, recreational, fish and wild-
24 life, and other resources of the entire Nation; and
25 "(c) the contributions which such plan or revision

1 will make in obtaining the Nation's economic, social,
2 and environmental goals.
3 Based on such review the Council shall—
4 "(1) formulate such recommendations as it deems
5 desirable in the national interest; and
6 "(2) transmit its recommendations, together with
7 the plan or revision of the river basin commission and
8 the views, comments, and recommendations with respect
9 to such plan or revision submitted by any Federal
10 agency, Governor, interstate commission, or United
11 States section of an international commission, to the
12 President for his review and transmittal to the Congress
13 with his recommendations in regard to authorization of
14 Federal projects.
15 "SEC. 105. The Council shall—
16 "(a) consult with other officials of the Federal
17 Government responsible for the administration of Fed-
18 eral land use planning assistance programs to States,
19 their political subdivisions, and other eligible agencies
20 in order to enhance coordination; and
21 "(b) periodically review (1) provisions of the
22 statewide land use plans, (2) State water resources
23 planning programs, and (3) interstate agency studies
24 and plans, to the extent necessary or desirable for the
25 proper administration of this Act.

1 "FEDERAL PLANNING INFORMATION CENTER

2 "SEC. 106. (a) The Council shall develop and maintain
3 an information and data center, with such regional branches
4 as the Council may deem appropriate, which has on file—

5 "(1) copies of all approved statewide land use
6 plans, including approved modifications and variances;

7 "(2) copies of all federally initiated and federally
8 assisted plans for activities which directly affect or in-
9 volve land use;

10 "(3) to the extent practicable and appropriate, the
11 plans of local government and private enterprise which
12 have more than local significance for land use planning;

13 "(4) statistical data and information on past, pres-
14 ent, and projected land use patterns which are of national
15 significance;

16 "(5) studies pertaining to techniques and methods
17 for the procurement, analysis, and evaluation of infor-
18 mation relating to land use planning and management;

19 "(6) such other information pertaining to land-use
20 planning and management as the Council deems appro-
21 priate.

22 "(b) All Federal agencies are required, as a part of
23 their planning procedures on projects involving a major
24 land-use activity, to consult with the Council for the purpose
25 of determining whether the proposed activity would conflict

1 in any way with the plans of other Federal, State, or local
2 agencies. In the event a conflict is discovered, the matter
3 shall be reported to the Council. If the conflict is not re-
4 solved by the agencies involved within a reasonable period
5 of time, the Council shall investigate the conflict and re-
6 port its findings, along with its recommendation concerning
7 the proper resolution of the issue, to the Congress, the
8 President, the State agency or agencies responsible for land-
9 use planning and enforcement of any approved statewide
10 land use plan in the State concerned, and any other State
11 or local agency involved.

12 "(c) The Council shall make the information main-
13 tained at the center available to Federal, State, and local
14 agencies involved in land use planning and to members of
15 the public, to the extent practicable. The Council may charge
16 reasonable fees to defray the expenses incident to making
17 such information available.

18 "TITLE II—RIVER BASIN COMMISSIONS

19 "CREATION OF COMMISSIONS

20 "SEC. 201. (a) The President is authorized to declare
21 the establishment of a river basin land and water resources
22 commission upon request therefor by the Council, or request
23 addressed to the Council by a State within which all or part
24 of the basin or basins concerned are located if the request by
25 the Council or by a State (1) defines the area, river basin, or

1 group of related river basins for which a commission is re-
2 quested, (2) is made in writing by the Governor or in such
3 manner as State law may provide, or by the Council, and
4 (3) is concurred in by the Council and by not less than one-
5 half of the States within which portions of the basin or basins
6 concerned are located and, in the event the Upper Colorado
7 River Basin is involved, by at least three of the four States
8 of Colorado, New Mexico, Utah, and Wyoming or, in the
9 event the Columbia River Basin is involved, by at least three
10 of the four States of Idaho, Montana, Oregon, and Washing-
11 tion. Such concurrences shall be in writing.

12 "(b) Each such commission for an area, river basin, or
13 group of river basins shall, to the extent consistent with sec-
14 tion 401 of this Act—

15 "(1) serve as the principal agency for the coordi-
16 nation of Federal, State, interstate, local, and nongov-
17 ernment plans for the development of land and water
18 resources in its area, river basin, or group of river basins;

19 "(2) upon written request of the Council and of the
20 Governors of not less than one-half of the participating
21 States, prepare and keep up to date, to the extent
22 practicable, a comprehensive, coordinated joint plan of
23 Federal, regional, State, local, and nongovernmental
24 plans which significantly involve land use or have sig-

1 nificant impacts upon land-use patterns; of zoning and
2 other land-use regulations. The comprehensive plan shall
3 specifically indicate the relation of planned or proposed
4 Federal projects to land-use development in the region;
5 "(3) prepare and keep up to date, to the extent
6 practicable, a comprehensive coordinated joint plan for
7 Federal, regional, State, local, and nongovernmental
8 development of water and related resources. The plan
9 shall include an evaluation of all reasonable alternative
10 means of achieving optimum development of water and
11 related land resources of the area, basin, or basins, and
12 it may be prepared in stages, including recommendations
13 with respect to individual projects;
14 "(4) recommend long-range schedule of priorities
15 for the collection and analysis of basic data and for in-
16 vestigation, planning, and construction of projects; and
17 "(5) foster and undertake such studies of land-use
18 and water resources problems in its area, river basin,
19 or group of river basins as are necessary in the prepa-
20 ration of the plans described in clauses (2) and (3) of
21 this subsection.
22 "(c) River basin commissions established pursuant to
23 the Water Resources Planning Act (79 Stat. 244) prior to
24 the date of enactment of this amendment shall continue to
25 function after its enactment, and shall be governed by its
26 terms.

1 "MEMBERSHIP OF COMMISSIONS

2 "SEC. 202. Each river basin commission shall be com-
3 posed of members appointed as follows:

4 "(a) A chairman appointed by the President who shall
5 also serve as chairman and coordinating officer of the Federal
6 members of the commission and who shall represent the
7 Federal Government in Federal-State relations on the com-
8 mission and who shall not, during the period of his service
9 on the commission, hold any other position as an officer or
10 employee of the United States, except as a retired officer or
11 retired civilian employee of the Federal Government.

12 "(b) One member from each Federal department or
13 independent agency determined by the President to have a
14 substantial interest in the work to be undertaken by the com-
15 mission, such member to be appointed by the head of such
16 department or independent agency and to serve as the repre-
17 sentative of such department or independent agency.

18 "(c) One member from each State which lies wholly or
19 partially within the area, river basin, or group of river basins
20 for which the commission is established, and the appoint-
21 ment of each such member shall be made in accordance with
22 the laws of the State which he represents. In the absence
23 of governing provisions of State law, such State member shall
24 be appointed and serve at the pleasure of the Governor.

25 "(d) One member appointed by any interstate agency

1 created by an interstate compact to which the consent of
2 Congress has been given, and whose jurisdiction extends
3 to the lands or waters of the area, river basin, or group of
4 river basins for which the river basin commission is created.
5 "(e) When deemed appropriate by the President, one
6 member, who shall be appointed by the President, from the
7 United States section of any international commission cre-
8 ated by a treaty to which the consent of the Senate has been
9 given, and whose jurisdiction extends to the waters of the
10 area, river basin, or group of river basins for which the river
11 basin commission is established.

12 "ORGANIZATION OF COMMISSIONS

13 "SEC. 203. (a) Each river basis commission shall orga-
14 nize for the performance of its functions within ninety days
15 after the President shall have declared the establishment of
16 such commission, subject to the availability of funds for
17 carrying on its work. A commission shall terminate upon
18 decision of the Council or agreement of a majority of the
19 States composing the commission. Upon such termination,
20 all property, assets, and records of the commission shall
21 thereafter be turned over to such agencies of the United States
22 and the participating States as shall be appropriate in the
23 circumstances: *Provided,* That studies, data, and other ma-
24 terials useful in land and water resources planning to any

1 of the participants shall be kept freely available to all such
2 participants.

3 "(b) State members of each commission shall elect a
4 vice chairman, who shall serve also as chairman and co-
5 ordinating officer of the State members of the commission
6 and who shall represent the State governments in Federal-
7 State relations on the commission.

8 "(c) Vacancies in a commission shall not affect its
9 powers but shall be filled in the same manner in which
10 the original appointments were made: *Provided,* That the
11 chairman and vice chairman may designate alternates to
12 act for them during temporary absences.

13 "(d) In the work of the commission every reasonable
14 endeavor shall be made to arrive at a consensus of all
15 members on all issues; but failing this, full opportunity
16 shall be afforded each member for the presentation and re-
17 port of individual views: *Provided,* That at any time the
18 commission fails to act by reason of absence of consensus,
19 the position of the chairman, acting in behalf of the Fed-
20 eral members, and the vice chairman, acting upon instruc-
21 tions of the State members, shall be set forth in the
22 record: *Provided further,* That the chairman, in consulta-
23 tion with the vice chairman, shall have the final authority,
24 in the absence of an applicable bylaw adopted by the com-

1 mission or in the absence of a consensus, to fix the times
2 and places for meetings, to set deadlines for the submis-
3 sion of annual and other reports, to establish subcommit-
4 tees, and to decide such other procedural questions as may
5 be necessary for the commission to perform its functions.

6 "DUTIES OF THE COMMISSIONS

7 "SEC. 204. Each river basin commission shall—

8 "(a) engage in such activities and make such
9 studies and investigations as are necessary and desir-
10 able in carrying out the policy set forth in section 2 of
11 this Act and in accomplishing the purposes set forth
12 in section 201 (b) of this Act;

13 "(b) submit to the Council and the Governor of
14 each participating State a report on its work at least
15 once each year. Such report shall be transmitted through
16 the President to the Congress. After such transmission,
17 copies of any such report shall be sent to the heads of
18 such Federal, State, interstate, and international agencies
19 as the President or the Governors of the participating
20 States may direct;

21 "(c) submit to the Council for transmission to the
22 President and by him to the Congress, and the Governors
23 and the legislatures of the participating States a com-
24 prehensive, coordinated, joint plan, or any major portion
25 thereof or necessary revisions thereof, for water and

1 related land resources development in the area, river
2 basin, or group of river basins for which such commission
3 was established. Before the commission submits such a
4 plan or major portion thereof or revision thereof to the
5 Council, it shall transmit the proposed plan or revision
6 to the head of each Federal department or agency, the
7 Governor of each State, and each interstate agency, from
8 which a member of the commission has been appointed,
9 and to the head of the United States section of any inter-
10 national commission if the plan, portion or revision
11 deals with a boundary water or a river crossing a
12 boundary, or any tributary flowing into such boundary
13 water or river, over which the international commis-
14 sion has jurisdiction or for which it has responsibility.
15 Each such department and agency head, Governor,
16 interstate agency, and United States section of an in-
17 ternational commission shall have ninety days from
18 the date of the receipt of the proposed plan, portion,
19 or revision to report its views, comments, and recom-
20 mendations to the commission. The commission may
21 modify the plan, portion, or revision after considering
22 the reports so submitted. The views, comments, and
23 recommendations submitted by each Federal depart-
24 ment or agency head, Governor, interstate agency, and
25 United States section of an international commission

1 shall be transmitted to the Council with the plan, por-
2 tion, or revision;
3 "(d) undertake such studies of regional land use
4 conditions, patterns, and projections as may be requested
5 by the Council and concurred in by the Governors of at
6 least one-half of the States included within the commis-
7 sion's jurisdiction; and
8 "(e) submit to the Council at the time of submitting
9 the plans and studies required by subsections (c) and
10 (d) of this section any recommendations it may have
11 for continuing the functions of the commission and for
12 implementing the plans or study recommendations, in-
13 cluding means of keeping the plans up to date."
14 "POWERS AND ADMINISTRATIVE PROVISIONS OF THE
15 COMMISSIONS
16 "SEC. 205. (a) For the purpose of carrying out the
17 provisions of this title, each river basin commission may—
18 "(1) hold such hearings, sit and act at such times
19 and places, take such testimony, receive such evidence,
20 and print or otherwise reproduce and distribute so much
21 of its proceedings and reports thereon as it may deem
22 advisable;
23 "(2) acquire, furnish, and equip such office space
24 as is necessary;
25 "(3) use the United States mails in the same man-

1 ner and upon the same conditions as departments and
2 agencies of the United States;
3 "(4) employ and compensate such personnel as it
4 deems advisable, including consultants, at rates not to
5 exceed $100 per diem, and retain and compensate such
6 professional or technical service firms as it deems ad-
7 visable on a contract basis;
8 "(5) arrange for the services of personnel from
9 any State or the United States, or any subdivision or
10 agency thereof, or any intergovernmental agency;
11 "(6) make arrangements, including contracts, with
12 any participating government, except the United States
13 or the District of Columbia for inclusion in a suitable
14 retirement and employee benefit system of such of its
15 personnel as may not be eligible for or continuing in an-
16 other governmental retirement or employee benefit sys-
17 tem or otherwise provide for such coverage of its
18 personnel;
19 "(7) purchase, hire, operate, and maintain passen-
20 ger motor vehicles; and
21 "(8) incur such necessary expenses and exercise
22 such other powers as are consistent with and reason-
23 ably required to perform its functions under this Act.
24 "(b) The chairman of a river basin commission, or

1 any member of such commission designated by the chair-
2 man thereof for the purpose, is authorized to administer
3 oaths when it is determined by a majority of the commis-
4 sion that testimony shall be taken or evidence received
5 under oath.

6 "(c) To the extent permitted by law, all appropriate
7 records and papers of each river basin commission shall be
8 made available for public inspection during ordinary office
9 hours.

10 "(d) Upon request of the chairman of any river basin
11 commission, or any member or employee of such commis-
12 sion designated by the chairman thereof for the purpose,
13 the head of any Federal department or agency is author-
14 ized (1) to furnish to such commission such information as
15 may be necessary for carrying out its functions and as
16 may be available to or procurable by such department
17 or agency, and (2) to detail to temporary duty with such
18 commission on a reimbursable basis such personnel within
19 his administrative jurisdiction as it may need or believe
20 to be useful for carrying out its functions, each such detail
21 to be without loss of seniority, pay, or other employee status.

22 "(e) The chairman of each river basin commission
23 shall, with the concurrence of the vice chairman, appoint
24 the personnel employed by such commission, and the chair-
25 man shall, in accordance with the general policies of such

1 commission with respect to the work to be accomplished
2 by it and the timing thereof, be responsible for (1) the
3 supervision of personnel employed by such commission, (2)
4 the assignment of duties and responsibilities among such
5 personnel, and (3) the use and expenditure of funds avail-
6 able to such commission.

7 "COMPENSATION OF COMMISSION MEMBERS

8 "SEC. 206. (a) Any member of a river basin commis-
9 sion appointed pursuant to section 202 (b) and (e) of this
10 Act shall receive no additional compensation by virtue of
11 his membership on the commission, but shall continue to
12 receive, from appropriations made for the agency from
13 which he is appointed, the salary of his regular position
14 when engaged in the performance of the duties vested in
15 the commission.

16 "(b) Members of a commission, appointed pursuant to
17 section 202 (c) and (d) of this Act, shall each receive such
18 compensation as may be provided by the State or the inter-
19 state agency, respectively, which they represent.

20 "(c) The per annum compensation of the chairman of
21 each river basin commission shall be determined by the Presi-
22 dent, but when employed on a full-time annual basis shall
23 not exceed the maximum scheduled rate for grade GS–18 of
24 the Classification Act of 1949, as amended; or when engaged
25 in the performance of the commission's duties on an inter-

1 mittent basis such compensation shall be not more than $100
2 per day and shall not exceed $12,000 in any year.
3 "SEC. 207. (a) Each commission shall recommend what
4 share of its expenses shall be borne by the Federal Govern-
5 ment, but such share shall be subject to approval by the
6 Council. The remainder of the commission's expenses shall be
7 otherwise apportioned as the commission may determine.
8 Each commission shall prepare a budget annually and trans-
9 mit it to the Council and the States. Estimates of proposed
10 appropriations from the Federal Government shall be in-
11 cluded in the budget estimates submitted by the Council
12 under the Budgeting and Accounting Act of 1921, as
13 amended, and may include an amount for advance to a com-
14 mission against State appropriations for which delay is an-
15 ticipated by reason of later legislative sessions. All sums
16 appropriated to or otherwise received by a commission shall
17 be credited to the commission's account in the Treasury of
18 the United States.
19 "(b) A commission may accept for any of its purposes
20 and functions, appropriations, donations, and grants of
21 money, equipment, supplies, materials, and services from
22 any State or the United States or any subdivision or agency
23 thereof, or intergovernmental agency, and may receive,
24 utilize, and dispose of the same.
25 "(c) The commission shall keep accurate accounts of

all receipts and disbursements. The accounts shall be audited at least annually in accordance with generally accepted auditing standards by independent certified or licensed public accountants, certified or licensed by a regulatory authority of a State, and the report of the audit shall be included in and become a part of the annual report of the commission.

"(d) The accounts of the commission shall be open at all reasonable times for inspection by representatives of the jurisdictions and agencies which make appropriations, donations, or grants to the commission.

"TITLE III—A NATIONAL LAND-USE POLICY AND PROGRAM OF ASSISTANCE TO THE STATES

"PART 1—FINDINGS, POLICY, AND PURPOSE

"FINDINGS

"SEC. 301. (a) The Congress hereby finds that there is a national interest in a more efficient and comprehensive system of national, regional, statewide, and local land-use planning and decisionmaking and that the rapid and continued growth of the Nation's population, expanding urban development, proliferating transportation systems, large-scale industrial and economic growth, conflicts in emerging patterns of land use, the fragmentation of governmental entities exercising land-use planning powers, and the increased size, scale, and impact of private actions, have created a situation in

1 which land-use management decisions of national, regional,
2 and statewide concern are often being made on the basis of
3 expediency, tradition, short-term economic considerations,
4 and other factors which are often unrelated to the real con-
5 cerns of a sound national land-use policy.

6 "(b) The Congress further finds that a failure to con-
7 duct competent, ecologically sound land-use planning has, on
8 occasion, required public and private enterprise to delay,
9 litigate, and cancel proposed public utility and industrial
10 and commercial developments because of unresolved land-use
11 questions, thereby causing an unnecessary waste of human
12 and economic resources and a threat to public services and
13 often resulting in decisions to locate utilities and industrial
14 and commercial activities in the area of least public and
15 political resistance, but without regard to relevant ecological
16 and environmental land-use considerations.

17 "(c) The Congress further finds that many Federal
18 agencies are deeply involved in national, regional, State,
19 and local land-use planning and management activities which
20 because of the lack of a consistent policy often result in need-
21 less, undesirable, and costly conflicts between agencies of
22 Federal, State, and local government; that existing Federal
23 land-use planning programs have a significant effect upon the
24 location of population, economic growth, and on the character
25 of industrial, urban, and rural development; that the purposes

1 of such programs are frequently in conflict, thereby subsidiz-
2 ing undesirable and costly patterns of land-use development;
3 and that a concerted effort is necessary to interrelate and
4 coordinate existing and future Federal, State, local and pri-
5 vate decisionmaking within a system of planned develop-
6 ment and established priorities that is in accordance with a
7 national land-use policy.

8 "(d) The Congress further finds that while the primary
9 responsibility and constitutional authority for land-use plan-
10 ning and management of non-Federal lands rests with State
11 and local government under our system of government, it is
12 increasingly evident that the manner in which this responsi-
13 bility is exercised has a tremendous influence upon the
14 utility, the value, and the future of the public domain,
15 the national parks, forests, seashores, lakeshores, recreation,
16 and wilderness areas and other Federal lands; that the in-
17 terest of the public in State and local decisions affecting
18 these areas extends to the citizens of all States; and that the
19 failure to plan and, in some cases, poor land-use planning at
20 the State and local level, pose serious problems of broad
21 national, regional, and public concern and often result in
22 irreparable damage to commonly owned assets of great na-
23 tional importance such as estuaries, ocean beaches, and other
24 areas in public ownership.

25 "(e) The Congress further finds that the land-use de-

1 cisions of the Federal Government often have a tremendous
2 impact upon the ecology, the environment and the patterns
3 of development in local communities; that the substance and
4 the nature of a national land-use policy ought to take into
5 consideration the needs and interests of State, regional, and
6 local government as well as those of the Federal Govern-
7 ment, private groups and individuals; and that Federal land-
8 use decisions require greater participation by State and local
9 government to insure that they are in accord with the highest
10 and best standards of land-use management and the desires
11 and aspirations of State and local government.

12 "DECLARATION OF POLICY

13 "SEC. 302. (a) In order to promote the general welfare
14 and to provide full and wise application of the resources
15 of the Federal Government in strengthening the environ-
16 mental, recreational, economic, and social well-being of the
17 people of the United States, the Congress declares that it is a
18 continuing responsibility of the Federal Government, consist-
19 ent with the responsibility of State and local government for
20 land-use planning and management, to undertake the de-
21 velopment of a national policy, to be known as the national
22 land-use policy, which shall incorporate ecological, environ-
23 mental, esthetic, economic, social, and other appropriate fac-
24 tors. Such policy shall serve as a guide in making specific
25 decisions at the national level which affect the pattern of

1 environmental, recreational, and industrial growth and de-
2 velopment on the Federal lands, and shall provide a frame-
3 work for development of regional, State, and local land-
4 use policy.

5 "(b) The Congress further declares that it is the na-
6 tional land-use policy to—

7 "(1) favor patterns of land-use planning, manage-
8 ment, and development which are in accord with sound
9 ecological principles and which encourage the wise and
10 balanced use of the Nation's land and water resources;

11 "(2) foster beneficial economic activity and de-
12 velopment in all States and regions of the United States;

13 "(3) favorably influence patterns of population dis-
14 tribution in a manner such that a wide range of scenic,
15 environmental, and cultural amenities are available to
16 the American people;

17 "(4) contribute to the revitalization of existing
18 rural communities and encourage, where appropriate,
19 new communities;

20 "(5) assist State government to assume land-use
21 planning responsibility for activities within their
22 boundaries;

23 "(6) facilitate increased coordination in the ad-
24 ministration of Federal programs so as to encourage
25 desirable patterns of land-use planning; and

1 "(7) systematize methods for the exchange of land
2 use, environmental and ecological information in order
3 to assist all levels of government in the development
4 and implementation of the national land-use policy.
5 "(c) The Congress further declares that intelligent
6 land-use planning and management provides the single most
7 important institutional device for preserving and enhancing
8 the environment, for ecologically sound development, and for
9 maintaining conditions capable of supporting a quality life
10 and providing the material means necessary to improve the
11 national standard of living.
12 "PURPOSE
13 "SEC. 303. It is the purpose of this title—
14 "(a) to establish a national policy to encourage and
15 assist the several States to more effectively exercise their
16 constitutional responsibilities for the planning, manage-
17 ment, and administration of the Nation's land resources
18 through the development and implementation of compre-
19 hensive statewide land use plans and management pro-
20 grams designed to achieve an ecologically and environ-
21 mentally sound use of the Nation's land resources;
22 "(b) to establish a grant-in-aid program to assist
23 State and local governments to hire and train the per-
24 sonnel, and establish the procedures necessary to develop,
25 implement, and administer a statewide land use plan

1 which meets Federal guidelines and which will be re-
2 sponsive and effective in dealing with the growing
3 pressure of conflicting demands on a finite land resource
4 base;

5 "(c) to establish reasonable and flexible Federal
6 guidelines and requirements to give individual States
7 guidance in the development of statewide land use plans
8 and to condition the distribution of certain Federal funds
9 on the establishment of an adequate statewide land use
10 plan;

11 "(d) establish the authority and responsibility of the
12 Land and Water Resources Council (formerly the Water
13 Resources Council) to administer the Federal grant-in-
14 aid program, to review the statewide land use plans and
15 State water resources programs for conformity to the
16 provisions of this title, and to assist in the coordination
17 of Federal agency activities with statewide land use
18 plans;

19 "(e) to develop and maintain a national policy with
20 respect to federally conducted and federally supported
21 projects having land use implications; and

22 "(f) to coordinate planning and management re-
23 lating to Federal lands with planning and management
24 relating to non-Federal lands.

1 "PART 2—STATEWIDE AND INTERSTATE LAND USE
2 PLANNING GRANTS
3 "SEC. 304. (a) In order to carry out purposes of this
4 title the Council is authorized to make land use planning
5 grants to—
6 "(1) an appropriate single State agency, designated
7 by the Governor of the State or established by law,
8 which has statewide land use planning responsibilities
9 and which meets the guidelines and requirements set out
10 in section 305 of this title; and
11 "(2) any interstate agency which is authorized by
12 Federal law or interstate compact to plan for land use.
13 "(b) The Council is authorized to make land use plan-
14 ning grants in accordance with the provisions of this title
15 to assist and enable eligible State and interstate regional
16 agencies—
17 "(1) to prepare an inventory of the State's or re-
18 gion's land and related resources;
19 "(2) to compile and analyze information and data
20 related to—
21 "(A) population densities and trends;
22 "(B) economic characteristics and projections;
23 "(C) directions and extent of urban and rural
24 growth and changes;
25 "(D) public works, public capital improve-

1 ments, land acquisitions, and economic development
2 programs, projects, and associated activities;
3 "(E) ecological, environmental, geological, and
4 physical conditions which are of relevance to deci-
5 sions concerning the location of new communities,
6 commercial development, heavy industries, transpor-
7 tation and utility facilities, and other land uses;
8 "(F) the projected land-use requirements with-
9 in the State or region for agriculture, recreation,
10 urban growth, commerce, transportation, the gen-
11 eration and transmission of energy, and other im-
12 portant uses for at least fifty years in advance;
13 "(G) governmental organization and financial
14 resources available for land-use planning and man-
15 agement within the State and the political subdivi-
16 sions thereof or within the region; and
17 "(H) other information necessary to conduct
18 statewide land-use planning in accord with the
19 provisions of this title.
20 "(3) to provide technical assistance and training
21 programs for appropriate interstate, State, and local
22 agency personnel on the development, implementation,
23 and management of statewide land-use planning pro-
24 grams;

1 "(4) to arrange with Federal agencies for the coop-
2 erative planning of Federal lands located within and
3 near the State's or region's boundaries;
4 "(5) to develop, use, and encourage common in-
5 formation and data bases for Federal, regional, State
6 and local land-use planning;
7 "(6) to establish arrangements for the exchange
8 of land-use planning information among State agencies;
9 and among the various governments within each State
10 and their agencies; between the governments and agen-
11 cies of different States; and among States and interstate
12 compact agencies, river basin commissions, and regional
13 commissions;
14 "(7) to establish arrangements for the exchange of
15 information with the Federal Government for use by the
16 Council and the State and interstate agencies in dis-
17 charging their responsibilities under this Act;
18 "(8) to conduct hearings, prepare reports, and
19 solicit comments on reports concerning specific portions
20 of the plans and the plans in their entirety; and
21 "(9) to conduct such other related planning and
22 coordination functions as may be approved by the
23 Council.

1 "FEDERAL GUIDELINES AND REQUIREMENTS FOR STATE-
2 WIDE LAND USE PLANS

3 "SEC. 305. (a) A State agency specified in section
4 304 (a) must meet or give assurances that it will meet the
5 following requirements in the development of a statewide
6 land use plan to be eligible for statewide land use planning
7 grants under this title—

8 "(1) a single State agency, designated by the Gov-
9 ernor or established by law, shall have primary authority
10 and responsibility for the development and administra-
11 tion of the statewide land use plan;

12 "(2) a competent and adequate interdisciplinary
13 professional and technical staff, as well as special con-
14 sultants, will be available to the State agency to develop
15 the statewide land use plan;

16 "(3) to the maximum extent feasible, pertinent
17 local, State, and Federal plans, studies, information, and
18 data on land use planning already available shall be
19 utilized in order to avoid unnecessary repetition of effort
20 and expense.

21 "(b) During the five complete fiscal year period fol-
22 lowing the initial publication of regulations by the Council
23 implementing the provisions of this title, the State agency

1 must, as a condition of continued grant eligibility, develop
2 a statewide land use plan which—
3 "(1) identifies the portions of the State subject to
4 enforcement of the statewide land use plan, which shall
5 include all lands within the boundaries of the State
6 except—
7 "(A) lands the use of which is by law subject
8 solely to the discretion of or which is held in trust
9 by the Federal Government, its officers or agents;
10 and
11 "(B) at the discretion of the State agency, lands
12 located within the boundaries of any incorporated
13 city having a population in excess of two hundred
14 and fifty thousand or in excess of 20 per centum of
15 the State's total population, which has land use plan-
16 ning and regulation authority;
17 "(2) identifies those areas (within the State, except
18 where otherwise indicated)—
19 "(A) where ecological, environmental, geo-
20 logical, and physical conditions dictate that certain
21 types of land use activities are undesirable;
22 "(B) where the highest and best use, based
23 upon projected local, State, and National needs, on
24 the Statewide Outdoor Recreation Plan required

1 under the Land and Water Conservation Fund Act,
2 and upon other studies, is recreational-oriented use;
3 "(C) which are best suited for agricultural,
4 mineral, industrial, and commercial development;
5 "(D) where transportation and utility facilities
6 are or it appears should, in the future, be located;
7 "(E) which furnish the amenities and the basic
8 essentials to the development of new towns and the
9 revitalization of existing communities;
10 "(F) which, notwithstanding Federal owner-
11 ship or jurisdiction, are important to the State for
12 industrial, commercial, mineral, agricultural, recrea-
13 tional, ecological, or other purposes; and
14 "(G) which although located outside the State,
15 have substantial actual or potential impact upon land
16 use patterns within the State; and
17 "(H) which are of unusual national signifi-
18 cance and value.
19 "(3) includes appropriate provisions designed to
20 insure that projected requirements for material goods,
21 natural resources, energy, housing, recreation, and en-
22 vironmental amenities have been given consideration;
23 "(4) includes provisions designed to insure that the
24 plan is consistent with applicable local, State, regional,

1 and Federal standards relating to the maintenance and
2 enhancement of the quality of the environment and the
3 conservation of public resources;
4 "(5) provides for assuring orderly patterns of land
5 use and development;
6 "(6) includes provisions to insure that transporta-
7 tion and utility facilities do not interfere with Congres-
8 sional policies relating to the status and use of Federal
9 lands, and are established in compliance with regional
10 and State needs, State policies, and policies and goals
11 set forth in other Federal legislation;
12 "(7) provides for measures such as buffer zones,
13 scenic easements, prohibitions against nonconforming
14 uses, and other means of assuring the preservation of
15 aesthetic qualities, to insure that federally designated,
16 financed, and owned areas, including but not limited to
17 elements of the national park system, wilderness areas,
18 and game and wildlife refuges are not damaged or de-
19 graded as a result of inconsistent or incompatible land
20 use patterns in the same immediate geographical region;
21 "(8) provides for flood plain identification and
22 management;
23 "(9) provides for other appropriate factors hav-
24 ing significant land use implications.
25 "(c) To retain eligibility for statewide land use plan-

1 ning grants after the end of five complete fiscal years from
2 the beginning of the first fiscal year after the initial publi-
3 cation of regulations by the Council implementing the pro-
4 visions of this title, the statewide land use plan developed
5 in accordance with subsection (b) of this section and the
6 State land use planning agency must meet the following
7 Federal guidelines and requirements—

8 "(1) the statewide land use plan must be approved
9 by the Council in accordance with section 306;

10 "(2) the agency must have authority to implement
11 the approved plan and enforce its provisions;

12 "(3) the agency's authority may include the power
13 to acquire interests in real property;

14 "(4) the agency's authority must include the power
15 to prohibit, under State police powers, the use of any
16 lands in a manner which is inconsistent with the pro-
17 visions of the plan;

18 "(5) the agency must have authority to conduct
19 public hearings, allowing full public participation and
20 granting the right of appeal to aggrieved parties, in con-
21 nection with the dedication of any area of the State as an
22 areas subject to restricted or special use under the state-
23 wide land use plan; and

24 "(6) the agency must have established reasonable
25 procedures for periodic review of the plan for purposes

1 of granting variances from and making modifications of
2 the plan, including public notice and hearings, in order
3 to meet changed future conditions and requirements.
4 "(d) Nothing in this section shall be deemed to pre-
5 clude a State from planning for land use or from imple-
6 menting a statewide land use plan in stages, with respect to
7 either (1) particular geographical areas including but not
8 limited to coastal zones, or (2) particular kinds of uses, as
9 long as the other requirements of this Act are met.
10 "(e) Nothing in this Act shall be deemed to preclude
11 the delegation by the State agency to local governmental en-
12 tities of authority to plan for land use and enforce land use
13 restrictions adopted pursuant to the statewide land use plan,
14 including the assignment of funds authorized by this Act,
15 to the extent available, except that—
16 "(1) the State agency shall have ultimate responsi-
17 bility for approval and coordination of local plans and
18 enforcement procedures;
19 "(2) only the plan submitted by the State agency
20 will be considered by the Council;
21 "(3) the statewide land use plan submitted by the
22 State agency must be consistent with the guidelines estab-
23 lished by this Act; and
24 "(4) the State agency shall be responsible to the
25 Council for the management and control of any Federal

1 funds assigned or delegated to any agency of local gov-
2 ernment within the State concerned.

3 "REVIEW OF STATEWIDE LAND USE PLANS

4 "SEC. 306. (a) Upon completion of each statewide land
5 use plan—

6 "(1) The State agency responsible for the development
7 of the plan shall submit it to the Council.

8 "(2) The Council shall submit the plan for review and
9 comments to those Federal agencies the Council considers to
10 have significant interest in or impact upon land use within
11 the State concerned. A period of ninety days shall be pro-
12 vided for the review.

13 "(3) Upon completion of the review period established
14 by paragraph (2) of this subsection, the Council shall review
15 the plan along with the agency comments and approve the
16 plan if it—

17 "(A) conforms with the policy, guidelines, and re-
18 quirements declared in this title;

19 "(B) is compatible with the plans and proposed
20 plans of other States, so that regional and national land
21 use considerations are accommodated; and

22 "(C) does not conflict with the objectives of Fed-
23 eral programs authorized by the Congress.

24 "(b) A State may at any time make modifications of or
25 grant variances from its statewide land use plan: *Provided,*

1 That such modification or variance does not render the state-
2 wide land use plan inconsistent with the policies, guidelines,
3 and requirements declared in this Act: *And provided further,*
4 That such modification or variance is reported to the Council
5 on or before its effective date. The Council shall approve the
6 modification or variance unless it causes the plan to no
7 longer meet the criteria set forth in subsection (a).

8 "(c) (1) In the event the Council determines that
9 grounds exist for disapproval of a statewide land use plan
10 or, having approved such a plan, subsequently determines
11 that grounds exist for withdrawal of such approval pursuant
12 to section 314, it shall notify the President, who shall order
13 the establishment of an ad hoc hearing board, the member-
14 ship of which shall consist of:

15 "(A) The Governor of a State other than that which
16 submitted the plan, whose State does not have a partic-
17 ular interest in the approval or disapproval of the plan,
18 selected by the President, or such alternate person as the
19 Governor selected by the President may designate;

20 "(B) One knowledgeable, impartial Federal official,
21 selected by the President, who is not a member of or
22 responsible to a member of the Council;

23 "(C) One knowledgeable, impartial private citizen,
24 selected by the other two members: *Provided,* That if the
25 other two members cannot agree upon a third member

1 within twenty days after the appointment of the second
2 member to be appointed, the third member shall be se-
3 lected by the President.
4 "(2) The hearing board shall meet as soon as practi-
5 cable after all three members have been appointed. The Coun-
6 cil shall specify in detail to the hearing board its reasons for
7 considering disapproval or withdrawal of approval of the
8 plan. The hearing board shall hold such hearings and receive
9 such evidence as it deems necessary. The hearing board shall
10 then determine whether disapproval or withdrawal of ap-
11 proval would be reasonable, and set forth in detail the rea-
12 sons for its determination. If the hearing board determines
13 that disapproval would be unreasonable, the Council shall
14 approve the plan.
15 "(3) Members of hearing boards who are not regular
16 full-time officers or employees of the United States shall,
17 while carrying out their duties as members, be entitled to
18 receive compensation at a rate fixed by the President, but
19 not exceeding $150 per diem, including travel time, and
20 while away from their homes or regular places of business
21 they may be allowed travel expenses, including per diem
22 in lieu of subsistence as authorized by law for persons in
23 Government service employed intermittently. Expenses shall
24 be charged to the account of the Executive Office of the
25 President.

1 "(4) Administrative support for hearing boards shall
2 be provided by the Executive Office of the President.
3 "(5) The President may issue such regulations as may
4 be necessary to carry out the provisions of this subsection.
5 "COORDINATION OF FEDERAL PROGRAMS
6 "SEC. 307 (a) All Federal agencies conducting or sup-
7 porting activities involving land use in an area subject to an
8 approved statewide land use plan shall operate in accordance
9 with the plan. In the event that a departure from the plan
10 appears necessary in the national interest, the agency shall
11 submit the matter to the Council. The Council may approve
12 a federally conducted or supported project a portion or por-
13 tions of which may be inconsistent with the plan if it finds
14 that (1) the project is essential to the national interest and
15 (2) there is no reasonable and prudent alternative which
16 would not be inconsistent with an approved statewide land
17 use plan. In the event that the Council fails to approve the
18 project, the project may be undertaken only upon the express
19 approval of the President. The President may approve proj-
20 ects inconsistent with a statewide land use plan only when
21 overriding considerations of national policy require such
22 approval.
23 "(b) State and local governments submitting applica-
24 tions for Federal assistance for activities having signifi-
25 cant land use implications in an area subject to an approved

1 statewide land use plan shall indicate the views of the State
2 land use planning agency as to the consistency of such
3 activities with the plan. Federal agencies shall not approve
4 proposed projects that are inconsistent with the plan.
5 "(c) All Federal agencies responsible for administering
6 grant, loan, or guarantee programs for activities that have
7 a tendency to influence patterns of land use and develop-
8 ment, including but not limited to home mortgage and inter-
9 est subsidy programs and water and sewer facility
10 construction programs, shall take cognizance of approved
11 statewide land use plans and shall administer such programs
12 so as to enable them to support controlled development, rather
13 than administering them so as merely to respond to uncon-
14 trolled growth and change.
15 "(d) Federal agencies conducting or supporting public
16 works activities in areas not subject to an approved state-
17 wide land use plan shall, to the extent practicable, conduct
18 those activities in such a manner as to minimize any ad-
19 verse impact on the environment resulting from decisions con-
20 cerning land use.
21 "(e) Officials of the Federal Government charged with
22 responsibility for the management of federally owned lands
23 shall take cognizance of the planning efforts of State land
24 use planning agencies of States within which and near the
25 boundaries of which such Federal lands are located, and

1 shall coordinate Federal land use planning for those lands
2 with State land use planning to the extent such coordination
3 is practicable and not inconsistent with paramount national
4 policies, programs, and interests.

5 "PART 3—STATE WATER RESOURCES PLANNING GRANTS

6 "SEC. 308. In recognition of the need for increased
7 participation by the States in water resources planning, and
8 to carry out the purposes of this title, the Council is author-
9 ized to make water resources planning grants to an appro-
10 priate single State agency designated by the Governor of the
11 State or established by law to carry out a program which
12 meets the criteria set forth in section 309. The agency may
13 be the same as the one designated pursuant to section 305
14 (a) (1) for administration of the statewide land use plan.

15 "SEC. 309. The Council shall approve any program for
16 comprehensive water and related land resources planning
17 which is submitted by a State, if such program—

18 "(a) provides for comprehensive planning with re-
19 spect to intrastate or interstate water resources, or both,
20 in such State to meet the needs for water and water-
21 related activities, taking into account prospective de-
22 mands for all purposes served through or affected by
23 water and related land resources development, with ade-
24 quate provision for coordination with all Federal, State,

1 and local agencies, and nongovernmental entities having
2 responsibilities in affected fields;
3 "(b) provides, where comprehensive statewide de-
4 velopment planning is being carried on with or with-
5 out assistance under section 701 of the Housing Act of
6 1954, or under the Land and Water Conservation Fund
7 Act of 1965, for full coordination between comprehensive
8 water resources planning and other statewide planning
9 programs and for assurances that such water resources
10 planning will be in conformity with the general develop-
11 ment policy in such State;
12 "(c) designates a State agency to administer the
13 program;
14 "(d) provides that the State agency will make
15 such reports in such form and containing such infor-
16 mation as the Council from time to time reasonably
17 requires to carry out its functions under this title;
18 "(e) sets forth the procedure to be followed in
19 carrying out the State program and in administering
20 such program;
21 "(f) provides such accounting, budgeting, and other
22 fiscal methods and procedures as are necessary for
23 keeping appropriate accountability of the funds and
24 for the proper and efficient administration of the pro-
25 gram; and

1 "(g) includes adequate provision for consolidation
2 or coordination with the statewide land use plan.
3 The Council shall not disapprove any State water resources
4 program without first giving reasonable notice and an op-
5 portunity for hearing to the State agency administering
6 such program.

7 "PART 4—ADMINISTRATION OF LAND USE AND WATER
8 RESOURCES PLANNING GRANTS

9 "ALLOTMENTS

10 "SEC. 310. (a) From the sum appropriated pursuant to
11 section 404 the Council is authorized to make State land use
12 planning grants to agencies the proposals of which are ap-
13 proved in any amount not to exceed ninety per centum of
14 the estimated cost of the planning for the five full fiscal
15 years after the initial publication by the Council of regula-
16 tions implementing the provisions of this title. Thereafter,
17 grants may be made in an amount not to exceed two-thirds
18 of the State agency's planning and operating costs.

19 "(b) Land use planning grants shall be allocated to the
20 States with approved programs based on regulations of the
21 Council, which shall take into account the amount and na-
22 ture of the State's land resource base, population, pressures
23 resulting from growth, financial need, and other relevant
24 factors.

25 "(c) Any land use planning grant made for the pur-

1 pose of this title shall increase, and not replace State funds
2 presently available for State land use planning activities.
3 Any grant made pursuant to this title shall be in addition to,
4 and may be used jointly with, grants or other funds available
5 for land use planning surveys, or investigations under other
6 federally assisted programs.

7 "(d) No funds granted pursuant to this Act may be
8 expended for the acquisition of any interest in real property.

9 "SEC. 311. (a) From the sums appropriated pursuant
10 to section 404 of this Act for any fiscal year the Council
11 shall from time to time make allotments to the States for
12 water resources planning, in accordance with its regulations
13 and the provisions of this Act, on the basis of (1) the popu-
14 lation, (2) the land area, (3) the need for comprehensive
15 water and related land resources planning programs, and
16 (4) the financial need of the respective States. For the pur-
17 poses of this section the population of the States shall be
18 determined on the basis of the latest estimates available
19 from the Department of Commerce, and the land area of the
20 States shall be determined on the basis of the official records
21 of the United States Geological Survey.

22 "(b) From each State's allotment under this section
23 for any fiscal year the Council shall pay to such State an
24 amount which is not more than 50 per centum of the cost
25 of carrying out its State program approved under section

1 309, including the cost of training personnel for carry-
2 ing out such program and the cost of administering such
3 program.

4 "PAYMENTS

5 "SEC. 312. The method of computing and paying
6 amounts pursuant to this title shall be as follows:

7 "(1) The Council shall, prior to the beginning of each
8 calendar quarter or other period prescribed by it, esti-
9 mate the amounts to be paid to each State under the pro-
10 visions of this title for such period, such estimate to be
11 based on such records of the State and information fur-
12 nished by it, and such other investigation, as the Council
13 may find necessary.

14 "(2) The Council shall pay to the State, from the allot-
15 ments available therefor, the amounts so estimated by it
16 for any period, reduced or increased, as the case may be,
17 by any sum (not previously adjusted under this para-
18 graph) by which it finds that its estimate of the amount
19 to be paid such State for any prior period under this title
20 was greater or less than the amount which should have
21 been paid to such State for such prior period under this
22 title. Such payments shall be made through the disbursing
23 facilities of the Treasury Department, at such times and
24 in such installments as the Council may determine.

1 "FINANCIAL RECORDS

2 "SEC. 313. (a) Each recipient of a grant under this
3 Act shall keep such records as the Director of the Council
4 shall prescribe, including records which fully disclose the
5 amount and disposition of the funds received under the
6 grant, and the total cost of the project or undertaking in con-
7 nection with which the grant was made and the amount and
8 nature of that portion of the cost of the project or undertak-
9 ing supplied by other sources, and such other records as will
10 facilitate an effective audit.

11 "(b) Such other records shall be kept and made avail-
12 able and such reports and evaluations shall be made as the
13 Director may require regarding the status and application
14 of Federal funds made available under the provisions of this
15 title.

16 "(c) The Director of the Council and the Comptroller
17 General of the United States, or any of their duly authorized
18 representatives, shall have access for the purpose of audit and
19 examination to any books, documents, papers, and records of
20 the recipient of the grant that are pertinent to the determina-
21 tion that funds granted are used in accordance with this Act.

22 "SANCTIONS FOR NONCOMPLIANCE

23 "SEC. 314. (a) The Council shall have authority to ter-
24 minate any financial assistance extended to a State agency for

1 land use planning under this title and withdraw its approval
2 of a statewide land use plan, whenever, after the State con-
3 cerned has been given notice of a proposed termination and
4 an opportunity for hearing, the Council finds that—

5 "(1) the designated State land use planning agency
6 has failed to adhere to the guidelines and requirements of
7 this title in the development of the land use plan;

8 "(2) the State has not enacted legislation which
9 allows the State agency to meet the requirements of sub-
10 section (c) of section 305; or

11 "(3) the plan submitted by such State and approved
12 under section 306 has been so changed or so admin-
13 istered that it no longer complies with a requirement
14 of such section.

15 "(b) Whenever the Council after reasonable notice and
16 opportunity for hearing to a State agency finds that—

17 "(1) the program submitted by such State and ap-
18 proved under section 309 has been so changed that it no
19 longer complies with a requirement of such section; or

20 "(2) in the administration of the program there is
21 a failure to comply substantially with such a requirement,
22 the Council shall notify such agency that no further payments
23 will be made to the State under this title until it is satisfied
24 that there will no longer be any such failure. Until the Coun-

1 cil is so satisfied, it shall make no further payments to such
2 State for water resources planning under this title.
3 "SEC. 315. (a) After the end of five fiscal years from
4 the beginning of the first fiscal year after the initial issuance
5 of regulations by the Council implementing the provisions
6 of this title, no Federal agency shall, except with respect to
7 Federal lands, propose or undertake any new action or fi-
8 nancially support any new State-administered action which
9 may have a substantial adverse environmental impact or
10 which would or would tend to irreversibly or irretrievably
11 commit substantial land or water resources in any State which
12 has not prepared and submitted a statewide land use plan
13 in accordance with this Act.
14 "(b) Upon application by the Governor of the State or
15 head of the Federal agency concerned, the President may
16 temporarily suspend the operation of paragraph (a) with
17 respect to any particular action, if he deems such suspension
18 necessary for the public health, safety, or welfare: *Provided,*
19 That no such suspension shall be granted unless the State
20 concerned submits a schedule, acceptable to the Council, for
21 submission of a statewide land use plan: *And provided*
22 *further,* That no subsequent suspension shall be granted un-
23 less the State concerned has exercised due diligence to comply
24 with the terms of that schedule.

1 "TITLE IV—GENERAL

2 "EFFECT ON EXISTING LAWS

3 "SEC. 401. Nothing in this Act shall be construed—

4 "(a) to expand or diminish either Federal or State
5 jurisdiction, responsibility, or rights in the field of land
6 and water resources planning, development, or control;
7 nor to displace, supersede, limit, or modify any inter-
8 state compact or the jurisdiction or responsibility of any
9 legally established joint or common agency of two or
10 more States, or of two or more States and the Federal
11 Government; nor to limit the authority of Congress to
12 authorize and fund projects;

13 "(b) to change or otherwise affect the authority
14 or responsibility of any Federal official in the discharge
15 of the duties of his office except as required to carry
16 out the provisions of this Act;

17 "(c) as superseding, modifying, or repealing exist-
18 ing laws applicable to the various Federal agencies
19 which are authorized to develop or participate in the
20 development of land and water resources or to exercise
21 licensing or regulatory functions in relation thereto,
22 except as required to carry out the provisions of this
23 Act; nor to affect the jurisdiction, powers, or preroga-
24 tives of the International Joint Commission, United
25 States and Canada, the Permanent Engineering Board

1 and the United States operating entity or entities estab-
2 lished pursuant to the Columbia River Basin Treaty,
3 signed at Washington January 17, 1961, or the Inter-
4 national Boundary and Water Commission, United
5 States and Mexico;

6 "(d) as authorizing any entity established or act-
7 ing under the provisions hereof to study, plan, or recom-
8 mend the transfer of waters between areas under the
9 jurisdiction of more than one river basin commission
10 or entity performing the function of a river basin
11 commission.

12 "DEFINITIONS

13 "SEC. 402. For the purposes of this Act—

14 "(a) the term 'State' means a State, the Dis-
15 trict of Columbia, the Commonwealth of Puerto Rico,
16 or any territory or possession of the United States;

17 "(b) the term 'interstate agency' means any river
18 basin commission or interstate compact agency estab-
19 lished in accordance with Federal law;

20 "(c) the terms 'basin' and 'river basin' are descrip-
21 tive of geographical areas and have identical meaning;
22 and

23 "(d) the term 'new action', as used in section 315,
24 means any action which has not been previously author-
25 ized by the Congress.

1 "AUTHORIZATION OF APPROPRIATIONS

2 "SEC. 403. There are authorized to be appropriated not
3 more than $16,000,000 annually for the administration of
4 this Act, no more than $10,000,000 of which may be used
5 for contract studies.

6 "SEC. 404. There are hereby authorized to be appro-
7 priated to the Council for grants to States, river basin com-
8 missions, and interstate agencies not more than $100,000,-
9 000 annually to carry out the purposes of this Act.

10 "ADMINISTRATIVE PROVISIONS

11 "SEC. 405. (a) For the purpose of carrying out the
12 provisions of this Act, the Director with the concurrence of
13 the Council may: (1) hold such hearings, sit and act at
14 such times and places, take such testimony, receive such
15 evidence, and print or otherwise reproduce and distribute
16 so much of its proceedings and reports thereon as he may
17 deem advisable; (2) acquire, furnish, and equip such office
18 space as is necessary; (3) use the United States mails in
19 the same manner and upon the same conditions as other
20 departments and agencies of the United States; (4) em-
21 ploy and fix the compensation of such personnel as it
22 deems advisable, in accordance with the civil service laws
23 and Classification Act of 1949, as amended; (5) procure
24 services as authorized by section 15 of the Act of August 2,
25 1946 (5 U.S.C. 55a), at rates not to exceed $100 per diem

1 for individuals; (6) purchase, hire, operate, and maintain
2 passenger motor vehicles; and (7) incur such necessary
3 expenses and exercise such other powers as are consistent
4 with and reasonably required for the performance of its
5 functions under this Act.

6 "(b) Any member of the Council is authorized to ad-
7 minister oaths when it is determined by a majority of the
8 Council that testimony shall be taken or evidence received
9 under oath.

10 "(c) To the extent permitted by law, all appropriate
11 records and papers of the Council may be made available
12 for public inspection during ordinary office hours.

13 "(d) The Council shall be responsible for (1) the
14 appointment and supervision of its personnel, (2) the as-
15 signment of duties and responsibilities among such per-
16 sonnel, and (3) the use and expenditures of funds.

17 "DELEGATION OF FUNCTIONS

18 "SEC. 406. (a) The Council is authorized to delegate
19 to the Director of the Council its administrative functions,
20 including the detailed administration of the grant programs
21 under title III.

22 "(b) The Council may not delegate the responsibilities
23 of a policy nature vested in it by this Act. This restriction
24 applies specifically to, but is not necessarily limited to, the
25 following responsibilities of the Council—

1 "(1) the recommendation function set forth in sub-
2 section (b) of section 106;
3 "(2) the approval and disapproval functions set
4 forth in section 306;
5 "(3) the approval and disapproval functions set
6 forth in section 309;
7 "(4) the approval functions set forth in subsection
8 (b) of section 315; and
9 "(5) the functions set forth in section 410.
10 "UTILIZATION OF PERSONNEL
11 "SEC. 407. (a) The Council may, with the consent of
12 the head of any other department or agency of the United
13 States, utilize such officers and employees of such agency on
14 a reimbursable basis as are necessary to carry out the pro-
15 visions of this Act.
16 "(b) Upon request of the Council, the head of any
17 Federal department or agency is authorized (1) to furnish
18 to the Council such information as may be necessary for
19 carrying out its functions and as may be available to or
20 procurable by such department or agency, and (2) to de-
21 tail to temporary duty with the Council on a reimbursable
22 basis such personnel within his administrative jurisdiction
23 as the Council may need or believe to be useful for carrying
24 out its functions, each such detail to be without loss of senior-
25 ity, pay, or other employee status.

1 "TECHNICAL ASSISTANCE

2 "SEC. 408. The Council may provide technical assist-
3 ance to any eligible State, river basin commission, or inter-
4 state agency to assist it in the performance of its functions
5 under this Act.

6 "STUDIES

7 "SEC. 409. The Council may, by contract or otherwise,
8 make studies and publish information on subjects related to
9 State, regional, and national land use planning and water
10 resources use.

11 "RULES AND REGULATIONS

12 "SEC. 410. The Council, except with respect to subsec-
13 tion (c) of section 306—

14 "(a) shall promulgate rules and regulations for the
15 administration of title III, including the detailed terms
16 and conditions under which grants may be made, and

17 "(b) with the approval of the President, shall pre-
18 scribe such rules, establish such procedures, and make
19 such arrangements and provisions relating to the per-
20 formance of its functions under title III and the use of
21 funds available therefor, as may be necessary in order
22 to assure (1) coordination of the program authorized
23 by this Act with related Federal planning assistance
24 programs, including the program authorized under sec-
25 tion 701 of the Housing Act of 1954 and (2) appro-

1 priate utilization of other Federal agencies administering
2 programs which may contribute to achieving the pur-
3 poses of this Act.
4 "(c) shall make such other rules and regulations
5 as it may deem necessary or appropriate for carrying
6 out its duties and responsibilities under the provisions of
7 this Act."

92D CONGRESS
1ST SESSION

S. 992

IN THE SENATE OF THE UNITED STATES

FEBRUARY 25 (legislative day, FEBRUARY 17), 1971

Mr. BYRD of West Virginia (for Mr. JACKSON) (for himself, Mr. ALLOTT, Mr. BELLMON, Mr. FANNIN, Mr. HATFIELD, Mr. JORDAN of Idaho, and Mr. STEVENS) (by request) introduced the following bill; which was read twice and referred to the Committee on Interior and Insular Affairs

A BILL

To establish a national land use policy; to authorize the Secretary of the Interior to make grants to encourage and assist the States to prepare and implement land use programs for the protection of areas of critical environmental concern and the control and direction of growth and development of more than local significance; and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That this Act may be cited as the "National Land Use Policy
4 Act of 1971".

1 FINDINGS AND DECLARATIONS OF POLICY

2 SEC. 101. (a) The Congress hereby finds and declares
3 that decisions about the use of land significantly influence the
4 quality of the environment, and that present State and local
5 institutional arrangements for planning and regulating land
6 use of more than local impact are inadequate, with the
7 result—

8 (1) that important ecological, cultural, historic, and
9 aesthetic values in areas of critical environmental con-
10 cern which are essential to the well-being of all citizens
11 are being irretrievably damaged or lost;

12 (2) that coastal zones and estuaries, flood plains,
13 shorelands, and other lands near or under major bodies
14 or courses of water which possess special natural and
15 scenic characteristics are being damaged by ill-planned
16 development that threaten these values;

17 (3) that key facilities such as major airports, high-
18 way interchanges, and recreational facilities are inducing
19 disorderly development and urbanization of more than
20 local impact;

21 (4) that the implementation of standards for the
22 control of air, water, noise, and other pollution is im-
23 peded;

24 (5) that the selection and development of sites for

1 essential private development of regional benefit has
2 been delayed or prevented;
3 (6) that the usefulness of Federal or federally
4 assisted projects and the administration of Federal pro-
5 grams are being impaired;
6 (7) that large-scale development often creates a
7 significant adverse impact upon the environment.
8 (b) The Congress further finds and declares that there
9 is a national interest in encouraging the States to exercise
10 their full authority over the planning and regulation of non-
11 Federal lands by assisting the States, in cooperation with
12 local governments, in developing land use programs includ-
13 ing unified authorities, policies, criteria, standards, methods,
14 and processes for dealing with land use decisions of more
15 than local significance.

16 DEFINITIONS

17 SEC. 102. For purposes of this Act, (a) "Areas of
18 critical environmental concern" are areas where uncon-
19 trolled development could result in irreversible damage to
20 important historic, cultural, or esthetic values, or natural
21 systems or processes, which are of more than local signifi-
22 cance; or life and safety as a result of natural hazards of
23 more than local significance. Such areas shall include:
24 (1) Coastal zones and estuaries: "Coastal zones"

1 means the land, waters, and lands beneath the waters
2 in close proximity to the coastline (including the Great
3 Lakes) and strongly influenced by each other, and
4 which extend seaward to the outer limit of the United
5 States territorial sea and include areas influenced or
6 affected by water from an estuary such as, but not
7 limited to, salt marshes, coastal and intertidal areas,
8 sounds, embayments, harbors, lagoons, inshore waters,
9 channels, and all other coastal wetlands. "Estuary"
10 means the part of the mouth of a river or stream or
11 other body of water having unimpaired natural connec-
12 tion with the open sea and within which the sea water
13 is measurably diluted with fresh water derived from
14 land drainage.
15 (2) shorelands and flood plains of rivers, lakes, and
16 streams of State importance;
17 (3) rare or valuable ecosystems;
18 (4) scenic or historic areas; and
19 (5) such additional areas of similar valuable or
20 hazardous characteristics which a State determines to
21 be of critical environmental concern.
22 (b) "Key facilities" are public facilities which tend to
23 induce development and urbanization of more than local
24 impact and include the following:
25 (1) any major airport that is used or is designed
26 to be used for instrument landings;

1 (2) interchanges between the Interstate Highway
2 System and frontage access streets or highways; major
3 interchanges between other limited access highways and
4 frontage access streets or highways; and
5 (3) major recreational lands and facilities.
6 (c) "Development and land use of regional benefit"
7 includes land use and private development for which there
8 is a demonstrable need affecting the interests of constituents
9 of more than one local government which outweighs the
10 benefits of any applicable restrictive or exclusionary local
11 regulations.
12 (d) "State" includes the fifty States of the United
13 States, the Commonwealth of Puerto Rico, Guam, American
14 Samoa, and the Virgin Islands.
15 PROGRAM DEVELOPMENT GRANTS
16 SEC. 103. (a) The Secretary of the Interior (herein-
17 after referred to as the "Secretary") is authorized to make
18 not more than two annual grants to each State to assist that
19 State in developing a land use program meeting the require-
20 ments set forth in section 104 of this Act. Such grants shall
21 not exceed 50 per centum of the costs of program develop-
22 ment. Prior to making the first grant, the Secretary shall be
23 satisfied that such grant will be used in development of a
24 land use program meeting the requirements set forth in sec-
25 tion 104. Prior to making a second grant, the Secretary shall

1 be satisfied that the State is adequately and expeditiously
2 proceeding with the development of a land use program
3 meeting the requirements of section 104.
4 (b) States receiving grants pursuant to this section
5 shall submit to the Secretary not later than one year after the
6 date of award of the grant a report on work completed toward
7 the development of a State land use program. A State land
8 use program meeting the requirements of section 104 of this
9 Act shall satisfy the requirements for such a report.
10 (c) The authority to make grants under this section ex-
11 pires three years from date of enactment.
12 PROGRAM MANAGEMENT GRANTS
13 SEC. 104. Following his review of a State's land use pro-
14 gram, the Secretary is authorized to make a grant to that
15 State to assist it in managing the State land use program.
16 Successive grants for this purpose may be made annually to
17 any State resubmitting its land use program for review by
18 the Secretary. Grants made pursuant to this section shall not
19 exceed 50 per centum of the cost of managing the land use
20 program. Grants authorized by this section shall be made by
21 the Secretary only if, in his judgement:
22 (a) the State's land use program includes:
23 (1) a method for inventorying and designating
24 areas of critical environmental concern;

1 (2) a method for inventorying and designating
2 areas impacted by key facilities;
3 (3) a method for exercising State control over
4 the use of land within areas of critical environ-
5 mental concern and areas impacted by key facilities;
6 (4) a method for assuring that local regula-
7 tions do not restrict or exclude development and
8 land use of regional benefit;
9 (5) a policy for influencing the location of
10 new communities and a method for assuring appro-
11 priate controls over the use of land around new
12 communities;
13 (6) a method for controlling proposed large-
14 scale development of more than local significance in
15 its impact upon the environment;
16 (7) a system of controls and regulations per-
17 taining to areas and developmental activities pre-
18 viously listed in this subsection which are designed to
19 assure that any source of air, water, noise, or other
20 pollution will not be located where it would result in
21 a violation of any applicable air, water, noise, or
22 other pollution standard or implementation plan;
23 (8) a method for periodically revising and up-
24 dating the State land use program to meet changing
25 conditions; and

1 (9) a detailed schedule for implementing all
2 aspects of the program.
3 For purposes of complying with paragraphs (1)
4 through (7) of this subsection (a), any one or a com-
5 bination of the following general techniques is accept-
6 able: (i) State establishment of criteria and standards
7 subject to judicial review and judicial enforcement of
8 local implementation and compliance; (ii) direct State
9 land use planning and regulation; (iii) State adminis-
10 trative review of local land use plans, regulations and
11 implementation with full powers to approve or dis-
12 approve.
13 (b) in designating areas of critical environmental
14 concern, the State has not excluded any areas of critical
15 environmental concern to the Nation.
16 (c) in controlling land use in areas of critical en-
17 vironmental concern to the Nation, the State has pro-
18 cedures to prevent action (and, in the case of successive
19 grants, the State has not acted) in substantial disregard
20 for the purposes, policies and requirements of its land
21 use program.
22 (d) States laws, regulations and criteria affecting
23 areas and developmental activities listed in subsection
24 (a) of this section are in accordance with the policy,
25 purpose and requirements of this Act; and that State

1 laws, regulations and criteria affecting land use in the
2 coastal zone and estuaries further take into account:
3 (1) the esthetic and ecological values of wet-
4 lands for wildlife habitat, food production sources
5 for aquatic life, recreation, sedimentation control,
6 and shoreland storm protection; and
7 (2) the susceptibility of wetlands to perma-
8 nent destruction through draining, dredging, and
9 filling, and the need to restrict such activities.
10 (e) the State is organized to implement its State
11 land use program.
12 (f) the State land use program has been reviewed
13 and approved by the Governor.
14 (g) the Governor has appropriate arrangements
15 for administering the land use program management
16 grant.
17 (h) the State, in the development, revision, and
18 implementation of its land use program, has provided
19 for adequate dissemination of information and for ade-
20 quate public notice and public hearings.
21 (i) the State has:
22 (1) coordinated with metropolitanwide plans
23 existing on January 1 of the year in which the State
24 land use program is submitted to the Secretary,
25 which plans have been developed by an areawide

1 agency designated pursuant to regulations estab-
2 lished under section 204 of the Demonstration Cities
3 and Metropolitan Development Act of 1966;
4 (2) coordinated with appropriate neighboring
5 States with respect to lands and waters in interstate
6 areas;
7 (3) taken into account the plans and programs
8 of other State agencies and of Federal and local
9 governments.
10 (j) the State utilizes for the purpose of furnishing
11 advice to the Federal Government as to whether Fed-
12 eral and federally assisted projects are consistent with
13 the State land use program, procedures established pur-
14 suant to section 204 of the Demonstration Cities and
15 Metropolitan Development Act of 1966, and title IV of
16 the Intergovernmental Cooperation Act of 1968.
17 FEDERAL REVIEW OF GRANT APPLICATIONS AND
18 STATE LAND USE PROGRAMS
19 SEC. 105. (a) The Secretary before making a program
20 management grant pursuant to section 104, shall consult
21 with the heads of all Federal agencies which conduct or
22 participate in construction, development, or assistance pro-
23 grams significantly affecting land use in the State, and shall
24 consider their views and recommendations. The Secretary
25 shall not approve a grant pursuant to section 104 until he

1 has ascertained that the Secretary of Housing and Urban
2 Development is satisfied that those aspects of the State's
3 land use program dealing with large-scale development, key
4 facilities, development and land use of regional benefit, and
5 new communities meet the requirements of section 104 for
6 funding of a program management grant.

7 (b) The Secretary shall take final action on a State's
8 application for a grant authorized under section 104 not
9 later than six months following receipt for review of the
10 State's land use program.

11 CONSISTENCY OF FEDERAL ACTIONS WITH STATE
12 LAND USE PROGRAMS

13 SEC. 106. (a) Federal projects and activities signifi-
14 icantly affecting land use shall be consistent with State land
15 use programs funded under section 104 of this Act except in
16 cases of overriding national interest. Program coverage and
17 procedures provided for in regulations issued pursuant to
18 section 204 of the Demonstration Cities and Metropolitan
19 Development Act of 1966 and title IV of the Intergovern-
20 mental Cooperation Act of 1968 shall be applied in deter-
21 mining whether Federal projects and activities are consistent
22 with State land use programs funded under section 104 of
23 this Act.

24 (b) After December 31, 1974, or the date the Secre-
25 tary approves a grant under section 104, whichever is

1 earlier, Federal agencies submitting statements required by
2 section 102 (2) (C) of the National Environmental Policy
3 Act shall include a detailed statement by the responsible
4 official on the relationship of proposed actions to any ap-
5 plicable State land use program which has been found eli-
6 gible for a grant pursuant to section 104 of this Act.

7 FEDERAL ACTION IN THE ABSENCE OF STATE LAND
8 USE PROGRAMS

9 SEC. 107. Where any major Federal action significantly
10 affecting the use of non-Federal lands is proposed after
11 December 31, 1974, in a State which has not been found
12 eligible for a program management grant pursuant to sec-
13 tion 104 of this Act, the responsible Federal agency shall
14 hold a public hearing in that State at least one hundred
15 eighty days in advance of the proposed action concerning
16 the effect of the action on land use taking into account the
17 relevant considerations set out in section 104 of this Act,
18 and shall make findings which shall be submitted for review
19 and comment by the Secretary, and where appropriate, by
20 the Secretary of Housing and Urban Development. Such
21 findings of the responsible Federal agency and comments
22 of the Secretary or the Secretary of Housing and Urban
23 Development shall be part of the detailed statement re-
24 quired by section 102 (2) (C) of the National Environ-
25 mental Policy Act (42 U.S.C. 4321 et seq.). This section

1 shall be subject to exception where the President deter-
2 mines that the interests of the United States so require.

3 AVAILABILITY OF FEDERAL EXPERTISE

4 SEC. 108. (a) The Secretary shall provide advice upon
5 request to States concerning the designation of areas of criti-
6 cal environmental concern to the Nation.

7 (b) Federal agencies with data or expertise relative to
8 land use and conservation shall take appropriate measures,
9 subject to appropriate arrangement for payment or reim-
10 bursement, to make such data or expertise available to States
11 for use in preparation, implementation, and revision of State
12 land use programs.

13 GUIDELINES

14 SEC. 109. The President is authorized to designate an
15 agency or agencies to issue guidelines to the Federal agencies
16 to assist them in carrying out the requirements of this Act.

17 ALLOCATION OF FUNDS

18 SEC. 110. (a) Funds for grants authorized by sections
19 103 and 104 of this Act shall be allocated to the States
20 based on regulations issued by the Secretary which shall
21 take into account State population and growth; nature and
22 extent of coastal zones and estuaries and other areas of
23 critical environmental concern and other relevant factors.

24 (b) No grant funds shall be used to acquire real prop-
25 erty.

1 (c) A refusal by the Secretary to provide a program
2 development or program management grant authorized by
3 this Act shall be in writing.

4 MISCELLANEOUS

5 SEC. 111. (a) The Secretary shall develop, after appro-
6 priate consultation with other interested parties, both Fed-
7 eral and non-Federal, such rules and regulations covering
8 the submission and review of applications for grants au-
9 thorized by sections 103 and 104 as may be necessary to
10 carry out the provisions of this Act.

11 (b) A State receiving a grant under the provisions of
12 section 103 or 104 of this Act, the agency designated by
13 the Governor to administer such grant, and State agencies
14 allocated a portion of a grant shall make reports and eval-
15 uations in such form, at such times, and containing such
16 information concerning the status and application of Federal
17 funds and the operation of the approved management pro-
18 gram as the Secretary may require, and shall keep and make
19 available such records as may be required by the Secretary
20 for the verification of such reports and evaluations.

21 (c) The Secretary, and the Comptroller General of the
22 United States, or any of their duly authorized representa-
23 tives, shall have access, for purposes of audit and examina-
24 tion, to any books, documents, papers, and records of a grant

1 recipient that are pertinent to the grant received under the
2 provisions of section 103 or 104 of this Act.
3 (d) Nothing herein shall be interpreted to extend the
4 territorial jurisdiction of any State.
5 (e) Nothing herein shall be construed to imply Federal
6 consent to or approval of any State or local actions which
7 may be required or prohibited by other Federal statutes or
8 regulations.
9 APPROPRIATION AUTHORIZATION
10 SEC. 112. (a) There are hereby authorized to be appro-
11 priated not to exceed $20,000,000 in each fiscal year, 1972
12 through 1976, for grants authorized by sections 103 and 104
13 of this Act, such funds to be available until expended.
14 (b) There are hereby authorized to be appropriated
15 such sums as may be necessary for the Secretary of the
16 Interior and the Secretary of Housing and Urban Develop-
17 ment to administer the program established by this Act.

COMPTROLLER GENERAL OF THE UNITED STATES,
Washington, D.C., April 20, 1971.

Hon. WARREN G. MAGNUSON,
Chairman, Committee on Commerce,
U.S. Senate,
Washington, D.C.

DEAR MR. CHAIRMAN: This is in reference to your letter of February 26, 1971, requesting our views on S. 582 which would amend the Marine Resources and Engineering Development Act of 1966, as amended, to establish a national program for the management, beneficial use, protection, and development of the land and water resources of the Nation's coastal and estuarine zones.

We have no special information as to the advantages or disadvantages of the proposed legislation and therefore, make no comments as to its merit. However, we have the following suggestions concerning specific provisions of the bill.

The act which the bill proposes to amend was approved June 17, 1966, and is codified in 33 U.S.C. 1101 *et seq.* Consequently, line 8 on page 1 of the bill should be changed to read "approved June 17, 1966, as amended (33 U.S.C. 1101 *et seq.*)."

Page 6, line 3, of the bill refers to "Sec. 306." This should be changed to "Sec. 305."

Page 19, line 4, of the bill refers to "Sec. 313." This should be changed to "Sec. 314" and the following section appropriately renumbered.

Section 304(b), page 5, defines coastal and estuarine zone as extending seaward to the outer limit of the United States territorial sea. The International Convention on the Continental Shelf recognizes the sovereign rights of the coastal nation to explore the shelf and exploit its natural resources. Therefore, the committee may wish to consider redefining the coastal and estuarine zone to include the continental shelf which the Convention defines as "the seabed and subsoil of the submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of 200 meters, or beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said areas" and "the seabed and subsoil of similar submarine areas adjacent to the coast of islands."

Section 304(c), page 5, defines "Coastal State" as including Puerto Rico, the Virgin Islands, Guam, American Samoa, and the District of Columbia. We assume it is not intended to include the Trust Territory of the Pacific Islands and the Panama Canal Zone.

Section 305(a), page 6, of the bill authorizes the Secretary of Commerce to make annual grants to any coastal State in the development of a management plan and program for the land and water resources of the coastal and estuarine zone, provided that no such grant shall be made under this subsection until the Secretary finds that the coastal State is adequately and expeditiously developing such management plan and program.

This provision appears to preclude grants to States which have not yet started to develop a management plan and program. The committee may wish to consider language changes which would allow States which have not started to develop a management plan and program to receive grants for the purpose of developing a management plan and program.

Section 306(a), page 7, of the bill authorizes the Secretary to make annual grants to any coastal State for not more than 66-2/3 per centum of the costs of administering the coastal State's management plan and program. Section 306(c)(4), page 8, of this bill states that the Governor shall designate a single agency to receive and administer the grants for implementing the management plan and program. It is not clear whether the grants issued under this section are intended to cover the costs of administering the management plan and program or if these grants are solely intended as operating grants for the implementation of the management plan and program. The committee may wish to clarify this language.

Section 306(b), page 7, of the bill states that grants shall be allotted to the States with approved plans and programs based on regulations of the Secretary. This provision may not result in an equitable distribution of funds to each of the coastal States in that under section 306(i), page 12, a grant of an amount up to 15 percent of the total amount appropriated may be made to one coastal State. We believe that these grants should take into account the

populations of such States, the size of the coastal or estuarine areas, and the respective financial needs of such States.

Section 307, page 12, authorizes the Secretary to enter into agreements with coastal States to underwrite, by guaranty thereof, bond issues or loans for the purpose of land acquisition or land and water development and restoration projects. We believe that the bill should prescribe the terms and conditions of the bond issues or loans that may be guaranteed by the Secretary and the rights of the Federal Government in the case of default. Section 307 also states that the aggregate principal amount of guaranteed bonds and loans outstanding at any time may not exceed $140 million. We believe that the bill should further specify an aggregate amount of such guaranteed bond issues or loans available to each State. We also note that the bill does not identify the source of the Federal funds that would be needed in the event of any defaults.

Section 311, page 14, authorizes the Secretary to establish a coastal and estuarine zone management advisory committee composed of not more than 15 persons designated by the Secretary. The section does not (1) specify the term of service of the members, and (2) provide for the designation of a chairman. The committee may wish to provide for (1) the term or terms of service and (2) the selection of a chairman.

Section 313(a), page 15, should be clarified as it is now unclear whether it provides that States must adequately consider the views of principally affected Federal agencies prior to submitting their plans to the Secretary or whether the Secretary must adequately consider the views of principally affected Federal agencies prior to his approval of the States' plans. In either case, the committee may wish to set a specific time limit within which principally affected Federal agencies must submit their views.

The bill does not require a finding by the Secretary that the State's coastal and estuarine zone management plan and program be consistent with an applicable implementation plan under the Clean Air Act, as amended, the Federal Water Pollution Control Act, as amended, and the Solid Waste Disposal Act of 1965, as amended. The committee may wish to add a section to the proposed bill to require such a finding.

Sincerely yours,

R. F. KELLER,
Acting Comptroller General of the United States.

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., May 4, 1971.

Hon. WARREN G. MAGNUSON,
Chairman, Committee on Commerce, U.S. Senate,
Washington, D.C.

DEAR MR. CHAIRMAN: This responds to your recent request for our comment on S. 582 and S. 638, similar bills to assist the States in establishing coastal zone management plans and programs. We offer comment as well on those provisions of S. 632 and S. 992, pertaining to the establishment of a national land use policy, which merit discussion in this context.

Because we recognize a real and urgent need for comprehensive land use planning, and because it now appears that the States are prepared to move toward this objective, we recommend the enactment of S. 992 in lieu of S. 582 or S. 638.

S. 582 and S. 638 would both amend the Marine Resources and Engineering Development Act of 1966 (33 U.S.C. 1101 *et seq.*) by adding a new Title III, the "National Coastal and Estuarine Zone Management Act of 1971". Consistent with a Congressional declaration that there is a national interest in the effective management, beneficial use, protection and development of the Nation's coastal zone, the Secretary of Commerce would be authorized to assist coastal States in their development and administration of an approved management plan and program. No such program could be approved without a finding by the Secretary that the coastal State has legal authority and institutional organization adequate for the management of its coastal zone. S. 582 would authorize annual grants not to exceed 66⅔% of a State's costs in developing its management program, provided that no single grant exceeds $600,000, and a

like percentage for costs of administering the program. S. 638 would establish the Federal share at 50%, and limit single development grants to $200,000.

Both bills would authorize a program of bond and loan guaranties to facilitate land acquisition, land and water development, and restoration projects, provided that the aggregate principal amount of guaranteed bonds and loans never exceeds $140 million. In addition to these general provisions, S. 582 would authorize cost-sharing for the acquisition, development and operation of not more than 15 estuarine sanctuaries. The Federal share of the cost for each such sanctuary could not exceed $2 million.

As the result of two studies conducted by this Department and the Stratton Commission report, this Administration recommended that the 91st Congress enact legislation similar in concept to S. 582 and S. 638. We believed then, as we believe now, that the finite resources of our coastal and estuarine areas are threatened by population growth and economic development. At the Federal level, this Department had already been directed by the Estuary Protection Act of 1968 (82 Stat. 625, 16 U.S.C. 1221 *et seq.*) to conduct a study and inventory of the Nation's estuaries. As we reported to the Subcommittee on Oceanography a year ago, it was a conclusion of our study and others that effective management of land and water resources could best be promoted by encouraging the States to accept a broadened responsibility for land use planning and management.

In its First Annual Report, the Council on Environmental Quality last August recognized "a need to begin shaping a national land use policy". In February of this year, the President urged that we "reform the institutional framework in which land use decisions are made", and recommended enactment of a proposed "National Land Use Policy Act of 1971", now pending before the Senate as S. 992. It is the President's proposal that $20 million be authorized in each of the next five years to assist the States in establishing methods for protecting lands, including the coastal zone and estuaries, of critical environmental concern, methods for controlling large-scale development, and improving use of land around key facilities and new communities. "This proposal", the President said, "will replace and expand my proposal submitted to the last Congress for coastal zone management, while still giving priority attention to this area of the country which is especially sensitive to development pressures".

Specifically, S. 992 would authorize a two-phase program of grants to be administered by the Secretary of the Interior. In the cost-sharing grants would be awarded both for program development and for program management, S. 992 is similar to S. 582 and S. 638. The Administration proposal differs from S. 582 and S. 638, however, with respect to the scope of a State's planning activity and, indeed the number of States eligible for assistance. To assure that coastal zone and estuarine management receive the priority attention of coastal States, S. 992 would identify the coastal zones and estauries as "areas of critical environmental concern" and require that a State's land use program include a method for inventorying and designating such areas. Further the Secretary would be authorized to make grants for program management only if State laws affecting land use in the coastal zone and estuaries take into account (1) the aesthetic and ecological values of wetlands for wildlife habitat, food production sources for aquatic life, recreation, sedimentation control, and shoreland storm protection and (2) the susceptibility of wetlands to permanent destruction through draining, dredging, and filling, and the need to restrict such activities. Most important, perhaps, funds for program development and management would be allocated to the States under regulations which must take into account the nature and extent of coastal zones and estuaries. While S. 632 also anticipates the initiation of national land use planning through assistance to the States in their development of appropriate legal and institutional implements, it would not provide emphasis or priority for protection of the coastal zone and estauaries.

Of the manmade threats to coastal environments described by the Council on Environmental Quality in its First Annual Report, most have their origin in heavily populated land areas at or near the water's edge. But others can be traced further inland, where eventual impact upon the coastal environment is not so easily recognized. Thus, while pressures become most intense at the point where land meets water, many cannot be alleviated without truly comprehensive planning. This fact, and the related absence of any precise geographic definition for the coastal zone, lies behind the integrated approach

embodied in S. 992. It may be noted that several States, coastal and inland have already expressed a commitment to this concept. We urge that the Congress and your Committee, so effective in its concern for sound management of the coastal zone, join in this initiative to encourage planning for effective management of all the Nation's lands and waters.

The Office of Management and Budget has advised that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely yours,

HARRISON LOESCH,
Assistant Secretary of the Interior.

ENVIRONMENTAL PROTECTION AGENCY,
OFFICE OF THE ADMINISTRATOR,
Washington, D.C., June 1, 1971.

Hon. WARREN G. MAGNUSON,
Chairman, Committee on Commerce,
U.S. Senate,
Washington, D.C.

DEAR MR. CHAIRMAN: This is in response to your request for our agency's comments on S. 582 and S. 638, bills to provide for a national program of assistance to the States in coastal zone management programs.

These bills would authorize the Secretary of Commerce to award grants to coastal States for the development of management plans and programs for the land and water resources of the coastal zone. Such grants would not exceed 66⅔% of the planning costs (S. 582) or 50% of such costs (S. 638). If the Secretary found that a plan was consistent with the purposes of the Act to balance development and protection of the natural environment; that provision for public notice and hearings on the plan and program had been made; that the plan and program had been reviewed and approved by the Governor; that a single agency would administer and implement the management plan and program; and that the State had the necessary authority to implement the program, including controls over public and private development, he would be authorized to make annual grants for the costs of administering the program, with the same maximum percentages as planning grants. S. 582 also requires minimum grants of at least one percent of costs.

With the Secretary's approval, States would be authorized to develop plans in segments so as to focus attention on problem areas, and to revise plans to meet changed conditions. Grants could be terminated if the Secretary determined that a State was failing to implement its plan and program.

Additional provisions would require the Secretary, before approving programs, to consult with Federal agencies principally involved Federal agencies conducting or supporting activities in the coastal zone would be required to "seek to make such activities consistent with the approved State management plan and program for the area." Federal development activities in the coastal zone would be prohibited if the coastal State deemed such activities inconsistent with a management plan unless the Secretary found such project consistent with the objectives of the bill, or in cases where the Secretary of Defense determines that the project is necessary in the interests of national security. Applicants for Federal licenses or permits to conduct any activity in the coastal zone would be required to obtain a certification from the appropriate State agency that the proposed activity was consistent with the coastal zone management plan and program.

The Secretary would be required to submit an annual report to the President for transmittal to the Congress on the administration of the Act.

S. 582 would also authorize the establishment of "estuarine sanctuaries" for the purpose of studies of natural and human processes occurring within the coastal zone, and would provide for grants by the Secretary of up to 50% of the costs of acquisition, development, and operation of such sanctuaries.

We recommend that these bills not be enacted, and that the Congress instead give favorable consideration to S. 992, the Administration's proposed "National Land Use Policy Act of 1971."

The "National Estuarine Pollution Study," which was developed for the Secretary of the Interior by the Federal Water Quality Administration, now a component of EPA, concluded that urbanization and industrialization, component of EPA, concluded that urbanization and industrialization, combined with unplanned development in the estuarine zone, have resulted in severe damage to the estuarine ecosystem. In addition, the "National Estuary Study," developed for the Secretary by the Fish and Wildlife Service, identified the need for a new thrust on the side of natural and aesthetic values in the Nation's estuarine areas. Clearly, we need to ensure that environmental values are adequately protected in such areas. In this connection, however, we are aware that land-use planning can affect all areas, not simply estuarine areas, and that adequate planning for preservation of estuarine and coastal areas can only be effective if the full range of alternatives to development in such areas can be considered. In other words, estuarine and coastal zone planning must be considered within the larger context of land-use planning State-wide.

S. 992 would authorize the Secretary of the Interior to make grants of up to 50% of cost to assist the States in developing and managing land use programs. Programs would be required to include methods for inventorying and exercising control over the use of land within areas of critical environmental concern, including coastal zones and estuaries. States would also be required to develop a system of controls or regulations to ensure compliance with applicable environmental standards and implementation plans.

Accordingly, we favor the approach embodied in S. 992, which incorporates provisions for the protection of the coastal and estuarine areas into its more comprehensive scheme. At the same time, we recognize that the coastal zone is an area of special concern, where prompt and effective action is required. Heavy pressures for further development, coupled with the fragility of coastal and estaurine areas, make it imperative that we move immediately to protect these areas. The system authorized by S. 992 will permit a high priority for coastal zone planning within its larger context of land use planning and programs. We therefore urge prompt Congressional approval of S. 992.

The Office of Management and Budget has advised that there is no objection to the presentation of this report from the standpoint of Administration's program.

Sincerely,

WILLIAM D. RUCKELSHAUS,
Administrator.

COMPTROLLER GENERAL OF THE UNITED STATES,
Washington, D.C., April 20, 1971.

Hon. WARREN G. MAGNUSON,
Chairman, Committee on Commerce,
U.S. Senate

DEAR MR. CHAIRMAN: This is in reference to your letter of February 26, 1971, requesting our views on S. 638 which would amend the Marine Resources and Engineering Development Act of 1966, as amended, to assist the States in establishing coastal zone management plans and programs. The bill would amend the act by adding title III which would, if enacted, be cited as the "National Coastal Zone Management Act of 1971."

The bill involves matters of policy for determination by the Congress and therefore we have no recommendation with respect to its enactment. Howeverwe have the following comments concerning specific provisions of the bill.

The act which the bill proposes to amend was approved June 17, 1966, and is codified in 33 U.S.C. 1101 *et. seq.* Consequently, lines 8 and 9 on page 1 of the bill should be changed to read "approved June 17, 1966, as amended (33 U.S.C. 1101 *et seq.*)."

Section 304(c) defines "Coastal State" as including Puerto Rico, the Virgin Islands, Guam, American Samoa, and the District of Columbia. We assume that it is not intended to include the Trust Territory of the Pacific Islands and the Panama Canal Zone.

Section 305 of the bill authorizes the Secretary to make annual grants to any coastal State for the purpose of assisting in the development of a management plan and program for the land and water resources of the coastal zone,

provided that no such grant shall be made under this subsection until the Secretary finds that the coastal State is adequately and expeditiously developing such management plan and program.

This language appears to preclude making grants to States which have not yet started to develop a management plan and program. The committee may wish to consider whether the bill should also allow States which have not started to develop a management plan and program to receive grants for the purpose of developing a management plan and program.

Section 306(a) of the bill authorizes the Secretary to make annual grants to any coastal State for not more than 50 per centum of the costs of administering the coastal State's management plan and program.

Section 306(c)(4) of this bill states that the Governor shall designate a single agency to receive and administer the grants for implementing the management plan and program. It is not clear whether the grants issued under this section are intended to cover the costs of monitoring the management plan and program or if these grants are intended as operating grants for the implementation of the management plan and program. The committee may wish to clarify this language.

Section 306(c)(2) of the bill requires the coastal State to make provisions for public notice and to hold public hearings on the development of the management plan and program. All required public hearings under this title must be announced at least 30 days before they take place and all relevant materials, documents and studies must be readily available to the public for study at least 30 days in advance of the actual hearing or hearings. The committee may wish to increase the number of days notice for public hearings in order that the public may have advance notice that relevant studies and documents are to be available at least 30 days in advance of the hearings. This would give the public the benefit of the full 30 days to examine the relevant documents.

Section 307 authorizes the Secretary to enter into agreements with coastal States to underwrite, by guaranty thereof, bond issues or loans for the purpose of land acquisition or land and water development and restoration projects. We believe that the bill should prescribe the terms and conditions of the bond issues or loans that may not exceed $140 million. We believe that the bill should further specify a maximum amount which the Secretary could guarantee for each bond issue or loan and an aggregate amount of such guaranteed bond issues or loans available to each State. We also note that the bill does not identify the source of the Federal funds that would be needed in the event of any defaults.

Section 311 authorizes and directs the Secretary to establish a coastal zone management advisory committee composed of not more than 15 persons designated by the Secretary. However, the bill does not (1) specify the term of service of the members, (2) include a provision for the designation of a chairman, and (3) include a provision that would require the Secretary to distribute membership to the advisory committee among various academic, business, governmental or other disciplines. We suggest that the committee consider inclusion of such provisions in the bill.

Section 312(a) of the bill states that the Secretary shall not approve the management plan and program submitted by the State unless the views of Federal agencies principally affected by such plan and program have been adequately considered. The bill does not, however, specify the time period within which the Federal agencies are to submit their views. The committee may wish to set a specific time limit for Federal agencies to consider a coastal State's management plan and program.

This bill does not require a finding by the Secretary that the State's coastal zone management plan and program be consistent with an applicable implementation plan under the Clean Air Act, as amended, the Federal Water Pollution Control Act, as amended, and the Solid Waste Disposal Act of 1965, as amended. The committee may wish to add a section to the bill for this purpose.

The bill does not provide for the segmented development and adoption of a completed comprehensive plan and program shall be submitted to the States' management plans and programs and appears to require that only Secretary. Such a requirement might tend to impede the giving of immediate attention by States to the more urgent needs of particular coastal zone areas.

As further encouragement to the coastal States to undertake the preparation and implementation of plans and programs, the committee may wish to add a provision to the bill to allow the States, with the approval of the Secretary, to develop and adopt a management plan and program in segments, provided that (1) the State adequately allows for the ultimate coordination of the various segments into a single unified plan and program and (2) such unified plan and program be completed as soon as reasonably practicable, but within specified time limits.

On page 1, line 10, "titles" should be "title."

In section 306(c)(6) the reference to subsection "(g)" should be to subsection "(f)." Subsection "(h)" should be changed to subsection "(g)."

On page 11, "REVIEW AND PERFORMANCE" should be "REVIEW OF PERFORMANCE."

On page 11, line 22, "aproved" should be "approved."

On page 13, line 6, "exceediing" should be "exceeding."

On page 15, line 15, "costal" should be "coastal."

The reference to section "313" in section 313(a)(5) should be to section "312."

Sincerely yours,

R. F. KELLER,
Acting Comptroller General of the United States.

Senator HOLLINGS. Our lead witness is the Honorable Russell Train. We would be glad to hear from you at this time.

STATEMENT OF HON. RUSSELL TRAIN, CHAIRMAN, COUNCIL ON ENVIRONMENTAL QUALITY; ACCOMPANIED BY BOYD H. GIBBONS, III, SECRETARY; AND WILLIAM K. REILLY, STAFF MEMBER

Mr. TRAIN. Mr. Chairman, it is a pleasure to be here and to testify on behalf of the administration on the relationship between the coastal zone legislation previously submitted by this administration and now pending in several forms before this committee, and the national land use policy legislation also submitted by the administration and pending before the Senate Committee on Interior and Insular Affairs.

I have a prepared statement, Mr. Chairman, but with your permission, although it is fairly brief, I will simply submit that for the record and proceed extemporaneously.

Senator HOLLINGS. Fine. Your statement will be included in its entirety.

Mr. TRAIN. Thank you, sir.

I am accompanied on my left by Mr. Boyd Gibbons, who is the Secretary of the Council on Environmental Quality; and on my right, by Mr. William Reilly, an attorney on the Staff of the Council.

Both of these gentlemen—and particularly under the leadership of Mr. Gibbons—have been closely associated with the work of the Council in developing land use policy. And also, I might say, previously Mr. Gibbons was Deputy Under Secretary of the Interior, with me in the Department of the Interior and closely associated at that time with the development of coastal zone legislation. So I think we have here with us the group who has probably been more closely associated with the development of both areas of legislation than anyone else perhaps in the executive branch.

I think that it goes almost without saying, Mr. Chairman, that this Administration is fully and firmly committed to the need for

more effective management of the coastal zone and estuarine areas of the United States; there is no question about this whatsoever.

As you are well aware, the administration developed legislation in the last Congress to promote more effective regulation and management of the coastal and estuarine areas and submitted this to the Congress. This committee has had very extensive hearings which have contributed substantially to public understanding of this very critical issue and need.

Since the development of the coastal zone legislation the administration has moved forward to consider the broader realm of land use generally, including the coastal zone. And the legislation which the President submitted to the Congress on the 8th of February as part of his environmental message calls for a new, very innovative national land use policy which includes and embraces the coastal zone as part of a broader approach to what the administration sees as a very high priority national need; namely, more effective land use as it affects environmental quality all across the country, both in the coastal zone and within the interior portions of the United States.

By way of a personal note, I was, as the chairman has already indicated, very closely associated with the development of the coastal zone legislation which the President submitted in the last Congress. When I was Under Secretary of the Interior I chaired an interagency task force which developed the legislative proposal. So I can assure this committee, Mr. Chairman, of my own very strong personal interest in this whole field.

I believe that we are now ready to proceed with national legislation covering the entire area of land use rather than simply limiting our approach to the coastal zone. As you quite correctly pointed out, in my testimony on land use legislation before the Interior Committee I did state that at that time the administration felt fully prepared to move forward with coastal zone legislation, and I implied that we needed somewhat more time to examine the broader question of a national land use policy.

Since that time the administration has been actively engaged in considering these broader questions; and its conclusions are in fact embodied in the recommendations submitted by the President on February 8.

The need for a national land use policy was addressed very early by our Council and is the subject of an extensive chapter in our Council's first annual report on environmental quality, which was submitted by the President to the Congress last August.

I do think we are ready to move forward on a broader scale than simply in the area of coastal zone. My very strong impression is that the States are ready to move on this broader basis.

The need for more effective State control over land use has perhaps been most clearly demonstrated at an early date in the coastal zone. I think all of us quite properly first addressed ourselves to that need. On the other hand, it is increasingly plain that interior states are likewise taking a very active, constructive, positive interest in this whole field. States such as Vermont and Colorado, for example, not to be considered coastal zone States, are in fact moving ahead in

very constructive fashion; so that we feel that the time has come when a national land use policy such as that proposed by the President can be extended to the entire United States, at the same time—as the President's legislation proposes and as his message makes perfectly clear—giving strong emphasis to the high-priority problems of the coastal zone. And of course, that is done by the President's proposed national land use policy.

A key element in that policy is the requirement that the States inventory and identify and develop a method for control of development in what we call areas of critical environmental concern. These are defined in the legislation as, including first, the coastal zone; second, as including shorelines, lakeshores, and rivers—all of this evidencing the strong commitment of the administration in developing this legislation to the priority needs of the coastal zone and related areas.

Likewise, in the granting provisions the legislation requires that among the factors to be taken into account in determining the amount of a State's grant is its coastal zone characteristics.

In summary, Mr. Chairman, we strongly welcome this committee's long-time, continuing interest and look forward to working very closely with you on this and related legisaltion.

We do feel that the time has come when we need one single land use program, a national program. This should definitely give high priority to the need which you and the administration both agree is of such great importance; namely, the protection and wide use of the coastal zones.

I think that concludes my remarks.

Senator HOLLINGS. We appreciate your statement and we appreciate the leadership you have given, Mr. Train.

Specifically, in changing from a thrust solely for a coastal zone bill to a land use policy bill that would encompass the coastal zone, you emphasize the fact that you have support from the States. But what about the national municipal associations and the associations of county governments? You are either going to be jacking up these local areas into legislating where there is a legislative void, or you are going to be taking over. This committee agrees that we need a single land use policy; that is the need. But what is the practical thing in this session of the Congress?

If we get far down the road on the national land use policy legistion and then find such local misgivings and opposition as to actually block passage, will you go along with the coastal zone management bill? Or do you see anything inconsistent with the coastal zone management bill? Or do you see anything inconsistent with the coastal zone management bill, inconsistent with the overall land use policy bill? Can you comment on that observation and question?

Mr. TRAIN. In general, no. There may be elements of the coastal zone management legislation as submitted by the administration in the last Congress which, on the basis of our further examination of the overall problem of land use, more experience we have gained over the past year or two, we would wish to strengthen or improve in some fashion. But in the overall, there is certainly nothing inconsistent whatsoever—in fact, just to the contrary.

The same basic approach is used in both the national land use policy legislation as is used in the coastal zone legislation. Both proceed through the method of strengthening state management in this area.

So there really is nothing inconsistent at all.

I think that the possibilities of inconsistency or of conflict would arise really through the creation of two separate programs. This would trouble me.

Senator HOLLINGS. It would be unnecessary if we could get the one?

Mr. TRAIN. If Congress should enact a national land use policy the line proposed by the President, which includes, as I have said, the coastal zones, then you do not need separate legislation. You just need the one; that is correct.

Senator HOLLINGS. Right. I was pleasantly surprised last year when this committee launched forth on the coastal zone hearings, that we had unanimity. We had the county associations, national municipal associations, State port authorities, and various coastal zone interests, all coming in and almost unanimous in support of the legislation.

If we can get that kind of support this year for a single land use policy, that would be fine, too. And I am sure that committee would proceed.

But I am very fearful of the legislation generally covering interchanges, highways, airports, transportation, and all the other things in it that local political entities might have misgivings, and we might have opposition.

Specifically, if we bogged down later on, is the administration going to insist on just the land use policy bill, or can we count on your support for coastal zones?

Mr. TRAIN. Well, as I have said, Mr. Chairman, the administration is strongly committed and remains committed to the need for more effective management in the coastal zones. I think it is too early to speculate at this point as to what the administration's posture would be if it proved impossible to achieve a national land use policy program.

We do at this time give the highest priority to legislation providing an overall national land use policy, which does not give separate and distinct treatment to the coastal or any other zone but, rather, approaches the problem nationally.

Senator HOLLINGS. Does S. 922 contemplate the State governments engaging in major reorganization in order to accomplish the purpose of the bill?

Mr. TRAIN. We would not see that as being necessary at all. In terms of what you might call additional bureaucracy probably we see a very limited need. There would certainly, in many cases, have to be some change in the allocation of powers as between State and local units of government. However, as I believe you know, the legislation would provide tremendous flexibility as to the kinds of allocations which a State would decided best suited its particular needs.

But in terms of bureaucratic reorganization, I think there is a very limited need involved here.

Senator HOLLINGS. Let us address ourselves to the "inward" and "seaward." What width inward does the bill contemplate for the coastal zone under S. 992, and how far seaward?

Mr. TRAIN. Let us first go outward, Mr. Chairman, because that one is a little bit easier; and there we go out to the limit of the territorial sea, which is the 3-mile limit. That, of course, is a fairly clear point.

Senator HOLLINGS. Would you recommend that you include the seabed to 200 meters rather than just the 3 miles?

That is the outer limit of the coastal zone under Senator Tower's bill.

Mr. TRAIN. I have not examined that particular proposal. But we are talking here about State jurisdiction primarily because we are talking about strengthening State approaches to more effective land use management; and the 200-meter isobar boundary refers to boundaries of national sovereignty over the resources of the seabed.

So I think that perhaps my immediate reaction would be that that particular approach might not be appropriate to fixing the limits of State land use authorities.

Now as to the inward limits, as you know, both under the coastal zone management legislation submitted by the administration and the national land use legislation, there is no fixed line proposed; but, rather, the demarcation is left very flexible so that to the extent that the inward land mass is affected by sea influences, this could be considered part of the coastal zone.

I would refer you to the definition beginning on the bottom of page 3 of S. 992 and running over on to page 4, and if I might just read that briefly into the record?

Senator HOLLINGS. Yes, sir.

Mr. TRAIN. (reading):

> Coastal zone means the land, waters and lands beneath the waters in close proximity to the coastline, including the Great Lakes, and strongly influenced by each other, and which extends seaward to the outer limit of the United States territorial sea, and including areas influenced or affected by water from an estuary such as, but not limited to, salt marshes, coastal and intertidal areas, sounds, embayments, harbors, lagoons, in-shore waters, channels, and all other coastal wetlands.

And then it goes on to define "estuary."

I would comment at this point, Mr. Chairman, that obviously this is a definition which is susceptible to quite varied application, and this is the intention. The intention is not to draw a hard and fast line to put State administration and management into some kind of a straitjacket, but to permit great flexibility in arriving at the area called "coastal zone." That was particularly important when we had separate coastal zone legislation.

I would point out that while that somewhat uncertain inland boundary could give rise to some problems if there were separate programs of management, one for the coastal zone and one for other areas, a single program of national land use as proposed now by the President would avoid, I am confident, problems of definition of that inland boundary of the coastal zone.

Senator HOLLINGS. Specifically, does it contemplate anything more than a wetlands preservation bill? When you try to measure its scope,

what about when you get to a highway interchange? For instance, on Long Island, do you include La Guardia airfield? Would that be in the coastal zone?

Mr. TRAIN. Yes; it very definitely could be in the coastal zone.

Senator HOLLINGS. All of Long Island could be in it?

Mr. TRAIN. Very definitely it could be, depending upon the ——

Senator HOLLINGS. Maybe that is one way to relieve Mayor Lindsay.

Mr. TRAIN. I think the question of what would be in the coastal zone would arise under both a separate and the broader legislative proposals.

Senator HOLLINGS. We might have to make it a little bit more specific because I think we could get bogged down in debate on that one.

Mr. TRAIN. If I might just comment on the last point, Mr. Chairman, we do recognize that there are problems as to given areas, such as perhaps Long Island, as you have mentioned, and this is one reason why we have left very great latitude to State administrative discretion rather than trying to solve all these questions by some kind of arbitrary statutory definition; and we do believe that this is the best approach.

Senator HOLLINGS. Earlier drafts of the national land use policy bill provided sanctions through the land and water conservation funds, the Federal aid to highway funds and Federal airport funds for State noncompliance with the legislation. They are removed now, I believe, under the present proposal. Why were they removed, and what sanctions do you now recommend, if any?

Mr. TRAIN. The initial thinking in developing this legislation was to include a series of, shall we say, disincentives to help encourage States to move into this program. It turned out that the available disincentives which we could identify had all, or substantially all, become part of the revenue-sharing proposal. And as you know, one of the hallmarks of revenue sharing is freedom of decision on the part of State and local governments as to how funds shall be used rather than earmarking or attaching conditions to the expenditure of those funds. And essentially, to make the payment of such funds conditional upon the adoption of State land use policies and programs would, it seemed to the administration, be inconsistent with the whole concept of revenue sharing. So that under those circumstances we really go the route of incentive rather than a combination of incentives and disincentives.

The primary incentive here in terms of Federal action is the grant program.

A second incentive provided by the legislation is the requirement that once States have adopted and approved a statewide land use program, all Federal programs and activities in the State must conform to that program. And I think that could prove in practice a very substantial incentive to the States.

I believe that States have very frequently criticized Federal agencies for undertaking acts and programs which in fact were inconsistent with the things that the States were trying to do.

There is also another proposal in the legislation which I think bears comment. In cases where a State does not have an approved statewide

land use program as called for by the bill, if the Federal agency proposes some Federal action in that State which could have a major environmental impact, the Federal agency must have a hearing within the State on that particular project some 180 days in advance of a decision being made to go ahead. The purpose of such a hearing, of course, would be to elicit public comment and discussion of the effect on environment and land use generally of the proposal.

I do not think I would describe that as either an incentive or disincentive; but I think it could have a very substantial effect in practice; and that has not received much attention publicly. I think as a part of this legislation it has potentially considerable importance.

Senator HOLLINGS. What about the powerplant siting bill? The administration has a bill, S. 1684. Should S. 992, the land use bill, and S. 1684, the powerplant siting bill, be considered together so as not to proliferate agencies—the very same rationale behind putting the coastal zone into the overall land use policy? Why should the powerplant siting bill not be included in this land use bill?

Mr. TRAIN. I think it is our feeling that it is proper to treat powerplants, the powerplant siting proposal, as separate legislation. It is not quite the same kind of thing as the coastal zone. There are a wide variety of specific kinds of projects, such as airports or highways or powerplants or housing which, it seems to us, will continue to be appropriately the subject of specific regulatory authority.

The coastal zone is essentially part of the larger problem of general land use. It is a geographically distinct area, although, as our discussion a few moments ago brought out, the distinction becomes a little bit vague as to where the coastal zone lets off and the inland area begins.

Senator HOLLINGS. Thank you very much.

Senator Spong?

Senator SPONG. Mr. Train, you may have touched on this. What would be the situation if Congress enacted S. 992 or a comparable bill, and a State did not enact a statute to protect wetlands?

Mr. TRAIN. I think that the legislation made quite clear, and I would think that the representative of the Department of the Interior would certainly bear me out, that a State program under those circumstances would not be approved.

Senator SPONG. So you would say that a condition precedent for an approved State program would include a wetlands statute?

Mr. TRAIN. Absolutely.

Senator SPONG. Under section 104, would it be possible for a State agency other than a State highway or transportation agency to have jurisdiction over the location of highways?

Mr. TRAIN. This is the section relating to air and water and other environmental——

Senator SPONG. It begins on page 7 of the bill.

Mr. TRAIN. It is not intended to give the agency responsible for the administration of the land use program any general authority with the siting location of highways.

Senator SPONG. It is not intended?

Mr. TRAIN. That is right.

Senator SPONG. We may have to look at that.

Mr. TRAIN. I think, as you have indicated, Senator, it might be valuable to take a look at this in terms of the technical language of the legislation to assure that result.

There certainly ought to be some correspondence and cooperation as between the agencies at the State level and other legislation, namely, the Air Quality Act of 1970 gives the Environmental Protection Agency certain authority in this respect.

These should be dovetailed.

Senator SPONG. In Virginia, as you know, there has been phenomenal development along the Shirley Highway corridor. We now have commuter traffic into Washington from Prince William County and even farther south. In what ways do you envision that this bill, if enacted, would serve to solve or reduce the problems of the Washington suburbs?

Mr. TRAIN. Assuming we are not talking about what the bill defines as a critical environmental area, a wetland or a shoreline or something of that sort——

Senator SPONG. No; I am not.

Mr. TRAIN. Or major historic area—and I must say it is pretty difficult to think of a highway coming through Virginia that does not touch on a major historic area—but the general thrust here would be to require the State to develop a method of control of development around what the legislation calls key facilities. And this would be major highway interchanges, for example. This is specified in the bill. Development around key interchanges along that highway system would have to be identified by the State and brought under some form of effective control insofar as the development is concerned.

Senator SPONG. Do you see a restriction imposed as to the number of interchanges, for instance?

Mr. TRAIN. The purpose of this legislation is not to intervene in the normal highway planning process at all. I do not see this legislation, in and of itself, as involving a determination or limitation on the numbers of interchanges.

Senator SPONG. I notice that in the definition——

Mr. TRAIN. Let me make one amendment to that. And that is, if we are dealing with an area of critical environmental concern, then I think that the legislation would make it possible for the State, through this program, to put a limitation on the number of interchanges if, for example, they involve the filling of wetlands or something of that sort.

Senator SPONG. Or going through Mount Vernon?

Mr. TRAIN. I think that would be a very good example.

Senator SPONG. I notice in your definition of State that you have all the territories and whatnot, but the District of Columbia is excluded. I realize you are not the sponsor of the bill, but is there any reason for the exclusion? I refer to page 5, paragraph (d).

Mr. TRAIN. Frankly, I was not familiar with the fact that we had excluded the District of Columbia. I believe that the District—and I am speaking really not from any real examination of the subject, Senator—I believe that the District has the kinds of authorities which we are here seeking States to assume, and it may well be that, given the nature of the District/congressional relationship, that the extension of this legislation to the District is not necessary.

But here I think is something that the Congress would want to take a good look at.

Senator SPONG. I think we will.

Mr. TRAIN. As a longtime resident and native of the city of Washington, I certainly do not want to see the District of Columbia excluded from the good results which we think will flow from this legislation.

Senator SPONG. I just have one or two more questions, if the committee will bear with me here. You may have touched on this in response to Senator Hollings, but what effect would S. 992 have on the authority of the FPC to issue licenses for power projects involving reservoirs?

Mr. TRAIN. The powerplant siting policy is generally covered, as I indicated earlier, by the powerplant siting legislation, and we think this is properly treated as a separate program.

At the same time, there is no exception to the requirement in S. 992 that all Federal programs and activities must be consistent with a State land use program once it has been approved. So that—I cannot think of a hypothetical case at the moment, but I would be absolutely certain that under this legislation the Federal Power Commission would be prohibited from undertaking an act within a State inconsistent with the overall land use program which had been developed by the State and approved by the Federal Government.

I might also note that the approval—or in the consideration and approval of a State land use program, the Secretary of the Interior is required to consult with all other Federal agencies having some particular interest in the subject matter.

I think it would be very likely that the Federal Power Commission would be one of the agencies with whom the Secretary would wish to consult at the outset.

Senator SPONG. This is my final question. Do I understand correctly that a State or local land use plan involving a wetlands area would supersede the authority of the Corps of Engineers to issue a permit sought by a private landowner to dredge and fill a wetlands area?

Mr. TRAIN. A Federal agency such as the Corps would not be permitted under this legislation to undertake any act, including the granting of a license or permit, which is inconsistent with an approved State plan. So if an approved State plan either prohibited some form of development or dredge-and-fill in a wetland area which the corps sought to grant, it is my understanding that under this legislation the Corps would be prohibited from moving ahead.

Senator SPONG. Thank you very much.

Mr. TRAIN. The State might also require certain procedures to be followed. And here again, aside from the question of black-and-white prohibition, the corps would be required to conform, I would think, to those procedures.

Senator HOLLINGS. But, Mr. Train, there is an exception I believe in your answer to Senator Spong. Under section 106 there is a proviso: "except in cases of overriding national interest." Who determines that?

Mr. TRAIN. I believe the particular reference here requires that the President——

Senator HOLLINGS. Of course, the Secretary of the Interior and the Department of the Interior, as I understand, are solely responsible for the administration of this legislation.

Mr. TRAIN. I'm sorry?

Senator HOLLINGS. I am on page 11, section 106, that third line there, "Federal projects and activities significantly affecting land use shall be consistent with State land use programs under section 104," exactly the answer you gave to Senator Spong. But they have got the exception: "except in cases of overriding national interest." Does the Secretary of Interior decide that?

Mr. TRAIN. It could be a combination, Mr. Chairman, of the Secretary or the President, as you will note elsewhere in this legislation.

Senator HOLLINGS. What do you recommend? Do you have a particular feeling that perhaps it should be fixed, or what?

Mr. TRAIN. The legislation authorizes the President to designate an agency or agencies to issue guidelines for carrying the provisions of this act. Now I would suppose that this would be one of the subjects to which those guidelines would be addressed.

Senator SPONG. Is not the President given this authority in the clear air legislation that we just enacted?

Mr. TRAIN. I believe that is true.

Senator SPONG. I think so. I would think some consistency might be advisable here.

Senator HOLLINGS. Then pursuing what you were stating a moment ago about the responsibility of the Secretary of Interior, addressing my question now to section 105 which provides that the Department of Housing and Urban Development must be satisfied with those aspects of the State's land use program dealing with a large-scale development, key facilities, development and land use of regional benefit and the siting of new communities, but of course, not as it pertains to coastal zones. Does that not mean that HUD has effective control of everything except coastal zone management under S. 992?

Mr. TRAIN. No; because a lot more than coastal zones are comprised in the definition of areas of critical environmental concern.

These do include, most importantly, the coastal zones, but also shorelines and other related areas; rare and valuable ecosystems, scenic or historic areas and such additional areas of similar valuable or hazardous characteristics which a State determines to be of critical environmental concern. So that these could in fact embrace a very diverse selection of areas within a State beyond the coastal zone.

But I certainly agree that the coastal zone clearly is included and very likely would prove out to be the single most significant element in these areas.

Senator HOLLINGS. Mr. Train, with emphasis on authority, rather than on areas, as between the Department of Interior and the Department of Housing and Urban Development, where do you find the authority exactly? Is it not true that under section 105 the Department of Housing and Urban Development must be "satisfied," as is contained in the language there?

Mr. TRAIN. That is true.

Senator HOLLINGS. But it just does not have the last say? It has an interim say, but it does not have the last say?

Mr. TRAIN. The overall responsibility for this program is fixed in the Secretary of the Interior. However, with respect to those aspects of a State-proposed program that involves large scale development, key facilities, development and land use of regional benefit and the siting of new communities, these elements being peculiarly within the expertise of the Department of Housing and Urban Development, that Department must approve those particular elements of the plan to the Secretary of the Interior and I suppose there would be a process of certification or something of that sort worked out.

However, where one of these key facilities or other items is found in an area of critical environmental concern, HUD would not be in a position to approve a development which would be inconsistent with the policy of the Secretary of the Interior with respect to that particular area.

Senator HOLLINGS. HUD could approve, but the Secretary of Interior could still disapprove?

Mr. TRAIN. That is right.

Senator HOLLINGS. Senator Stevens?

Senator STEVENS. Thank you, Mr. Chairman.

Mr. TRAIN. Excuse me. May I just amplify one element of that? I think it might be clarifying. It is not intended that HUD be involved in a project-by-project kind of examination, highway exchange by highway exchange and so forth. What HUD would be involved in examining and approving would be the overall State process which is presented as part of its program.

So I do not think that you would find a difficult split-authority kind of situation arising.

Excuse me.

Senator STEVENS. To return to Senator Spong's comment about the FPC, would you interpret the grant of a license by a Federal agency or the approval of a right-of-way as tantamount to Federal action coming within the provision of section 106(a) of S. 992? It is on page 11. "Federal projects and activities significantly affecting land use should be consistent with State land use programs."

Mr. TRAIN. I certainly would assume that that would be included there.

Senator STEVENS. There is no definition——

Mr. TRAIN. Either the granting of a right-of-way—it says "a Federal project activity significantly affecting land use."

Senator STEVENS. As I understand it in that context, the FPC project is not a Federal project; it is a private project. I wonder if we should have a more clearly defined coverage of what is a Federal project and activity. I assume you mean "Federal projects and Federal activities significantly affecting land use." But I would hope that it would be defined.

Mr. TRAIN. As you know, Senator, we have had a similar question of construction under the National Environmental Policy Act as to what are Federal actions significantly affecting the environment. And we have held these to include licensing activities of the Federal Government and have required environmental impact statements to be filed by the FPC and the AEC and the Corps, even though the project itself is a nongovernmental project.

But the fact of the licensing, in our view, is a Federal action which can have a significance in terms of environmental impact, and I would certainly assume that under this legislation such Federal actions could be construed and determined to affect land use. So I would assume that they would be covered; and I would think that a Federal grant of a right-of-way is also a Federal action affecting land use, I think, quite clearly, even though the grant of the right-of-way is to a private entity.

Now I would also point out that this legislation does not cover the public domain, so that we are not talking here about a right-of-way granted across public lands.

Senator STEVENS. You specifically would exclude the concept of any roads or highways or pipeline permits dealing with Federal public lands, in terms of the scope of this definition of "Federal activity"?

Mr. TRAIN. Yes, certainly; as far as this legislation is concerned, our concern is to insure that where there is not what we would consider effective control over certain land use decisions which significantly affect the environment, that the control authority be created.

The Federal Government has complete authority over the public lands, and I think, speaking very generally, we would say that there is not the same need for providing new authority for the Federal Government in this legislation as we see is nedeed on the part of the States.

Senator STEVENS. That is the basic drift of my questioning. This is a one-way street, then, is it not? The Federal Government is not going to comply with the State land use plans itself, but it will require private entities to comply with the State land use plans in all Federal activities where Federal activities control the actions of private individuals. Insofar as the use by the Federal Government of its lands for Federal purposes, it will not be regulated by a State land use plan; is that correct?

Mr. TRAIN. Yes, that is correct. We do not subject the Federal public domain to State regulation and control under this legislation. But we do require that all Federal actions within the State be consistent with the State land use plan.

That is not saying quite the same thing. And I think we would consider it not appropriate for the Federal Government to turn over the regulation of the Federal public domain to State regulatory authority.

Senator STEVENS. We have the example in my State of a pipeline that goes through one State. What about a pipeline that might go through several States in the Southwest, along the Pacific Coast line, which would cross through private lands and Federal lands? One of these States which my colleague from Oregon represents—his State decides they do not want any pipelines at all; they have no provision in their land use plan; they specifically prohibit them.

Now is the Federal Government going to require Federal agencies and private individuals in the State of Oregon to comply with the State land use plan, or not?

Mr. TRAIN. The requirement in the legislation is that Federal activities not be inconsistent with the State plan.

Now I presume that the State plan has to be a legal plan, a constitutional plan. I frankly am not sufficiently familiar with the interstate law involving pipelines to know whether a State has the authority at the present time to prohibit a pipeline coming through the State. If it does, then both at the present time and under this legislation the Federal Government would have to be, in its activities, consistent with that State plan.

I would also point out, I think, a more likely case is that States through which a given pipeline moved would have certain differences in their land use programs. The legislation does require each State to exchange information and otherwise consult with its neighboring States in the development of its programs; and we do not try to tell a State that "your plan must conform to what your neighbor does." We think that would be an interference with the State prerogatives. But we do say "you should at least work closely with them in the development of your plan." Hopefully thereby minimizing radical differences.

Senator STEVENS. You have indicated that the administration favors S. 992 as a first step toward total land policy development. If you were to become convinced that S. 992 is not going to get anywhere this year, but the coastal management bill could be passed, what would be your position?

Mr. TRAIN. As I said earlier to the chairman, that is a bridge I would prefer not to have to cross at this time, Senator. I do believe that there is increasing support for a national land use bill, and I think that by all odds it is the most effective and most desirable way for approaching land use policy.

The administration is committed to a national land use program, including the coastal zone, and I would prefer to stick to that objective and push for one at this time rather than speculating on what would happen if we cannot get a national land use plan.

Senator STEVENS. The Senator from Oregon wants to carry on with that point.

Senator HATFIELD. I appreciate the Senator from Alaska yielding at this point.

Mr. Train, first of all, for the record, as you realize, I am a cosponsor of S. 992 and I am in full sympathy with the concept expressed in that bill; but I think perhaps that bridge is already here and, therefore, it would be very helpful to this committee if you would respond to this question.

What is the situation in the House of Representatives as it relates to the companion bill to S. 992? And what is the present overall policy of the Interior Committee of the House? What is its situation?

Mr. TRAIN. As I understand it—and I would not want to speak for Chairman Aspinall and I do not pretend to—but my understanding is that the present priority within that committee is with respect to the public lands.

Senator HATFIELD. Emanating from the Public Land Law Commission?

Mr. TRAIN. Yes; it is my understanding—but I am not positive of this, Senator—that the committee would be hopeful of taking up national land use policy somewhat later, following its consideration of public land problems.

Senator HATFIELD. Mr. Train, is it not reasonable to make this judgment: That the Public Land Law Review Commission, triggered many bills, not just one, but many bills. Take one, for instance, dominant use, where introducing the varied concept of dominant use is not going to be handled quickly, without extensive hearings, and without probably many bills. Is it not reasonable to make a judgment at this point that there is very little likelihood that the House Interior Committee is going to go beyond these public land law bills upon which they have put first priority? In fact, is it not almost reasonable to say that it is doubtful they will even get through all of those bills?

So if we are looking for any kind of action from the House side on a comprehensive land policy such as the companion bill to S. 992, it is a pretty dismal outlook for any kind of action on that proposal this session. Would you not agree that in the overall picture that is a pretty fair appraisal?

Mr. TRAIN. I would not want to agree to that, Senator.

I have not taken a recent sounding with the House Interior Committee, and so I am not really in a position to give this committee a very informed judgment in response to your question.

Senator HATFIELD. Then may I ask you this question? Are you aware of the referral procedure that was used in our S. 992 on the Senate side; that it was referred to the Senate Interior Committee; that the Senate Interior Committee considers it; and then it must be referred, as it is here to the Commerce Committee, to the Committee on Banking, and Urban Development and to the Committee on Public Works, four committees? Therefore, if this committee should act first, it must be referred back to the Interior Committee, or our version in the Commerce Committee must be referred over to the Interior Committee.

I happen to serve on the Interior Committee, and I know we are putting important priority on this bill; but just from the very mechanics of these various committees and their other workloads, in effect we are saying on the Senate side that this S. 992 is going to have to get the approval of four committees.

I have not been here that long, but I would make this kind of a judgment: It looks like there is little likelihood we are going to get four committees to act on this particular bill this session.

Then I have to come back to the language of "critical environmental concern," which causes me a great deal of interest, of course, because I am a coastal State Senator. But I am saying this as one who is a supporter and who believes in S. 992 but also feels that we have got to look at the realities, the practicalities and all the other things that face us here; and I would like to think that, as much as you are committed to S. 992—and I do not ask you to diminish your commitment to that at all, but to perhaps give us a little encouragement as to taking part of the loaf if we cannot get the whole loaf on one of these coastal bills. Would you give it support, or would you certainly undertake to take the concepts in the bill if you cannot get the whole loaf? And assuredly, I for one will press for the whole loaf. But I do not want to feel we do not have some kind of support from you if we have to come to the bridge—and I think we are already there—that you think is maybe still in the future.

Mr. TRAIN. I certainly would not want to discourage this committee from an aggressive, a positive approach towards this legislation; and that certainly is not my intention whatsoever, because I think that that could become a very negative kind of approach to what I think we all agree is an exceedingly important problem and a legislative program which I really believe the country is now ready for.

Senator HATFIELD. You would not put yourself in a position of rejecting a partial loaf if you cannot get the whole loaf, would you?

Mr. TRAIN. I cannot conceive that that would be the administration's posture, Senator. But I do want to really strongly emphasize that we started with this consideration of the coastal zone in the last Congress, and that was the administration's proposal; and at that time it seemed like almost a radical proposal to some.

For years there had been an effort to come up with a coastal zone management program, and it had never gotten anywhere, frequently simply bogging down in the interagency bureaucratic competitive situation with which we are familiar.

Senator HATFIELD. I thank the Senator from Alaska.

Mr. TRAIN. That action on the part of the administration did represent a very strong positive initiative, which I think this committee recognized. And as I said earlier, we certainly feel that this committee has taken a very constructive interest in that legislation, and its extensive hearings last year have contributed substantially to public understanding and recognition of these problems.

But we now feel we are ready to go the much larger step of a national land use policy, including coastal zones, and this is the program which the President has submitted to the Congress and which we and the administration are committed to.

Senator HATFIELD. Thank you very much.

Senator STEVENS. I would like to follow that up. As you know, I am not concerned at this point in my questioning about the Alaskan pipeline. But I have been under the impression that there has been a great deal of competition developing downtown in the environmental agencies, with your Council on Environmental Quality and the Department of Interior and the Environmental Protection Agency. Perhaps when we passed the National Environmental Policy Act, we should have established your council and asked that you come up with some firm guidelines and recommendations as to how we should implement the new policy, rather than set up the guidelines and then tell your council to somehow or other try to work it out.

With the proposal, are we not getting about the same thing with another new, broad-scale national land use policy by which we are again dividing the total environmental concepts between HUD, Interior, your agency and, as a matter of fact, any Federal agency, as I understand this bill?

To return to the Senator from Oregon's comment, would we not be better off to put a segment of this concept into practice in the coastal zones and then evaluate the results rather than to have a total national concept develop that would again result in competition between EPA, CEQ, Interior, the Corps and a few others, to determine who is the best protector of the environment?

Mr. TRAIN. I would hope, sir, that we are not engaged in that kind of a competitive game. The role of the Council certainly is entirely different from that of the Department of Interior or any other department or executive agency in the EPA. We do not have in the Council administrative responsibilities. We are not a line agency. We are advisory to the President. So, insofar as we are concerned, we are not engaged in competition with EPA or the Department of the Interior.

Now, among the executive agencies, necessarily, administration of many of these programs does involve very close coordination and sometimes some overlap. As we move into areas such as land use, I think we are increasingly recognizing that we are dealing with problems that cut across broad areas of public administration.

There is no way to avoid the necessity for careful coordination of administrative responsibility. The problems of our society today are so complex that I think there are very few areas where it is reasonable to expect that you can sort of put them neatly into one administrative compartment that go ahead and deal with the problem without some kind of very close coordination with other agencies. This the quality of this Nation's environment.

As you well know, our environmental responsibilities within the Federal Government extend to just about every single agency. I cannot think of one, offhand, that does not have substantial impact on the quality of this nation's environment.

Senator STEVENS. Yes; but I hope—and I hope the Chairman and Senator Spong would agree—we are looking not only to provide a control mechanism to assist the States in proper land use planning in the coastal zone particularly; we are also looking for mechanisms that would clear the way when they do get into the position where action is necessary. I do not see that that is going to be possible if we wait for S. 992; nor do I see that it would be possible, under the plan that once a State land use plan is approved by the Secretary of Interior and a grant is issued under S. 992 or S. 582, the State has to file an environmental impact statement with EPA, and then file the total concept of involving any further Federal activities, not taking into account the time to approve the plan.

I think that we might well be creating another roadblock in working towards proper protection of the estuaries, the coastal zones, if we are not careful. It seems to me this has to be coordinated in the beginning with the Council on Environmental Quality and EPA and other agencies to insure that what Interior says is the proper State land use plan is, in fact, going to be followed up by the Federal agencies that are involved.

The Senator from Oregon and I share the same viewpoint. We would rather have the smaller bill this time and follow its progress. That is a comment, not a question.

Mr. TRAIN. Well, I have tried to answer the comment.

Senator HOLLINGS. Just to see where it goes, let me ask a specific question. Last year the administration presented a coastal zone management bill and allocated that responsibility to the Department of Interior. But that was prior to the administration's submission of Reorganization Plan No. 4 establishing the National Oceanic and Atmospheric Administration.

You and I both talk in glowing terms of the development of interests now in coastal zones. I like to think it came in large measure from the bipartisan, very comprehensive study made by the Stratton Commission. That very same commission recommended, of course, that once NOAA was instituted, that it have the administrative responsibility of the coastal zone.

Now, do you recommend, if we cannot go forward with the whole loaf, as Senator Hatfield was talking about, that we go along with half a loaf? And if we do go along with the half a loaf, do we go along with it in the Department of Interior or within NOAA?

Mr. TRAIN. I think here again, we are having to sort of look into a somewhat clouded crystal ball as to the future. As you know, the President has proposed a major reorganization——

Senator HOLLINGS. I believe it is too clear. We do not see the clouds that you see.

Senator SPONG. Mr. Train, I think he has asked you the same question three ways.

Senator HOLLINGS. Excuse me for interrupting you.

Mr. TRAIN. I was delighted to be interrupted.

Senator HOLLINGS. Go right ahead.

Mr. TRAIN. If I could be a little facetious, it reminds me—I was on a program known as "Meet The Press" not very long ago and I was discussing with my staff possible questions that might come up, and without identifying what the question was, I will say that I asked them how will I answer so and so? And a response I got back from one member of the staff was, "Ask to have the question repeated and then pray for a station break."

As you know, the President has proposed a major reorganization which would involve the development and evoultion of a Department of Natural Resources which would include the responsibilities, as I understand it, now held by NOAA. Certainly, this would mean that looking at the larger land-use proposal that all elements of land use as they affect the environment, both landward and seaward, would be integrated administratively within one responsible Federal agency, the Department of Natural Resources.

Likewise, if simply a coastal zone management bill were enacted by the Congress, that, too, should be administered in the Department of Natural Resources that the President has proposed.

Now, I suppose the next question would be, well, suppose Congress does not go along with the establishment of the Department of Natural Resources; what then? I would prefer not to answer that question at this time because here, again, the administration is strongly committed to the development of a Department of Natural Resources and I think it is long overdue.

Certainly, as one who spent a year in the Department of Interior as it is presently constituted, I feel very strongly that this is an important step to take and one which we are ready to take, and I would hope that Congress will look very affirmatively upon that proposal and that we look forward to the management of the ocean resources and coastal resources as being part of the Department of Natural Resources.

Senator HOLLINGS. Senator Spong.

Senator SPONG. I just have one last inquiry that does not relate to this bill or to your position as to coastal zone management or a general approach. It is a very small thing, but in response earlier to Senator Hollings you went into a number of Federal agencies and departments that come under the National Environmental Policy Act, particularly with regard to the environmental impact statements required under section 102.

Are you aware that the Justice Department in its administration of the Safe Streets Act does not or has been ruled that it does not come under these provisions?

Now, let me translate this so you will understand an example of what I am talking about. In the location of penitentiaries, for instance—we do not use the word "penitentiaries"—detention facilities—that they are, as the situation now stands, not under this law. Were you aware of that?

Mr. TRAIN. I am not personally aware of that and I am not really—I do not understand why such facilities would be considered not covered by the National Environment Policy Act. Major Federal buildings we consider do have or can have an impact on the environment. For example, we have had an environmental impact statement filed by the Department of the Treasury with respect to the construction of a new mint.

Frankly, I am not aware that these facilities are not being included.

Senator SPONG. This would be federally assisted as opposed to federally constructed, but what I would like to do, in the interest of time here this morning—I would like to submit this situation to you for your comment, because we become increasingly concerned about the exclusions where the Federal Government is involved.

Mr. TRAIN. May I ask Mr. Reilly to comment on your question, Senator, because I believe he is somewhat familiar with the background.

Mr. REILLY. Senator, I believe the matter you raise is the one where the Law Enforcement Assistance Administration made a bloc grant to the State of Virginia which then proposed to construct a prison facility in a valley of historic farms, which I think included three sites listed on the national register.

I am informed that the Justice Department Law Enforcement Assistance Administration has met subsequent to that decision with members of the Advisory Council on Historic Preservation and they have agreed that in the future such bloc grants will be subject to section 106 of the Historic Preservation Act of 1966 and to the Environmental Policy Act of 1969.

Senator SPONG. I am not prepared to comment on the merits of this particular case, but I was somewhat surprised, having participated in the enactment of this legislation, to find exclusions right within my own State. Now, this would not affect what has already taken place, if I understand what you have said.

Mr. REILLY. It would not. The reason that the money was allowed to be used by the State of Virginia in the way that it was is that there were no advance plans required by the Justice Department. In other words, the State of Virginia received the money without having said what it proposed to do with it. It then later decided to construct this facility; and it was at that time concluded that its use of money was not a Federal undertaking in the traditional sense,

but that would be corrected by the Justice Department in future cases. That decision is also under appeal right now.

Senator SPONG. I am aware of that. Thank you.

Senator HOLLINGS. Senator Stevens.

Senator STEVENS. Mr. Chairman, I have got some other questions I would like to submit to Mr. Train. There are some technical problems concerning the level of appropriations that relate to the two bills. If that would meet with your approval, I would like to submit them to Mr. Train.

Senator HOLLINGS. Mr. Train will receive those questions.

Senator STEVENS. One last comment relative to my previous comments. I hope that you will assist us in making certain that, if we decide to "buy half a loaf," that it is consistent with the total national goal of a national land-use policy and that we do it in such a way to prevent what I consider to be the very unfortunate consequences of the National Environmental Policy Act; and that is, the definition by the courts of what the NEPA means. I think Congress should have defined what we meant by NEPA and not left it to the courts. There is an inconsistent pattern, in my opinion, developing throughout the United States in terms of what the National Environmental Policy Act does mean and what it covers.

I am sure you have seen these decisions and I have been quite disturbed with them in terms of their inconsistency. It would seem to me that your people can give us great assistance to make sure, if we do take the short route, that we do it consistent with the total naional land-use policy. I hope you would be of that assistance.

Thank you, Mr. Chairman.

Mr. TRAIN. Let me assure the committee that our Council and staff are most anxious to work closely with the members of this committee and its staff in the development of the best possible legislation, and we would note that we would certainly make that same offer to the other committees involved in this subject here in the Senate; and would urge—although here I am treading on what is manifestly the jurisdiction of the Congress and not the executive branch—that everything be done here, as I am sure is being done, to develop a unified, overall approach to what I think we all agree is a prime national need for more effective land-use control nationwide.

Senator HOLLINGS. Mr. Train, we appreciate very much your appearance here this morning, you and your colleagues, and we thank you very much.

Mr. TRAIN. Thank you very much, Mr. Chairman.

(The statement together with responses to written questions by Senator Stevens follow:)

STATEMENT OF HON. RUSSELL TRAIN, CHAIRMAN, COUNCIL ON ENVIRONMENTAL QUALITY

Chairman Hollings, Senator Stevens and Members of the Committee, I appreciate the opportunity to testify on the relationship of the pending coastal zone legislation and the national land use policy legislation submitted by the Administration and now pending before the Senate Interior Committee.

As this Committee is well aware, during the last Congress the Administration proposed coastal zone management legislation, which, along with other bills introduced by Senator Hollings and other members of the Senate, was the subject of extensive hearings before this Committee. I had a particular interest in the legislation since, when as Under Secretary of the Interior, I chaired an

interagency task force on coastal zone management which developed the proposals submitted by the Administration. On February 8, 1971, the President submitted to Congress his second Environmental Message, laying before Congress a far reaching and innovative set of legislative proposals to deal with the problems of controlling pollution, to deal with emerging new problems such as toxic substances and ocean dumping, and to promote better land use. Among other major proposals in the latter category, the President called for a national land use policy. This legislation, now pending as S. 992 before the Senate Interior and Insular Affairs Committee, recognizes the need for reform of State land use law. It urges States to assume greater regulatory authority, in conjunction with local governments, over significant development and conservation issues of more than local impact. These were the essential objectives of the Administration's initial coastal zone bill, although the geographic area of concern in that legislation was more limited and the issues for State attention less explicit than that contemplated in the national land use policy proposal.

You may find it helpful to have a brief history of the Administration's progress toward a national policy for land use. The Administration's coastal zone proposal grew out of a number of studies, most important of which were the Stratton Commission Report and the two Estuarine Reports by the Department of the Interior which culminated in the interagency task force chaired by myself when Under Secretary of the Interior, as I have already mentioned. The function of the task force was to develop the Administration's legislative proposal for coastal zone management. The central issue then, as it is now, was to build upon the inherent State regulatory authority in order to better guide development and conservation decisions in the coastal zone. There was some concern even then by the Administration that by urging the coastal States to take back from local governments some of the regulatory powers historically delegated to them over a limited area, the coastal States might complicate the reform of their zoning laws by creating new agencies dealing with only a portion of the problem. But at that time, over a year and a half ago, environmental issues were only beginning to awaken broad public interest and support and it was difficult to predict then what we know now—that the concern for the environment is an overriding domestic issue of sufficient weight that State and local governments are now willing to move much faster to broadly reform their institutional and regulatory processes over land use. Likewise, over this period of time the Administration, concerned congressional committees, and many State Governments have had a better opportunity to gain a deeper understanding of the problem, thus providing support for a broader solution such as represented in the Administration's land use bill.

In the ensuing six months the Council on Environmental Quality was established and submitted to the Congress last August its First Annual Report on the Nation's Environment. In that report the Council devoted a substantial chapter to the problems of land use in this country. The Annual Report recounted the first initiatives on coastal zone legislation but went beyond them to indicate the need for land law reform throughout the 50 States. In his message accompanying the Annual Report to Congress, President Nixon emphasized the importance of land use reform and indicated his desire to develop a national land use policy.

On February 8 of this year the President's national land use policy was articulated in the form of the legislative proposal submitted to the Congress in S. 992.

This Committee has given the problems of coastal zone management the highest priority, having held exhaustive hearings last year over a period of almost six months, hearing witnesses and eliciting testimony from the broadest spectrum of this country. The testimony and information elicited during these hearings have greatly assisted the Administration in assessing how best to meet the critical development issues in this country, particularly in the coastal zone.

The Administration is sensitive to the concern of this Committee that the issues of coastal zone management be given priority attention. We are likewise concerned that the States not complicate their reform of land use law by creating separate institutions over the coastal zone which might later compete with and complicate the ability of the States to address the total problems of land use planning and regulation within their borders. Certainly, the signs around us are unmistakable that States are now more willing to approach the land use regulatory issues on a broader basis, witness the recent legislation in

Maine, Vermont and the proposed initiative in such diverse areas as Colorado and the State of Washington.

Now that the Administration is committed to a more extensive policy affecting land use throughout the United States, it seems reasonable to treat the coastal zone within this expanded framework. Thus, the very same objectives embodied in the Administration's coastal zone legislation are incorporated in the national land use policy proposal. Indeed, it is absolutely essential that a national land use policy include the coastal zone because the problems of land regulation in coastal areas are particularly severe, and failure to deal with them can lead to irreversible losses. Thus, the national land use policy proposal makes the coastal zone an area for priority attention (1) by defining the coastal zone as an "area of critical environmental concern" over which States must assert effective control, and (2) by allocating funds with specific consideration to the needs of the coastal States.

We feel that the long labors of this Committee have borne and are continuing to bear fruit and that the experience and insight your research and hearings have brought to this critical issue provide a sound and useful basis for your Committee, the Senate Interior and other interested Committees, and the Administration to go forward with legislation that will give unified direction to State Governments in a coordinated national policy to implement this needed reform.

Thank you.

EXECUTIVE OFFICE OF THE PRESIDENT,
COUNCIL ON ENVIRONMENTAL QUALITY,
Washington, D.C., June 8, 1971.

Hon. TED STEVENS,
U.S. Senate, Washington, D.C.

DEAR SENATOR STEVENS: In reply to your questions submitted in writing on May 5, 1971, at the conclusion of my testimony on coastal zone management legislation, S. 582, S. 632, S. 638, and S. 992 I am submitting the following answers for the record:

Question No. 1. Is it your view that anything contained in S. 582 or S. 638 would preclude a State from expanding the mechanism chosen by it for control of the coastal zones into an agency for the control of overall land use development within the State?

If so would you please point out such provisions and indicate to us how they might be changed so that a State's coastal zone control mechanism could be subsequently expanded.

Answer. The relevant provision of both S. 638 and S. 582 require that as a condition precedent to Federal approval of a State's management program, the Governor shall have designated a single agency to receive and administer the program, and the State shall have the regulatory authority necessary to implement the program. Nothing in these provisions would preclude a State from employing the same mechanism designated to regulate land use in the coastal zone to regulate land use throughout the rest of the State as well.

Question No. 2. If we were to pass separate coastal zone management legislation, I gather that you would feel very strongly that the authority for administering the program should be vested in the Department of Interior rather than NOAA or Commerce so as to avoid inconsistency with the Administration's National Land Use Policy. Is that correct?

Answer. Yes, that is correct.

Question No. 3. In both Sections 105(a) and 107 of S. 992, specific consultation with the Secretary of Housing and Development is mandated. Would you object to a similar mandate for consultation with NOAA (Commerce) with respect to actions affecting the coastal zones?

Answer. Under the Administration's National Land Use Policy bill, S. 992, Federal agencies with interests affected by a State's land use program are to be consulted by the Department of the Interior prior to a Federal determination that a State is eligible for a program management grant. Several Federal departments not specifically recognized in the legislation would be consulted on various aspects of State land use programs. The Administrator of the Environmental Protection Agency, for example, would be consulted on rural and related concerns.

Of course, S. 992 contemplates that the National Oceanographic and Atmospheric Administration would be closely involved in consultations concerning State land use programs in the coastal zone. In my opinion it is not necessary to write a specific provision into the bill on that. If we were to try to foresee every Federal agency that might be affected the legislation could become cumbersome. Listing some Federal agencies and not others could lead to confusion. In S. 992 we have resolved the difficult problems of Federal level administration by assigning major roles with respect to conservation matters to Interior, and with respect to developmental matters to HUD. We hope this will be balanced and workable and we would be reluctant to complicate it further by additional formal consultative prescriptions.

Very truly yours,

RUSSELL E. TRAIN, *Chairman.*

Senator HOLLINGS. The committee will next hear from the Honorable Samuel Jackson, Assistant Secretary of the Department of Housing and Urban Development.

Mr. Jackson, we understand you have another appointment and we appreciate your sticking with us, and we will be glad to hear from you at this time.

STATEMENT OF HON. SAMUEL JACKSON, ASSISTANT SECRETARY, METROPOLITAN PLANNING AND DEVELOPMENT, DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT; ACCOMPANIED BY FREDERICK A. McLAUGHLIN, OFFICE OF PLANS, PROGRAMS, AND EVALUATION; AND ROBERT PAUL, DIRECTOR OF THE DIVISION OF PROGRAM DEVELOPMENT, OFFICE OF COMMUNITY PLANNING AND MANAGEMENT

Mr. JACKSON. Thank you, Mr. Chairman.

It is a pleasure to appear before the committee. I am accompanied this morning by Mr. Fred McLaughlin, the Director of our Office of Plans, Programs, and Evaluation on my left; and, on my right, Robert Paul, the Director of our Division of Program Development in the Office of Community Planning and Management.

We appreciate this opportunity to present the views of the Department of Housing and Urban Development on S. 582 and S. 638, the coastal zone management bills, and on other bills, including S. 992 as proposed by the administration, to establish a national land-use policy.

Your committee is aware of the time and effort that has been devoted to the whole problem of national land use planning and management, both within and without the Federal Government, since legislation concerned with coastal zone management was first introduced. The President's first environmental report, for example, stressed the importance of developing a national land use policy. There is no question but that the coastal zones should receive high priority consideration under any national land use policy.

The Department of Housing and Urban Development is deeply interested in the development of the coastal regions. Many of our major cities and densely populated urban areas are located within areas defined as "coastal zones" in this legislation and it is certain that many urban areas—and particularly many areas of crucial importance for imminent urban growth—could be covered by the proposed coastal zone legislation. One of the most difficult of national problems is

the achievement of a proper balance between the preservation of coastal lands and their development whether for commercial, industrial, residential, or recreational purposes.

The rising concern with the quality of the environment has been largely prompted by the recognition that the process of converting land to urban use is perhaps the single greatest force on the natural environment. Although urban land in the coastal zone is only a very small fraction of our total land area, it is, and will be, occupied by an overwhelming majority of our people, and its development and maintenance consumes much of the Nation's annual capital and the impact and needs of urbanization go far beyond urban boundaries.

Of course, land use planning will always be primarily a State and local responsibility, although the Federal Government does have a tremendous stake in helping promote sound national policies in this area. This is so because the States and their communities plan, construct, and operate the facilities that affect the use of land, for example, the transportation systems, the location and type of public facilities, and the amounts and uses of open space lands. Furthermore, the States have the basic legal powers to control and shape private development and use of land. Many of these powers have, of course, been delegated to municipalities and take the form of zoning ordinances, subdivision regulations, and various building codes. But the trend is for States to exercise increased land use control powers over specifically designated areas or issues.

Particularly in light of the developmental and governmental complexities I have been describing, we are concerned that the approach outlined in S. 582 and S. 638 will not be broad enough to be effective in areas subjected to growth pressures. For example, both open space planning and land acquisition for urban uses should be a key part of these plans, and housing needs must be considered. More important, we believe that planning and management of the coastal zone should be a key element of a broader, land use planning and management process that encompasses other important environmental areas that are critical to urban growth—and other crucial factors such as transportation systems, human resources and economic development.

S. 992, the administration's proposed National Land Use Policy Act, would do more, in our opinion, to encourage and support the States in establishing meaningful land use planning and management processes in which coastal zones would be an integrated element. Other elements of critical land uses would include river flood plains, areas of historic value, key facilities such as major airports, and land of potential value for new or expanded communities. Thus, a State could identify and weigh the needs of a variety of land areas that are subject to adverse pressures from growth. A State could see the conservation needs of its coastal regions with a perspective of many, often competing, issues of land utilization or conservation.

I would like to point out that S. 992 is designed to establish a national land use policy by emphasizing the management responsibility of the States. A plan, alone, too often is only a map that has no influence on the hard decisions like when and how to change land use patterns. S. 992 clearly requires the States to manage their critical

land areas so as to assure their use in ways that are consistent with the long-range interests of their citizens.

The President has proposed another program that relates to this land use management function. To provide assistance to State and local governments in increasing their capacity to use wisely the funds provided by general and special revenue-sharing legislation, the President has recommended enactment of a planning and management assistance program. Of special significance here is that the program would provide grants to the States to help the Governors improve their ability effectively to plan and manage. We would expect, for example, that a Governor might use some of these funds to determine the underlying economic and social policies that clearly affect the growth of his State and the general ways in which land areas would be developed. We would also expect that a Governor would undertake improvements in the governmental "machinery" of the State in order to use all of the State's resources more efficiently in providing services to the citizens.

The point here is that this planning and management assistance program can help in providing the broad framework of planning and management to guide the more specific activities contemplated in any of the bills that we have discussed today.

To summarize, we are clearly in favor of the objectives of the coastal plain bills to improve the management of the valuable land and water resources of our coastal zones. But we believe that this management activity belongs within the broader responsibility of land use policy as contemplated in S. 992, the National Land Use Policy Act of 1971.

Thank you, Mr. Chairman.

Senator HOLLINGS. Thank you.

Senator STEVENS. That is a very good statement. Has your department given careful consideration to the problem of trying to coordinate the environmental activities. By this I mean environmental activities under the National Environmental Policy Act in terms of the concept of planning in advance so that a State would be able to know in advance that the environmental concepts which are covered by the National Environmental Policy Act would be met by a land use plan?

Is this within your concept as to how this national land use policy legislation would work?

Mr. JACKSON. Yes, Senator Stevens. We are already doing that to some extent now. As you know, section 102(c)(2) of the National Environmental Protection Act requires that we file the environmental impact statement that affects all grant programs that are covered in that act.

In addition, we have section 204 of the Demonstration Cities Act of 1966, and the Office of Management and Budget has established a procedure under A–95, which is one of the issuances of OMB, that provides that before any grant for any program covered by section 204—that includes our large-scale housing programs, water and sewer grants, urban mass transportation grants, open space land grants, libraries and so forth—a notice must be filed with the agencies of State and local government that do the metropolitan and area-

wide planning for review and comment by these agencies to assure consistency with the planning and activity that is going on in that State and to determine its impact upon other communities that would be affected by the activity.

Now, what S. 992 would do would be to organize that more effectively under the State, especially as it relates to those areas of the State where there are critical environmental concerns.

We believe that it would substantially enhance the Federal mechanism for assisting State and local governments to take into consideration the possible adverse impacts on the environment during the planning process from all development.

Senator STEVENS. As I listened to your answer, I could only think of the sign that used to say "Plan Ahead," and the "d" and everything was down at the bottom because they ran out of space.

I think if we are trying to help the States plan ahead, there has got to be some way to prevent them from running head-on into a problem which was not raised by anybody at the planning stage. To me, that would be an environmental problem.

It does not seem to me that we have done enough to require the advanced coordination of the land use planning with the advance concepts of NEPA. The 102 statement is a good example. I recently received Mr. Ruckelshaus' monthly report, the 102 report. I think the unemployment situation in the country today would be more easily understood if we considered the delay factors of NEPA, which are not presently understood by the Congress, in my opinion. I would hope that your department, in particular the model cities concepts and communities, would have the ability to forestall the environmental problems that might result in the future.

Consider, for instance, constructing a new city around Fairbanks in my State. You could proceed with a nice plan and a State land use plan and everything else. However, if the concept of water pollution that we have in the wintertime with ice fog were not taken into account, it would result in the final approval basis being stalled completely by virtue of not having an environmental aspect properly included in State land use planning from the very first.

Therefore, I would hope that this would be one of your goals, Mr. Jackson. I thank you for your comments and I assume you agree with Mr. Train, in that you would rather have the "whole loaf" rather than the "half a loaf" concept.

Mr. JACKSON. Absolutely, Senator. We think that S. 992 is the proper approach for the Senate to take.

Senator STEVENS. May I ask one more question. I asked Mr. Train this. Do you believe that a Federal activity under section 106 would include insurance activities under Federal housing or grants to States under the various housing programs? In other words, are we really covering all Federal activities or are we just covering the activities of the Federal Government?

Mr. JACKSON. Senator, as you know, the section you referred to refers back to section 204 of the Demonstration Cities Act of 1966. This is what I was referring to when I indicated that the Office of Management and Budget has implemented that through one of its issuances called A–95. That procedure defines what is Federal program activity for the purposes of section 204.

Now, as it relates to the housing programs, it applies to projects of 50 or more contiguous lots—projects of 50 single family homes or multiple family housing of 100 units or more. We have determined that that is the proper size for ascertaining that its impact is significant enough to require the use of the A-95 procedure.

For each of our programs we made an assessment of when the impact is substantial. Whenever the impact is substantial, then the type of predevelopment coordination that you speak of is required.

Senator STEVENS. Unless there are 50 homes, for instance, under that concept, then, a small subdivision of 25 homes would not come within your definition of significant Federal activity. Is that right?

Mr. JACKSON. That is right. It is to cover the big projects that really have impact, but to permit the smaller projects to continue because they are very small.

Senator STEVENS. Do you feel that the meaning of 106(a) is sufficiently well understood by Federal agencies, so that we are not going to have someone come in after the fact and say, "You should have had our approval before you put this plan into effect?"

Mr. JACKSON. Not only is it understood by the Federal agencies, but also by the State and local governments. There already exists throughout the Nation an extensive network for carrying on this section 204—A-95 activity, and that is the reason why in S. 992 we tied it into an existing mechanism so that it can be expanded rather than creating an additional network.

Senator STEVENS. Thank you very much.

Thank you, Mr. Chairman.

Senator HOLLINGS. Thank you, Senator Stevens.

Mr. Secretary, on your comment that S. 992 is certainly the desired and proper approach, the question is, is it the practical approach? And in that way, your comment that S. 582 and S. 638 are not broad enough to be effective, are you saying they are not broad enough in the land area or the coastal area to cover it, or are you saying they are not broad enough in their approaches?

Mr. JACKSON. Well, it does not include the dynamics of community and urban development and urban growth that occurs in that portion of the States and in those States that are coastal zone States. Your definitions, your scope of activity, does not consider what actually occurs in these areas.

As you know, we have a large number of our major cities that would be included in the 31 States affected by the coastal zone legislation and their activity. The dynamism that goes on every day in the development and planning and use of that land for housing, for commercial facilities, for large public facilities just is not considered in here, and it just seems to us that for Congress to embark upon legislation that is as significant as this is without including the dynamics that go on in urban growth and community development would be a mistake and that it would be far better to include it in the broader concept that S. 992 suggests.

Senator HOLLINGS. Well, are you aware that the National League of Cities, the National Association of Counties, and various other groups came forward last year on the coastal zone bill attesting to the dynamics of urban development and testifying in favor of the enactment of the coastal zone bill?

Mr. JACKSON. Yes, Senator, and the administration did, too, and we support the concept of the coastal zone bill.

Senator HOLLINGS. That is what I am trying to get. If you could not get the whole loaf, again, would you go along with this coastal zone bill?

Mr. JACKSON. We believe that the proper action is to push vigorously for S. 992 and we think—I think that the answer of Chairman Train was the appropriate one in regard to what the administration posture is.

Senator HOLLINGS. Well, it is not that there is a broad divergence between the coastal zone provisions of S. 992 and the coastal zone bills. Or do you see a broad difference?

Mr. JACKSON. Well, the coastal zones is only one of the critical areas that critically affect the environment. We mentioned others included in our provision. For instance, we have shorelines, the flood plains, the rare and valuable ecological systems, scenic and historic areas, conservation areas, key facilities such as airports, highway interchanges, major recreational lands and public facilities. All of these areas are critical to protecting our natural environment and to prevent the damage to our ecological systems.

We believe that the coastal zone, as important as that is—and we do not want to diminish its importance—should be part of a total system of planning and protecting our natural environment within the States.

Senator HOLLINGS. Do you see any conflict or opposition whatever in the allocation now of all of these functions to the States from the municipalities or urban areas that you represent?

Mr. JACKSON. That is one of the key differences in our bills, also. S. 992 would specifically allow the use by the State of the existing network that exists in the local communities and in these regional planning bodies.

As you know, the bulk of land use planning that goes on in the Nation now is done in the metropolitan bodies or local communities, and S. 992 acknowledges that and would use that, but within the parameters determined by the State. It seems to me it would be very fundamental to the successful use of any major land use planning that is envisioned both by your bill as well as by S. 992 to use that mechanism to the extent that the State in implementing its land use planning program would choose to do.

Senator HOLLINGS. It has been pointed out that S. 992 appears as a State takeover. Can you point out the language in the bill, or sections generally, wherein you find the legislation acknowledges the urban preeminence and leadership in zoning in urban areas?

Mr. JACKSON. Yes, Mr. Chairman. If you look at the bottom of page 9, subparagraph I, it says:

> The State has coordinated with metropolitanwide plans existing on January 1 of the year in which the State land use program is submitted to the Secretary, which plans have been developed by an areawide agency designated pursuant to regulations established under section 204 of the Demonstration Cities and Metropolitan Development Act of 1966;
>
> (2) Coordinate with appropriate neighboring States with respect to lands and waters in interstate areas; (3) take into account the plans and programs of other State agencies and the Federal and local governments.

So it is very clear it contemplates using to the extent that is compatible for the State those plans that already exist and those agencies that already exist, and thereby not reinventing the wheel as part of this valuable function that we want the States to do in the area of land use planning.

Senator HOLLINGS. All right. Mr. Jackson, do you have any further comments or statements you wish to make?

Mr. JACKSON. No. Thank you, Mr. Chairman. We appreciate the opportunity to appear before your committee.

Senator HOLLINGS. And the committee is very grateful for your appearance this morning and your colleagues, too. Thank you very much.

The next witness is Hon. Harrison Loesch, Assistant Secretary, Public Land Management, Department of Interior.

STATEMENT OF HARRISON LOESCH, ASSISTANT SECRETARY, PUBLIC LAND MANAGEMENT, DEPARTMENT OF INTERIOR

Mr. LOESCH. Thank you, Mr. Chairman. I am very grateful to have the opportunity to appear before your committee.

In view of the time pressures which I am sure you have, you might find it appropriate if I asked to have my formal statement placed in the record.

Senator HOLLINGS. It will be included in its entirety in the record

Mr. LOESCH. Thank you, Mr. Chairman.

I might just very briefly summarize it by saying that it basically repeats the thrust of the statements of Chairman Train and Secretary Jackson to the effect that while we consider coastal zone management of extreme importance in the overall environmental picture, we believe that at this time and under the circumstances, it is too narrow an approach, and, consequently, support the overall land use planning bill.

In that connection, having listened to the testimony this morning, I would like to say that while, again, certainly I would not want to be stepping on anyone's toes or attempting to read the minds of Members of Congress, I deal every day with the House Interior Committee, and with all the caveats that I have mentioned, I may say that my reading is not anywhere near as pessimistic about the possible actions of the House Interior Committee as Senator Hatfield's were this morning.

I believe that S. 992, and its companion, fit in very well with the concepts which Chairman Aspinall has in mind. He has, as you may be aware, made public announcement that he does not intend to address himself to the particularities of the Public Land Law Review Commission Report before getting overall framework legislation before the Congress.

It is my view that S. 992 is exactly the sort of overall framework legislation in which he is greatly interested.

With that, Mr. Chairman, I am open to any questions you might have.

Senator HOLLINGS. We appreciate it, Mr. Loesch. We have your statement. You can understand the concern of the committee, and

we have gone right along with the land use bill. But barring being able to do that, we just wondered what the disposition was of the administration relative to its coastal zone bill which it backed so strongly last year.

We do have some questions from Senator Stevens and others that we would like to submit in writing if you do not mind.

Mr. LOESCH. I would be very pleased to respond to them.

Senator HOLLINGS. We appreciate very much your appearance here this morning.

Mr. LOESCH. Thank you very much.

(The statement follows:)

STATEMENT OF HARRISON LOESCH, ASSISTANT SECRETARY, PUBLIC LAND MANAGEMENT, DEPARTMENT OF INTERIOR

Mr. Chairman and members of the subcommittee, thank you for this opportunity to discuss briefly S. 582 and S. 638, similar bills whose purpose it is to assist coastal States in their management of estuaries and the coastal zone. As the Committee recognized in scheduling these hearings, the coastal zone issue cannot be considered apart from pending proposals for a national land use policy.

In our report to the Committee, we note in some detail the specific provisions of S. 582 and S. 638. They are quite similar to draft legislation supported last year by the Department of the Interior and reflect a well-founded conviction that effective management of land and water resources can best be promoted by encouraging the States to accept broadened responsibility for land use planning and management. Under S. 582 and S. 638, the Secretary of Commerce would be authorized to share with coastal States their costs in the development and administration of a coastal zone management program.

Studies conducted by this Department pursuant to the Federal Water Pollution Control Act and the Estuary Protection Act of 1968 confirmed our fears that, in the absence of effective protective measures, the finite resources of our coastal and estuarine areas are threatened by population growth and economic development. We observed to this Subcommittee a year ago yesterday that "what is happening in the coastal zone of America represents the basic, but too often ignored, conservation issue throughout the United States—the lack of wise use, without abuse, of our land and water". Also recognizing that land use problems are not limited to the coastal zone, the Council on Environmental Quality last August expressed "a need to begin shaping a national land use policy".

Chairman Train has already spoken of this Administration's commitment to a national land use policy. In his message of February 8, "Program for a Better Environment", President Nixon discussed the relationship of his land use proposal to the question of coastal zone management: "This proposal", he said, "will replace and expand my proposal submitted to the last Congress for coastal zone management, while still giving priority attention to this area of the country which is especially sensitive to development pressures."

Like S. 582 and S. 638, S. 992 would authorize cost-sharing grants both for program development and program management. Our proposal differs from those bills directed solely to the coastal zone, however, with respect to the scope of a State's planning activity and, indeed, the number of States eligible for assistance. The National Land Use Policy Act of 1971 would recognize, nonetheless, that land use pressures and the conflicts they cause are most intense at the point where land meets water. To assure that coastal zone and estuarine management receive the priority attention of coastal States, S. 992 would identify the coastal zones and estuaries as "areas of critical environmental concern and require that a State's land use program include a method for inventorying and designating such areas. Further, the Secretary of the Interior, charged with responsibility for administration of Federal assistance, would be authorized to make grants for program management only if State laws affecting land use in the coastal zone and estuaries are adequate for protection of their aesthetic and ecological values. Perhaps most important in terms of State action is the provision that $100 million would be allocated over five years under regulations

which must take into account the nature and extent of States' coastal zones and estuaries.

As the hearings of this Subcommittee have shown, there is a great and growing concern for protection of the Nation's coastal zone and estuaries. That concern, we believe, must extend to land use problems within a much broader context. The Committee is no doubt aware that many of the conflicts felt at water's edge have their origins further inland, and that only comprehensive planning can alleviate the growing pressure. While coastal zone planning is needed, we must also recognize that land use decisions cannot be made effective in the absence of a State-wide policy. The States seem willing to accept this challenge, and the President is committed to a more extensive policy affecting land use throughout the United States. Having learned from the States' growing experience with land use regulation and cognizant of a growing public concern about the environmental consequences of all land use, we now urge the enactment of legislation that will encourage States to control not only how land will be used, but how well it can be used.

Senator HOLLINGS. The committee will next hear from Mr. James Goodwin, the coordinator for natural resources, State of Texas.

Mr. Goodwin, we have a letter here from your distinguished Governor, Preston Smith, the Governor of Texas, on your behalf which we will include in the record at this time.

(The letter follows:)

MAY 4, 1971.

Hon. ERNEST F. HOLLINGS,
Chairman, Subcommittee on Oceans and Atmosphere, U.S. Senate, Committee on Commerce, Washington, D.C.

DEAR SENATOR HOLLINGS: The National Governors' Conference Committee on Natural Resources and Environmental Management has requested that I testify on behalf of coastal zone management before your Subcommittee. While I consider the coastal zone to be our next great frontier, previous commitments preclude my appearing before you.

However, I am sending Mr. James T. Goodwin to speak for me and the National Governor's Conference on the importance of S. 582 and S. 638. I will appreciate your consideration of Mr. Goodwin's remarks as indicative of the importance which my administration as well as the National Governor's Conference places on coastal zone legislation.

Sincerely,

PRESTON SMITH,
Governor of Texas.

Senator HOLLINGS. We welcome you and we will be glad to hear from you.

STATEMENT OF JAMES GOODWIN, COORDINATOR FOR NATURAL RESOURCES, STATE OF TEXAS

Mr. GOODWIN. I would like to begin by expressing the personal regrets of Governor Smith that he could not be here, but previous commitments made that impossible.

The State of Texas is vitally interested in all legislation pertaining to the coastal zone. We are also interested in the philosophy underlying such legislation. When we discuss the coastal zone as apart from national land use policy planning we want to be sure that we incorporate all of the criteria in one that we should have in the other.

However, today I would like to discuss the activities, the efforts, that have been underway in the State of Texas concerning coastal

zone management to explain to the committee what Texas has been able to accomplish. We could have accomplished a great deal more had we had legislation such as that proposed in the coastal zone bill.

First of all, we believe that a philosophy—many of you may be chess players, and there are two types of chess players. One is the combination player. The other player is the position player. Both really are seeking the same end; that is, the final solution to the game; but the combination player starts with what is. He starts with the situation as it exists, and in using his imagination and his vision, seeks to attempt to end the game by some beautiful combination possibly involving sacrifices. On the other hand, a position player says, "Now, what type of situation do I want to exist on this board" and then he moves back from that situation to arrive at the present situation in order to determine how he must proceed in order to develop his play.

I believe that any type of management program has to evolve through the latter process. That is, we must take a look at what we would like ideally and then move back, working pragmatically, to determine exactly what is possible.

In Texas we have something like 245,000 square miles of land. We have an area that is larger than any of the European nations with the exception of the Soviet Union. We have a number of problems. The State of Texas, just like the United States, just like all of the States within this country, is not a homogeneous State, by any sense of the word. Neither is the United States homogeneous. That is, this country is comprised of a great number of varied resources, a great number of varied philosophies, and a great number of varied people.

We, in Texas, believe that we must take amount of the various resources of the various heterogeneities that we have in our society in order to develop properly any type of program for land use planning or coastal zone management.

I would like to introduce a number of items into the record pertaining to the coastal resources management program, one of which is a Texas geological highway map. The Texas geological highway map is similar to geologic maps of all the other coastal states. I would like to call your attention to the fact that the various geologic patterns as established by varying shades of yellows, blues and greens and so forth clearly define an area of sedimentary materials along the coast.

Geologically speaking, the coastal zone is separate and apart from the rest of the State of Texas, just as, geologically speaking, the coastal zone is separate and apart from all the other states in the United States. We are talking about sedimentary materials in our coastal areas.

We believe, therefore, that with the problems inherent in the coastal areas, the basin estuaries serving the waterways of the interior land masses, we believe that the coastal zone needs to be examined in a little separate light and also can serve as a very good demonstration of what is possible in this process.

Two years ago, our legislature passed Senate Concurrent Resolution No. 38, which directed the Interagency Natural Resources Council, a consortium of 13 State agencies chaired by the Governor of Texas, to conduct a study of the coastal zone, and this would extend out into

the marine area to our territorial boundaries of three miles and to our mineral boundary of three leagues.

As you are all aware, the State of Texas does have jurisdiction over mineral rights out to this distance of about 10½ miles.

We have undertaken to conduct an initial phase, phase one, of this program, which would identify the problems in the coastal zone, which would attempt to do something towards understanding land use in the coastal zone, and come up with a program by which we could ultimately implement a resources management program in the coastal zone.

Now we are talking about an approach, a program containing elements of planning, but ultimately the test of this plan or this program must be implementation. So we had to take into consideration legal and administrative aspects, organization aspects, if you want to call it that, of this program.

We began by taking a broad, general look at the number of areas that we considered to make up a model of the environment, and we directed by the legislature to present them with a report in December of 1970, and a final report on the coastal resources management program in December of 1972.

We have just begun phase two. The initial report is summarized in this document, "Coastal Resources Management Program of Texas," which identifies problems and makes recommendations concerning how we can narrow in on the problems—and I might also state that many of the things that we call problems are not problems, but merely symptoms of something else. For example, the fish kill is not a problem. The problem is possibly inadequate treatment upstream which cause that fish kill.

We have identified some very interesting things in this program. We identified those 21 separate areas in separate reports such as these were prepared by the best people we could find in State agencies, universities, private industry, local governmental entities and so forth in the State of Texas, concerning the coastal zone.

This is an "Inventory of Waste Sources in the Coastal Zone," by Dr. Malina at the Center for Research in Water Resources and Environmental Health Engineering Laboratories at the University of Texas at Austin: The Climate and Physiography of the Texas Coastal Zone; Transportation in the Coastal Zone by the Texas Transportation Institute, Texas A. & M. University; A Water Inventory of the Texas Coastal Zone; Land Ownership Patterns, showing that the Federal Government, for example, does not own very much land in Texas. We do have most of the federally owned lands in Texas under the jurisdiction of either military installations or the wildlife refuges. We do have some national forests. This represents a very small percentage of the land in the coastal zone.

We have the vast majority of our land in private ownership. Now, this presents a tremendous problem when you are attempting to develop a program where you are trying to place some type of constraint on the use of land at the same time avoid any type of constriction of the freedom or right of the individual to dispose of or do such things as he wishes with his private property.

The Status of Public Health in the Texas Coastal Zone; Minerals and Mining in the Coastal Zone; Land-Use Patterns in the Texas

Coastal Zone, a study done by the Bureau of Economic Geology at the University of Texas at Austin; Oceanographic Report for the Coastal Zone; Marine Affairs in Texas Higher Education Report; and the Interagency Relations Affecting the Coastal Zone.

We have a number of problems in Texas, as I see you probably have here in Washington, where the various agencies need to get together and discuss certain approaches, and we have interagency problems as well as here. One advantage that the Federal Government might have that we do not is that Texas our agencies are autonomous units. The executive department—that is, the Governor of the State of Texas—is not in line authority over the agencies as the President is over the executive branch of the Government here. It is still in the executive budget, but these agencies are operated by boards. So it is essential in a program like this that we attempt to coordinate the activities of numerous agencies.

Historical and cultural features in the coastal zone—these are often forgotten.

Then, when we sent out our outline to our interim report, we sent about 800 of these out for review all over the State and we got back a number of responses which we have incorporated into our planning program, and these responses have also been printed up.

Those do not represent the entire list of appendices. We have several, such as fish and wildlife, energy and power, agriculture, and several more—economics, sociology, et cetera— that are currently in the editing phase or at the press. This is indicative of the approach that we have taken to try and identify the basic problems in the Texas coastal zone and come up with a program designed to meet that particular challenge.

To start off with, in phase two, we have three major studies or elements of the program that are underway, and we have four minor elements that are underway, all of them interconnecting.

The major elements are, first, a legal institutional study. For purposes of the coastal resources management program and also because the direction of the State is more and more turning towards the sea, we have established that Bates College of Law at the University of Houston, an institute of marine and coastal law which is a consortium of all State law schools with the support of the University of Texas Law School, Texas Tech Law School, and with the endorsement of private law schools, S.M.U., St. Mary's, et cetera.

This law school consortium is attempting to examine all of these areas that have been identified in terms of their responsibility and authority that has been given to political subdivisions of the State and Nation, as well as to agencies of the State and Nation, not only through legislation but through Supreme Court decision and through the courts, to try and find out what type of overlaps, what type of duplicating responsibilities or authorities that these agencies might have; and also to identify any gaps which might exist.

They are in the process of examining land use at the present time and ports and navigation. This will be a 2-year program that will probably be expanded at the end; but at the end of this, what do we want? We want a legal analysis of the organization with an examination of various alternative configurations of organizations so that we

can come up with model legislation which would serve to implement the coastal resources management program that would be identified during phase two of the project.

The second element or work program is a bay and esturary management study. Now, this is an interdisciplinary team put together by Dr. Gus Sprugh at the University of Texas at Austin, which includes economists, geologists, biologists, zoologists, engineers, sanitary and health engineers, botanists, microbiologists, to take a look at the effects of man's activities in the bays and estuaries to give us some idea as to the criteria that we must establish within the bays and estuaries in order to provide for the proper use, the proper management—if you wanted to use the word—of our bays and estuaries and the surrounding land forms.

This, of course, will work very closely with the legal studies because we will need to identify criteria and justify those criteria at the same time we are attempting to develop model legislation.

A third study that is underway is a demonstration project with the Coastal Regional Planning Commission. We feel if we were to go to our legislature with a vision, with a dream, even though it be justified, it would be very difficult to get the acceptance that we would get if we can show how it could actually be implemented.

We are working with an 11-county regional planning commission within the coastal zone on a model approach to resource management, working with the local people, the county governments, the city governments, the mayors, commissioners, courts, et cetera, to try and pull together the various tools that we have developed in our planning processes and make use of those tools in the decisionmaking process in an orderly fashion. We want to be able to go to our legislature several years from now and say:

> Here is the legislation. These are the physical and biological criteria on which the legislation is based, and here is an example of its application at the local level.

We feel that this is a sound approach for our State. We feel that the methodology that is being used in the State of Texas could well be expanded and used in not only other coastal States but upon interior lands as well. We have attempted to develop a model to identify the problems and then try to develop a procedure for implementing a program.

We also have additional studies such as a waste treatment study which is another team of experts in solid, liquid, and air waste disposal and disposal problems, including agricultural and urban runoffs, that is working on the waste disposal study.

This brings up another problem. In Texas, as at the Federal level, we are organized along functional lines in our environmental agencies. That is, we have an air control board, a water quality board, a health department, a State department of agriculture, a State department of parks and wildlife, and numerous other agencies, all concerned with one or another aspect of the environment.

But if we have a plant that is discharging, let's say, a low quality effluent into a stream and the water quality people jump on him and say, "You cannot do that," and then he says, "Fine, I will run it over here and settle it out and take the sludge out and dry it and burn it."

They say, "That is fine. You go ahead and do that." So he does this and he creates an air pollution problem, so the air control board gets on him. Then the air control board says, "You cannot do that because your emissions and the ambient air standards and so forth are such that we just cannot handle the emission from that plant." So the man then says, "Well, that is all right, then I will just take it out to this little hole in the ground I have got on the corner of my plant and dump it." He takes it over there and dumps it and there is some kind of porous sand and the rain waters percolate down into the soil and he is polluting somebody's ground water and the State health department jumps on him because of improper disposal of solid wastes.

In other words, we have already got three agencies that could just as well be eight or 10, but many agencies are concerned.

So what we are doing in our waste disposal study is that we are attempting to combine—to integrate all waste disposal problems, all the waste problems of populations in the coastal zone, and seek to identify the most efficient means of taking care of those wastes.

Waste disposal is not necessarily the answer. We are talking about recycling the waste, but we cannot do that 100 percent, either. We are working on means by which we might possibly be able to do this. Fusion research is very encouraging and we might be able to break these waste products down into their chemical elements and physical components so we could reuse the elements.

Right now we are not at that level, so we are attempting to develop a waste disposal study through an integrated team of scientists.

We are also working on economic development and population pressures in the coastal zone. We are working on a transportation study, one of the problems of the coastal zone. One of the problems really related to the criteria for establishment of our highway system is that the coastal area is heavily traveled from inland to the coast and back during the week, but it is not very heavily traveled from one end to the other.

The criteria established for highways provide for peak daily traffic and do not provide for Saturday and Sunday traffic. Therefore, our recreational and tourist patterns are weak. This is something the State highway department, the Texas Transportation Institute, and the Texas Transportation Council—which is a sister council of the Natural Resources Interagency Council—are working to solve. These are serious problems for an area with so much recreation and tourism demand as we have along the Texas Gulf Coast.

We are also working on land use management in an attempt to identify the problems related to land use management in an attempt to find out what you must not overlook when we are trying to develop a land use management plan or program for the State.

This, in essence, represents the basic part of our program. We do have another study, the energy and power study, for example, in our appendices. These were put together by a group of private electric power companies in Texas that worked with us very closely—and I might say that the electric power industry in Texas has given us the full support that we need, as well as other private industrial development concerns. We have worked very closely with the oil

industry, petroleum industry, with the chemicals. We have worked with the Texas Industrial Development Council. We worked with the local chambers of commerce. The Texas Industrial Commission is a member of our council.

I would ask your indulgence for all this just to show we have a lot of people that are concerned, and we seem to find that the concern of industry, as well as the people and the conservationists in the State, is great, and it is all directed toward achieving what we might consider to be a good environment for all.

This basically is our coastal resources management program of Texas. I have a number of maps that I would like to just make reference to which I feel are necessary in order for any proper land use management plan to be developed. As far as I know, and I get this on pretty good authority, the State of Texas is the only State to have such a series of maps. As a matter of fact, it is so new that this is the only copy in existence and I can get another copy next Thursday. They will have some more run off by then, but this is it, and it has to go to Maine to a meeting of the State geologists this coming week.

This represent one section. There are seven sections making up the total coast of Texas. Now, this is 1/125,000 scale. It is also done on 1/250,000 scale. The information on these maps is all on 1/20,000 scale. We have a series of maps covering this area: Manmade features and water systems; physical properties, including the sites of all of the sludge pits or waste disposal sites; sewage disposal sites, liquid effluent, sanitary landfill sites; identification of where our salt dunes are; identification of the different types of terrain and soils we have in this area; active geological processes at work, erosion; hurricane problems—we can show you the flooding that occurred during each of our great hurricanes.

The processes at work in the coastal zone demand our attention separate and apart from the areas in the interior because of the many active processes that are at work that are not evident within the boundaries of even our State.

Senator HOLLINGS. Mr. Goodwin, those are very valuable maps. We would like to get copies for the committee later when they are available.

Mr. GOODWIN. I will do that. The Bureau of Economic Geology at the University of Texas is the agency that has been working with us on this. This mapping program began at their initiation 3 years ago. They have not completed mapping the entire coast. They are embarking upon a 2-year environmental mapping program of all the SMSA's in Texas of which we have 24. After that, another 2-year program will be required to finish mapping the State's rural lands.

So, you see, we are not standing still. But, at the same time, we feel that with coastal zone legislation such as is before the subcommittee this morning, we will be able to move much quicker and with more positive direction fitting our objectives within national goals.

This entire effort represents a total expenditure of State funds. The State of Texas has received no Federal funding on any part of the development of our coastal resources management program.

Senator HOLLINGS. Let me ask this. What is the position of the Council of State Governments? You are representing it today?

Mr. GOODWIN. The National Governors' Conference.

Senator HOLLINGS. The National Governors' Conference?

Mr. GOODWIN. Yes, sir. The National Governors' Conference holds essentially the same position that the State of Texas does. That is, that coastal zone legislation such as is before the committee today is vitally needed and is in the Nation's best interests.

Senator HOLLINGS. You have just about answered what I am about to ask, but if we cannot get the entire land use policy established in the law, then you would certainly want the coastal zone, and feel it necessary that the coastal zone legislation be enacted in this session of Congress, would you not?

Mr. GOODWIN. Absolutely, Senator. Yes, sir. As a matter of fact, there is—it is kind of paradoxical—but there is a lot of inherent grassroots opposition to total or universal land use zoning, let's say, or land use management in Texas; but there is a tremendous amount of grassroots support—and I have spoken before hundreds of Kiwanis clubs and Rotary clubs, et cetera, all over the coastal zone—a tremendous amount of support for the concept of coastal zoning—not interior zoning, but coastal zoning. That is what we are trying to get to ultimately with the coastal resources management program. We must proceed a step at a time, and that is essentially what we have tried to do here.

Senator HOLLINGS. The committee has to leave now. Have you about completed your statement or would you like to return at 2:30?

Mr. GOODWIN. I would be happy to return at 2:30 but I am finished with my statement.

Senator HOLLINGS. Well, you had a very excellent statement and it is a good treatment of the coastal zone in one State. And when you spread this to other States and other coastal zone areas you can see what the problems are.

I congratulate you and the State of Texas on the study you have done and the leadership you have given to this problem.

Mr. GOODWIN. I would like to make one point—or several points before I do step down. One is that with the assistance of the Federal Government, we could have done this sooner and we could have done it better. We are attempting to develop some Federal funding in phase two of our program which we will match with State funds, but everything you have seen here represents a very small expenditure of funds. The interesting part is that we have really been the great eclectic. We have found so much that has been done in the coastal zone, so much has been done on land use planning in these United States, but here we were able to zero in on one area. We were able to develop a pilot or demonstration program at the request of the legislature, at the request of the Executive, at the request of the agencies. We were able to pull much work together which represents many years of effort and millions of dollars in expenditure which we have just put together in a more usable and interconnected form.

For instance, nobody had ever had a waste disposal study which pulled all types of waste disposal problems in the coastal zone. They had air. They had water. They had solid waste—in various agencies. We pulled it all together. This is what we need as an initial step to determine how best to zone or otherwise control land and

resource use. Then we are not necessarily talking about zoning because zoning is only one way of controlling land use. We are studying the various ways of controlling land use at this time in our legal component of the coastal resources management program.

Secondly, it is a special privilege and honor for me to appear personally before this committee because I have been very impressed with the help and assistance that Senator Hollings has given to the States, and to the coastal States especially on matters related to our coastal problems.

Thank you very much, Senator.

Senator HOLLINGS. We thank you very much. We want to include your maps and the specific documents relative to all the individual studies made in the coastal zone area in Texas and any other documents you have, if you could forward them, and we will print them all in the hearing record. We will find them necessary and I am sure we will have other questions we will submit to you in writing, if you do not mind.

Mr. GOODWIN. I would also like to have the record held open so I might be able to submit additional documents as they come off the press.

Senator HOLLINGS. It will be. We appreciate it very much and we are very grateful for your appearance here this morning.

The committee will be in recess.

(Whereupon, at 12:30 p.m., the committee was adjourned.)

COASTAL ZONE MANAGEMENT

THURSDAY, MAY 6, 1971

U.S. SENATE,
COMMITTEE ON COMMERCE,
SUBCOMMITTEE ON OCEANS AND ATMOSPHERE,
Washington, D.C.

The subcommittee met at 11 a.m. in room 1202, New Senate Office Building, Hon. Ernest F. Hollings, (chairman of the subcommittee) presiding.

Present: Senators Hollings and Stevens.

Senator HOLLINGS. The committee will please come to order.

We have as our first witness this morning a distinguished citizen from Alaska, John Asplund, and we have our distinguished colleague, Senator Gravel, to present him.

Senator Gravel.

Senator GRAVEL. Thank you very much, Senator Hollings. I didn't want to let this opportunity go by without coming before this committee, even though my able colleague, Senator Stevens, is a member of this committee, to leave not underscored the presence of Mr. John Asplund who uniquely enough is probably the fourth most important person in the government of Alaska assuming three people in the congressional delegation, and the Governor, which is the highest elective officer.

The largest borough in the State of Alaska is the borough which covers the greater Anchorage area, and John Asplund is the elected official heading up that borough.

I do want to say he has been a personal friend of mine of long standing. He is a person who is recognized within not only the Anchorage community, but the total Alaska community as a dedicated public servant of great renown.

He has expertise in the particular area of providing the sewer system for the greater Anchorage area. He has labored long and hard. So I ask you to accord him the courtesy due any person of his worth, and I attest to his worth.

Senator HOLLINGS. Very good, Senator. We appreciate this. He needs no introduction, but I am sure our senior ranking member on the Republican side of this subcommittee, Senator Stevens, also a friend of Mr. Asplund, welcomes him here to this hearing this morning.

We are particularly pleased that he represents the National Association of Counties. And, no one has had a broader experience than Mr. Asplund himself.

We will be glad at this time, Mr. Asplund, to hear from you.

STATEMENT OF JOHN ASPLUND, CHAIRMAN, GREATER ANCHORAGE AREA BOROUGH, ANCHORAGE, ALASKA; ACCOMPANIED BY LARRY E. NAAKE, LEGISLATIVE ASSISTANT, NATIONAL ASSOCIATION OF COUNTIES

Mr. ASPLUND. Thank you very much, Mr. Chairman, and distinguished members of this subcommittee.

I am John Asplund, chairman of the Greater Anchorage Area Borough, Alaska, and chairman for land use management under the National Association of Counties' Environmental Quality Steering Committee. With me today is Larry Naake, legislative assistant and western region representative for the National Association of Counties. We will both be available to answer any questions you may have later.

I would first like to thank you for providing us with this opportunity to present the views of county government on these very important bills which deal with the preservation of America's 100,000 miles of coastline. It is a particular pleasure to appear before my own distinguished Congressman from Alaska, Senator Ted Stevens. We have successfully worked together before on environmental, and other problems, and I look forward to this continued cooperation in the field of coastal zone management. And most certainly, Senator Gravel, the same goes for you.

Before dealing with the specifics of the four bills under consideration, I would like to state for the record that the National Association of Counties does support a coastal zone management policy at the Federal level. During our recent legislative conference, NACO's Environmental Quality Steering Committee, after much deliberation, recommended a policy statement to our board of directors. I have attached a copy of this statement to my testimony for your records. The board of directors, in turn, approved the statement in full. I will be dealing with the specifics of this policy as I proceed. This action demonstrates the belief of counties across the Nation that the time has come to start acting in behalf of the preservation of our valuable coastline. We must all admit that the need is apparent. This need has been well documented to your subcommittee in past. We must all further admit the fact of our past failures. We at the county level know that we have made many mistakes and allowed economic and other factors to override the requirements for more logical coastal management. But, the State and Federal Governments must also assume part of the blame for not taking a greater interest in coastline preservation, for not providing the necessary broad guidance, and for not providing either financial or technical support. The time, we believe, has come to correct these past failures and take a positive approach toward coastline management and preservation.

We think that many of our local governments are responding to this apparent need and to the cries of their citizens. I could, if time permitted, cite many examples of good and progressive planning on the part of counties along our coastline. But we need your help in both supporting the continued efforts of those who have responded and in nudging those who have not responded. Hopefully, this will be the result of the legislation before you today.

Let me now turn to some of the specific provisions and issues raised by the four bills under consideration. This discussion will raise a

number of points that are contained in the policy statement adopted by NACO which I referred to earlier. I will try to relate my comments to the four bills before you—S. 582, S. 638, S. 632, and S. 992. With this in mind, we offer comments in the following seven areas.

A SEPARATE COASTAL ZONE MANAGEMENT PROGRAM

We would support a separate coastal zone management program that is not directly administered under a national land use policy. This does not mean that such a coastal zone program should not be consistent with the principles and provisions of a national land use policy. We support such consistency. However, we believe that the immediacy and importance of the planning and preservation problems along our coast warrants a separate and distinct program. We feel that both additional planning and acquisition funds should be made available to support such a separate program. The provisions of both S. 582 and S. 638 which deal with interagency coordination and cooperation should take care of the problem of consistency as between a coastal management program and a national land use policy. To restate for your subcommittee our general policy, then—we do support a Federal coastal zone mangement program to encourage the development and implementation of State and local programs, within broad Federal goals; but, this program should be separate from a national land use policy.

PRESERVE LOCAL RESPONSIBILITIES

We commend both Senator Hollings and Senator Tower for recognizing the importance of including all levels of government, plus the private sector, in the development of a State coastal zone plan. This is accomplished in both bills by providing for the full participation by relevant Federal agencies, State agencies, local governments, regional organizations, and other interested parties both public and private. The inclusion of counties and cities recognizes the fact that local governments have been in the planning and zoning business for many years now and have much to offer in the development of any statewide plan.

PLANNING AND IMPLEMENTATION AUTHORITY

We further believe that the State plan referred to above should only be composed of broad guidelines and criteria. The detailed preparation of coastal plans should be accomplished at the county and city level. Statewide and regional considerations should be paramount in preparing these local plans, but we should not ignore the expertise and many years of experience that exists in our local planning agencies. After cities and counties have prepared detailed coastal zone plans, councils of governments and State authorities should review these plans for regional and State implications and consistencies. Once these plans have been approved and adopted, it seems logical to use city and county planning agencies to implement the improved plans. It would seem, on the other hand, illogical and wasteful not to utilize these thousands of planning experts that exist at the local level.

Both bills provide that the coastal States may use local governments to implement the coastal zone programs. However, in light of the above discussion, we would strongly urge that the legislation be amended to mandate the use of local agencies for both planning and implementation purposes, where such local governments have the authority to administer and enforce land use plans and regulations. We believe this approach would preserve local zoning and planning responsibilities, and at the same time recognize regional, State, and Federal considerations and needs. It would also reinforce our beliefs that the planning process for coastal preservation should logically start at the county and city level and flow upward to the regional, State and Federal levels.

Senator HOLLINGS. Off the record.

(Discussion off the record.)

Senator HOLLINGS. On the record.

You may proceed.

Can you elaborate here at this point when you say mandate to local be the guiding authority, and yet the emphasis is on the State overall with, of course, the usage of the local talent, the local experience, the local operation of it. But the actual authority and the mandate, it could cause confusion. Flexibility, on the one hand, the desire, and the mandating on the other hand, would somewhat conflict.

When you get into the New York area, it is contemplated perhaps that the postal authority of New York, as a local entity, could govern there because they have the expertise.

We are going to leave the alternatives to the several States, but at least fix it at the State levels. If we try to fix it at the local level, and then not have an approved local entity, it might cause us some confusion. What is your comment on that?

Mr. ASPLUND. Well, it appears to me that where you have the expertise in local planning agencies, that we should take advantage of it. That is my main point. I think it is going to require cooperation between State and local governments, and, of course, we need that in many areas, not only in this type of program.

Senator HOLLINGS. Well, now when you relate to the expertise, it is on page 10, S. 582, section 306(g):

> Prior to granting approval of the management program and plan, the Secretary shall find the coastal State acting through its chosen agency or agencies, including local governments, has authority for the management of the coastal and estuarine zone in correspondence with the management plan.

And then over on the next page, section 306(h), page 11:

> Prior to granting approval, the Secretary shall find that the coastal State, acting through its chosen agency or agencies, including local governments.

You see, that is why we put in the actual phraseology "local governments," to conform to the concern and desire that you expressed there about local expertise.

Mr. ASPLUND. Mr. Chairman, would it be possible for Mr. Naake to make a comment on this?

Senator HOLLINGS. Yes, sir.

Mr. NAAKE. Mr. Chairman. I am Larry Naake, representing the National Association of Counties. I would like to briefly say that we

realize that you are being permissive in your bill and that you are giving the flexibility to the State, if they so choose, to grant to the local agencies both the planning and implementation authority. We are saying that where the local agencies do have the authority and appropriate commissions and planning departments, then it ought to be mandated that the State pass this authority through to the cities and counties. We feel it would be a real waste not to use the expertise that does exist and has existed.

There are many efforts in a number of States, as you know, to take these powers away from the cities and counties and set up a separate State agency that would administer coastal zone programs, as well as becoming active in the overall general planning.

Senator HOLLINGS. I think you and I are in agreement on the usage. That is the emphasis given, and we recognize the importance of including all levels of government with the emphasis on the local. So we have got the usage. But when you get down to the mandate, the actual requirement, then you get into the constitutionality. You must consider that in some States, before you could even proceed, you would have to amend the constitution relative to the local entity having the regulatory authority.

Mr. NAAKE. Mr. Chairman, I think how we have handled that particular situation in our policy recommendation was with the phrase where we tacked on, "where such local governments have the authority to administer and enforce land use plans and regulations". This means that if the cities and counties in the particular State do not have that authority, then we certainly wouldn't, as you say, want to mandate the State to violate their constitution.

Senator STEVENS. Could I interrupt right there? Could you give us language that you think would accomplish the purpose?

You seem to be in agreement, and yet we both have reservations about whether we can instruct the States to permit the counties and local government to utilize their planning authority.

I would like to see you submit us some language, give it to the staff, let us look it over and see if it would be constitutional.

Mr. NAAKE. I would be glad to.

(The following information was subsequently received for the record:)

NATIONAL ASSOCIATION OF COUNTIES,
Washington, D.C., May 14, 1971.

Mr. H. CRANE MILLER,
Staff, Senate Commerce Committee, Subcommittee on Oceans and Atmosphere, New Senate Office Building, Washington, D.C.

DEAR CRANE: As requested by Senator Hollings and the Senate Commerce Subcommittee on Oceans and Atmosphere, I am submitting the following language for consideration as amendments to S. 582:

(a) In line 9 on page 4 (Sec. 303) after the word "States" add: "and local governments".

(b) Line 6 on page 6 should be corrected to read "Sec. 305" rather than "Sec. 306".

(c) On page 7 after subsection (d) of Sec. 305, add a new subsection as follows:

"(e) In addition, at least 75 percent of the planning grants authorized to a State under this Section shall be made available to general purpose local governments for the development of specific and detailed coastal zone management plans, where such general purposes local governments have not been denied planning and zoning authority by a State constitution and where such powers as innumerated

in Sec. 306 have been authorized to general purpose local governments by State statute. General purpose local government plans shall be consistent with the overall State coastal zone management policy and criteria."

(d On page 12 after subsection (i) of Sec. 306, add a new subsection as follows:

"(j) The administrative and implementation powers, and at least 75 percent of the administrative grants authorized to States under this section, shall be delegated to general purpose local government, where such general purpose local governments have not been denied planning and zoning powers by a State constitution and where such powers as enumerated in this section have been authorized to general purpose local governments by State statute."

As we mentioned at the hearings, our intent in submitting these recommendations is to provide for the use of the existing talent and manpower in local agencies for coastal zone planning and implementation purposes, *where* they already have such powers and authority.

Please call on me if I can provide further explanation or assistance.

Sincerely yours,

LARRY E. NAAKE, *Legislative Assistant.*

Senator HOLLINGS. That will be fine.

Thank you, Mr. Asplund, you may continue. I apologize for interrupting you.

Mr. ASPLUND. Thank you very much, Mr. Chairman.

DEFINITION OF COASTAL ZONE

Neither of the two bills comes to grips with the definition of the coastal zone. We realize that this is an extremely difficult concept to define, and that suggested coastal zones have ranged anywhere from 1,000 yards to 50 miles or more. Although it is a difficult area to define, we would suggest that the definition remain flexible to reflect both the geography and topography of an area and the extent of its urban development. We would, therefore, suggest that the "coastal zone" be determined by each State and its localities, with the general approval of the Federal Government. What might be an appropriate coastal zone in my State of Alaska may not be appropriate along with highly urbanized eastern seaboard.

Senator HOLLINGS. If you would stop for another interruption.

In the State of Washington, the argument there is between 50 yards and 200 yards.

Mr. ASPLUND. 50 and 200?

Senator HOLLINGS. 50 and 200, yes, sir.

You may proceed.

FINANCING

Mr. ASPLUND. The sharing ratios and funding levels under S. 582 and S. 683 certainly are more generous than last year's proposals. However, if we are serious about attacking this admittedly serious problem, then the authorization levels should be raised substantially. Twelve million dollars in planning grants for 1 year is not very much money when spread among all of the coastal States.

We have had an estimate, for example, from one of the California counties that it would cost at least $1 million to prepare a coastal zone element in their general plan. We would suggest at least doubling and perhaps tripling this planning authorization amount. Similar consideration should be given to raising the grants for administration of the program.

The provision in Senator Hollings' bill to provide grants for the acquisition, development, and operation of estuarine sanctuaries is commendable. It seems desirable, however, that additional acquisition grants be made available to States, counties, and cities for the purchase of our dwindling coastal beaches. Although both bills provide loans for this purpose, we believe that the necessity of purchasing beaches is an immediate problem and one that requires direct Federal participation. This participation should be through the purchase of beaches by the Federal Government directly or by the provision of grants to the States and local governments for such purchase.

PENALTIES FOR NONCOMPLIANCE

Both our environmental quality steering committee and our board of directors were very serious about having a national coastal zone management program instituted in each of our coastal States. They therefore went on record supporting a feature in such a program which would restrict or reduce the flow of specified Federal funds to State and local governments for noncompliance with such an act. They were specifically thinking of penalties which would reduce the flow of Federal funds for such land use related programs as the highway trust fund, the land and water conservation fund, and the airport and airway development fund. They also believed that if local governments were not able to comply only because State governments did not develop or implement a coastal zone plan, then the flow of such funds should not be cut off to cities and counties. Our steering committee and the board of directors adopted this policy in an effort to show that they are indeed serious about the need to plan for and preserve our coastal areas in each and every coastal State.

MINIMUM FEDERAL STANDARDS

Finally, we believe that a Federal coastal zone management program should contain standards that are only minimum. The States and local governments should be allowed to adopt more stringent rules and regulations, as was the case with the Clean Air Act of 1965. There are many State and local agencies that have adopted or hope to adopt coastline policies that are even more stringent than a Federal program would provide for.

These then are the provisions that we in county government would like to see included in any Federal coastal zone management program. We believe that they reflect a changing mood on the part of American citizens and their elected representatives. The policy reflects the belief that all levels of government have a role in preserv- our coastline, and that the counties and cities of America and their thousands of expert planning officials should plan a primary role in developing the detailed plans and implementation procedures, within the State and Federal guidelines. We hope that our observations today have been helpful. We would be most pleased to work with your subcommittee in further detailing our policies and suggestions.

Thank you.

Senator HOLLINGS. Thank you very much, Mr. Asplund, for your very excellent statement.

I will yield now to our ranking member, Senator Stevens.

Senator STEVENS. Thank you very much, Mr. Chairman.

I have a little trouble with your recommendation about using the funds involved in this coastal management approach for acquisition of beaches. Are you talking about an acquisition of beaches for recreational purposes, or for total activities, such as utilization for land fill and everything else?

Mr. ASPLUND. Mr. Chairman, primarily we were in the recreational aspects of this.

Senator STEVENS. I have asked the staff to prepare us a memorandum as to the present sources of funds.[1] It is my understanding that included in your outdoor recreation, Department of Housing and Urban Development, and the National Park Service, in terms of the national seashore program, that there are several programs already involved in that. I feel we ought to coordinate whatever we do in this bill with the existing authority there.

Regarding paragraph 6, are you talking about penalties for noncompliance? You also indicated that you went on record supporting such a program which would restrict or reduce the flow of specified Federal funds to State or local governments for noncompliance of such an act. What do you mean by that?

Mr. ASPLUND. Well, should they not comply, we have to have some way in order to get a program developed. For many years we have neglected these coastlines and you have to have this type of thing in order to get action in that area. Otherwise, I am afraid they will take a lackadaisical approach. That is the main point behind this.

Senator STEVENS. But your statement indicates you support a feature which would restrict or reduce the flow of Federal funds for State and local governments for noncompliance.

Mr. ASPLUND. That is right. If they do not act in this area, then you have to have this in order to get action. I think you can compare it with your Federal water pollution control where you have demanded that the governments clean up cities and counties within a certain specified time.

Incidentally, I am happy to report that we in our area will be right on schedule.

Senator STEVENS. But I understand what we are trying to do is to completely stop the funds. It is my understanding that our goal is to establish some sort of State plan or coastal management plan. According to this plan, if there is no compliance, there is no Federal assistance.

Mr. NAAKE. Perhaps I can expand on that. They were thinking that in addition to stopping the planning and administration funds that are authorized in this bill, of going a step beyond and doing something similar to what is being proposed in Congressman Aspinall's bill, H.R. 2449, in which he makes provisions that if the national land use policy isn't implemented by States, then there would be certain penalties other than planning grants. And over a 5-year period this provision would reduce the flow of Federal funds by 7 percent a year up to a maximum of 35 percent, if the State did not comply with the Federal act.

Senator STEVENS. You are talking about going into other programs and imposing penalties in these programs. I understand now.

Thank you very much.

[1] See p. 274.

Senator HOLLINGS. Well, elaborating further on that point, I just want to emphasize it. I think the statement is clear. We have already used in the Federal Government the carrot and stick approach, as the grant-in-aid approach, and the other penalties, the Federal general guidelines, in other words, for compliance.

Now, yesterday, the Honorable Russell Train, the administration's witness testified, and this was deleted, you see, and the administration's position is that now with revenue sharing we are trying to give them more authority and not have these restrictions for noncompliance, and I don't know. Perhaps it should be, and perhaps it should not be, but I would just ask is that the position of the county government association, the National Association of Counties? I mean, did they discuss that fully?

Mr. NAAKE. Yes, Mr. Chairman, they did discuss it fully. And somewhat to our surprise, even, they came out with this very strong approach.

Senator HOLLINGS. You were surprised, too?

Mr. NAAKE. Yes, sir.

Senator HOLLINGS. That is all right then. I was just wondering what was wrong with me this morning.

Mr. NAAKE. I was surprised that they took such a strong position on this. Otherwise, they believed we may just go back to the same attitude and situation we have had regarding our coastline. They, therefore, believed that drastic action was appropriate.

I might elaborate that the reasons some of them felt so strongly about this was that it was directed toward the State level—although not to encourage any sort of intergovernmental battle. They were interested in having these planning programs implemented and they were afraid that perhaps some of their States wouldn't get involved in it.

Senator HOLLINGS. Well, elaborate further on that other comment in the prepared statement to the effect that they should not be penalized, the local entity if the State fails to act.

Is it your idea that the funds be provided directly to the Federal Government?

Mr. ASPLUND. Yes, Senator, that is correct. I think we found that same program working under Federal water pollution control, where you dealt directly with the local governments, and it has been really successful in that and a number of other areas that I am aware of.

Senator HOLLINGS. That would be only if the State fails to act?

Mr. ASPLUND. That is right.

Senator HOLLINGS. Then you won't have a State plan. How do you contemplate it?

Mr. NAAKE. Excuse me. I think the point is that you won't cut off the flow of related programs, such as the land and water conservation fund, or the highway trust fund, if the State didn't comply. For if the State didn't comply, then the local agencies couldn't comply. It is not necessarily related to the planning and administration grants under Senator Hollings' or Senator Tower's bills.

Mr. ASPLUND. Actually, Senator Hollings, if I may, in Alaska we might have a peculiar problem in that we have the only really sophisticated planning department in the greater Anchorage area. We have

staffed in all areas, and we have complete comprehensive planning and we have been very successful in dealing with the Federal Government because of these plans that have been outlined.

Senator STEVENS. And the State does not have such a plan, does it?

Mr. ASPLUND. The State does not. They did, however, steal my planning director on a State level. So, perhaps we will see something going on in that area, too.

Senator STEVENS. With respect to the funds that are under this bill, the coastal management bill, do you feel that these funds should flow directly to the counties and local governments on a mandatory basis if the State does not have a plan?

Mr. ASPLUND. Yes.

Senator STEVENS. If the State has a plan, then you feel the counties should cooperate with a statewide plan.

Mr. ASPLUND. Absolutely. They should cooperate under, I think, Senator Stevens, minimum standards. I think this will get some States activated in this area. We feel that way, and I hope this is the right approach.

Senator STEVENS. Thank you very much.

Senator HOLLINGS. Let me just ask Mr. Asplund; the administration's witness, the Honorable Russell Train, yesterday, said that it was his belief that the States were ready to reform their institutional and regulatory land use policies, and they were ready for statewide land use regulations. Do you agree with that, too?

Mr. ASPLUND. Not fully, no. I think that they would need a little nudge in that area. I think it has been neglected—not in all States. Some of them have done a good job. But I think in many States you will find that this area has been neglected, and that is why I don't fully agree with Mr. Train's statement.

Senator HOLLINGS. It gives us on the committee some misgiving. We heard a very excellent witness, Mr. Goodwin from Texas, and they have gone into it pretty thoroughly, but we want to make certain that rather than talking now we begin to act. We need some beginning in the coastal zone area where the problem is becoming more and more critical each year, as your statement emphasizes.

We appreciate very, very much your appearance here this morning, sir.

Mr. ASPLUND. Thank you very much.

Mr. NAAKE. Thank you very much.

Senator HOLLINGS. Thank you very much.

The next witness, Mr. Shearon Harris, Carolina Electric & Power.

Mr. Harris, we welcome you here to the committee this morning, and I think we have had the pleasure of working together on many things. I welcome you as a neighbor and good friend.

I see you represent the Edison Electric Institute.

STATEMENT OF SHEARON HARRIS, CHAIRMAN OF THE BOARD, CAROLINA POWER & LIGHT CO.; ACCOMPANIED BY H. J. YOUNG, VICE PRESIDENT, EDISON ELECTRIC INSTITUTE

Mr. HARRIS. Yes, in addition to my capacity with Carolina Power & Light Co., which operates in both of the Carolinas, I am really

appearing here today in my capacity as vice chairman of the board of directors of the Edison Electric Institute.

Also associated with me in the presentation of this testimony is Mr. H. J. Young, vice president and a full-time member of the staff of the Edison Electric Institute.

Mr. Chairman, I recognize your comment that I come from your sister State.

I take some pride in the fact that we operate in your home State, and that our company is going to dedicate in South Carolina 2 weeks from today, the largest nuclear powerplant in commercial operation in the world. We feel that some of the utilities that are serving in the Southeast, including the Carolinas, have taken some rather important and significant steps in providing for the power supply in this Nation, and you, as a Senator from South Carolina, can take some pride in the fact that electric utilities from your home State are among these.

Senator HOLLINGS. We take pride in it. Thank you.

Mr. HARRIS. Mr. Chairman, I have a statement which I have filed and I would like to submit for the record, and instead of reading it in its prepared form, I think I would be of more help if I would simply summarize some of the main points that the Edison Electric Institute would like to offer.

Senator HOLLINGS. Good. Let's do that. And the statement will be included in the record in its entirety.

Mr. HARRIS. I think the point that we should like to make in this testimony is the basis of interest of the electric power industry of the Nation in the general matters of both coastal zone management and general land use policy and other legislation which is currently under consideration in relation to powerplant sites.

At the end of 1970, Senator Hollings, 78 percent of the installed electrical generating capacity of this Nation was steam generation, as distinguished from hydrogeneration. Internal combustion generation requires no cooling water but the construction of steam-generating plants requires suitable sources for cooling water.

Senator, I might at that point just ask you if you would care for me to elaborate for just a paragraph about why we use cooling water.

Do you want me to do that on this record?

Senator HOLLINGS. You go right ahead, yes, sir, and why not use ocean water? Why not put powerplants offshore?

You know, we are going to have to have a series of hearings later next month—it was scheduled for this month—on powerplant siting. It's a growing problem—Consolidated Edison hasn't been granted a license now in the last several years. Instead of advertising the use of electricity, they advertise, "Please, Mr. Homeowner, don't use so much."

The coastal zones are becoming drastic. We have got to have places there for recreation, urbanization, for powerplant siting, for port development, for industrial development, the steel industry, and otherwise. Our population is growing on the coast—by the year 2000, 225 million—and you are going to have to furnish power. How are you going to do it economically?

And some seem to suggest that the offshore powerplant site for the subject you are talking about, cooling, could economically, feasibly, and very efficiently be done.

Mr. HARRIS. Well, this gets right to the heart of the matter, Senator, for the need of cooling water.

Now, there is conversation today and there is an active interest on the part of some of our member companies to get to offshore points for the large nuclear powerplant complexes, and the reason for that is locating at someplace where they can get an adequate amount of cooling water.

In steam generation we burn fossil fuels or use radioactive uranium to create heat. That heat is put under a boiler to make water into steam, and the steam, under high pressure and high temperatures, drive turbines. When the steam is passed through the turbine we have a great volume of high-pressure steam which must be disposed of, and the technology today doesn't do anything with it except condense it back to warm water. Then we have tremendous volumes of warm water from such condensation that has to be disposed of.

So this is why we are looking for large bodies of water along which to construct steamplants.

Now, the trend is more and more toward steam. You will be interested in the fact that while I said 78 percent at the end of 1970 is steam generation, of all the new capacity being constructed today for completion in 1971 and years thereafter, 83 percent uses the steam process and therefore gets involved in needing cooling water.

You asked about putting them only in the coastal zones. You are probably already familiar with the fact that our company, at a site just barely north of the South Carolina border, is building a two-unit nuclear plant, a total of 2,600,000 kilowatts, which is a right fair-sized plant by any standards. At that plant we will channel the condensing cooling water discharge offshore to a point about a quarter of a mile off the beach into the Atlantic Ocean. The ultimate effect is that we will be discharging a billion and a half gallons of water a day at temperatures from 15° to 20° degrees above the flowing river out of which this cooling water originates. We put it in the ocean at some slight elevation of temperature, but it affects only 60 acres of the water of the Atlantic Ocean. So it is imperceptible in its impact on the ecology.

Now, looking for cooling water, as generating plants get larger and larger, and as the cooling water requirements get larger and larger, we are seeing a tendency of more of these plants, as suggested, looking for areas in the coastal zones.

So some of the large metropolitan companies are exploring offshore sites. Yesterday's Wall Street Journal carried a story about Public Service of New Jersey. That company is now going into a study program to look for offshore sites or ways of putting nuclear powerplants on barges offshore and using the Atlantic Ocean for cooling water. The trend is in that direction.

And, therefore, I think the point that we simply want to make with you in our testimony is the need of the Nation for meeting its electrical power requirements. Whatever is written into coastal zone management law or land use law needs to take into consideration the power needs of the Nation.

We suggest that there needs to be some effort to coordinate all of these activities. I am not in a position to speculate about which approach to land use or coastal zone management or plant siting is going to proceed more rapidly than the others, and I expect the Senator is in a much better position to determine that; but in whatever direction these three areas of legislative subject matter take, we hope that they will take cognizance of the power needs of the Nation.

Now, Senator Hollings, in one place in my testimony, I have made the statement that in comparing certain sections of S. 582, your bill, and Senator Tower's bill, S. 638, that we prefer the flexibility of Senator Tower's bill to some degree, and the staff has asked if we would document that. I am pleased to file a comparison of certain selective sections where we think some flexible language used in Senator Tower's draft bill might find approval of the committee.

Senator HOLLINGS. We will be glad to receive that, for the record, yes, sir.

Mr. HARRIS. This gets into just the general area of how you go about encouraging States and local governments to deal with this problem. We would support the more flexible approach, and here I think I can say this in a sentence, and I am through for whatever questions you may wish to ask.

As against the concept of the Federal Government moving in and preempting State authority and then redelegating that authority to States on certain terms and conditions, we like your approach of offering encouragement through the grant process. We would hope that you would stick to that rather than to move some of the concepts that are being used in some legislation today of preempting the State's authority. The Federal Government moves in and then it delegates it back, provided the States uses that authority by some Federal standards.

We think your method is a more flexible approach with the grant assistance as the basis of encouragement and the more desirable structure of government.

Senator HOLLINGS. We appreciate very much your statement. Will you elaborate on the powerplant siting bill, because you mentioned it in the prepared statement.

That is a matter of concern to the committee, that we don't want another superimposed licensing agency. And yet for more emphasis, should we, under S. 1684, the powerplant siting bill, make the coastal zone authority or the land use authority a party to the proceedings for powerplant siting?

What would be your suggestion?

Mr. HARRIS. Senator, I think that I can speak probably for most of the electrical industry in this discourse in saying that powerplant siting problems are not limited to coastal zones. If there is going to be powerplant siting legislation, it will be nationwide, beyond the reach of the coastal zone. Therefore, if powerplant siting legislation is enacted, it ought to apply in the same way, I think, outside of the coastal zones, as it does inside the coastal zones. I think you probably have to turn to plant siting through some other agency than the coastal zone authority to administer it statewide.

Senator HOLLINGS. Right. And in fixing that authority within the powerplant siting authority, as contemplated under S. 1684, then,

whether there be coastal zone authority, whether it be land use, whether it be State, whether it be local, those authorities should be parties to the proceeding before that——

Mr. HARRIS. The heart of powerplant siting legislation is to bring all interested parties together and have one consolidated proceeding in order to end the proceedings and go ahead and build a powerplant some day.

Senator HOLLINGS. I was thinking that would be one of your principal concerns, and I think you and the committee are in agreement on that.

Thank you very much, Mr. Harris. We appreciate your appearance here this morning.

Mr. HARRIS. I appreciate the opportunity of making the appearance.

Senator HOLLINGS. I wish I could be there on the 20th. We congratulate you on the record.

Mr. HARRIS. May we be off the record just a second?

(Discussion off the record.)

(The statement follows:)

STATEMENT OF SHEARON HARRIS, PRESIDENT, CAROLINA POWER & LIGHT CO., RALEIGH, N.C., AND A WITNESS ON BEHALF OF THE EDISON ELECTRIC INSTITUTE NEW YORK, N.Y.

My name is Shearon Harris. I am Chairman of the Board and President of Carolina Power and Light Company and Vice Chairman of the Board of the Edison Electric Institute. I am appearing today on behalf of the Edison Electric Institute, which is a national trade association of the investor-owned electric light and power companies of this country. Its 185 member companies serve approximately 77 percent of all electric customers in the United States.

Before discussing any specific proposal concerning coastal zone management, I would like to mention a few facts which illustrate the importance of this legislation to the electric utility industry.

The electric utility industry in this country is the largest industry in the United States from the standpoint of capital investment. At the end of 1970 the capital investment of the investor-owned electric utility industry was $93.5 billion and it provides the people of the United States with the most reliable supply of electric energy of any nation in the world.

There are presently some 90 major electric power plants located in the coastal zone of this country, and making use, to greater or lesser degree, of waters from the oceans and Great Lakes for cooling condensers. These plants represent some 46 million kilowatts of power-producing capacity.

This year, we expect 216 electric generating units aggregating 37.4 million kilowatts to come into commercial operation. Of these, 43 units will be 300,000 kilowatts or more in capacity and 17 will be installed at new sites. Six of the new sites are located in the coastal zone and represent over 40 percent of the new capacity being installed at new sites this year.

The generation of electricity has certain areas of impact upon the environment. Steam power plants require heat, either from the combination of fossil fuels or from nuclear energy. The excess heat from the process is emitted into the atmosphere, either directly or through water. As power plants have increased in size, and particularly with the construction of large nuclear power plants, there has been considerable concern over the effect heat discharges might have on cooling waters. Electric utility companies have shared this concern, and have undertaken considerable research to help engineers design and operate power plants in such a way as to have the minimum adverse effect on aquatic life. A variety of techniques is available to assist nature moderate the temperature of cooling water discharges and these are being used through the country.

We would be glad to provide the Subcommittee with detailed information on this subject, particularly as it relates to oceans and other large bodies of water, if it is desired. It is worth remembering in this connection that such

power plants consume relatively negligible quantities of water, but simply take water from a natural body and return it again.

Electric energy is basic to the solution of a wide range of our environmental problems. Millions of kilowatts of additional generating capacity will be needed to operate new systems to purify water, clean up the air, recycle reusable materials, dispose of waste, and power rapid transit. What is needed is a continuous expansion of electric energy, while making every practicable effort to minimize any negative impact on the environment. Until technology completely eliminates any negative impact, we must work out livable compromises between energy needs and preservation of the environment.

In any of the bills under consideration, the coastal zone areas of some thirty states would be affected by coastal zone management plans, assuming that all coastal states avail themselves of the grant programs. These include many of our more populous states and accordingly will affect the location and siting of power plants, which are significant users of coastal lands and water. Delays in power plant construction have a serious impact on the Nation's energy needs. It takes four to eight years to build modern power plants, four for fossil fuel and up to eight for nuclear power.

COMMENTS OF THE BILLS

The language differences between Senator Hollings' bill, S. 582, and Senator Tower's bill, S. 638, do not appear to be of critical importance. We have made a careful comparison of Sections 305(a), 306(e), 306(f)(1), 306(f)(3), 306(f)(5), 306(g), 308, 309(b), and 310(a) of S. 582 and S. 638. In each instance we would prefer the flexibility of S. 638 and would like to see that flexibility incorporate if any coastal zone management bill is reported by this Subcommittee. On the other hand, I assume the States would welcome the larger grants authorized under S. 582.

Conceptually the two coastal zone bills are the same. The responsibility is placed squarely where it belongs—on the States. Sections 305 and 306 encourage the states to develop and administer a plan and program with Federal grant assistance. In developing this plan, Section 306(c)(1) requires the full participation of all relevant Federal, State and local agencies. Accordingly, if a State has an agency which has the authority to certify sites for electric power plants, that agency could participate in the development of the State plan and program. This is important because several states[1] already have developed special procedures for the certification of power plants and other States[2] are currently considering legislative proposals on this subject.

The Administration's land use bill, S. 992, establishes a grant program under which States could qualify for development and management grants. Under that bill, the organization and procedures proposed by the State would be subject to the approval of the Secretary of Interior. The emphasis in S. 992 is also on grants to the States to develop statewide land use plans. However, since that bill focuses specific attention upon coastal zones and estuaries, the possibility of conflict between the bill and the coastal zone management bills arises. We think the coastal zone bills provide more flexibility for a State development of the coastal zone than would the Administration's land use bill.

S. 632, Senator Jackson's land use bill, might also conflict with coastal zone management legislation since they both undertake to develop plans for the same area. We have other concerns with S. 632, but there may be a more appropriate forum for expressing them.

One thing that does concern us is that other programs which have started as a simple grant program under State admiinstration have tended to become more Federalized as time passes. For example, in the original air and water quality laws, the States were given grants if they set up appropriate procedures. But there has been a definite trend to centralize more and more in Washington the setting and approval of air and water quality standards and criteria. We hope that Congress will make it clear that aesthetics cannot be legislated and that the Federal Government's responsibility in the area of coastal zone and land use planning is limited to encouraging the States to develop and implement well-conceived plans. The management of State and local coastal zones can only be effectively planned at the State and local level.

[1] Arizona, California, Maryland, New Mexico, Vermont and Washington.
[2] Connecticut, Delaware, Florida, Iowa, Maine, Massachusetts, Missouri, Nevada, New York, Oregon, and Wisconsin.

63-902—71——12

RELATIONSHIP TO OTHER BILLS

Summarizing our thoughts on the coastal zone bills, let me say that the approach they take appears reasonable and worthy of careful consideration. What concerns us is that there are three different concepts of land use planning affecting electric companies under consideration by the Congress at the present time: S. 992 and S. 632 which contemplate statewide land use plans for all 50 States; the coastal zone bills, S. 582 and S. 638, which contemplate partial planning for about 30 States; and the Administration's power plant siting bill S. 1684, introduced by Senators Magnuson and Cotton, and referred to this Committee.

Would the plans and programs developed under coastal zone legislation be part of a State land use program? Would the Development of Commerce, administering a coastal zone grant program, use the same guidelines as the Department of Interior if the latter were administering a State land use grant program? Would the Department of Commerce recognize a State power plant siting agency as continuing to have that authority after adoption of a coastal zone plan?

CERTIFICATION REQUIREMENT

Section 313(b)(3) of S. 582 (and Sec. 312(b) of S. 638) requires that any application for a Federal license or permit to conduct any activity in a coastal zone must provide a certification from the appropriate state agency that the proposed activity complies with the State coastal zone management plan and program. Virtually every power plant needs some sort of Federal permit or license today, especially under the ambitious new water permit program being launched by the Corps of Engineers and the Environmental Protection Agency under the Refuse Act of 1899.

Thus these bills contemplate another certification requirement, in addition to that required of Federal applicants by Sec. 21(b) of the Federal Water Pollution Control Act. The continued proliferation of permit and certification requirements is a growing burden upon electric companies already striving hard to get the necessary clearances to construct needed electric power facilities.

CONCLUSION

We support the objectives and general approach of both S. 582 and S. 638. We hope that the legislative history will clearly recognize the importance of a growing electric energy supply to the well-being of our Nation, and that many electric power plants will have to be built in coastal and estuarine zone areas. The Congress should emphasize that State plans and programs under these bills should include reasonable allowances for future needed power plants. We hope that if any legislation is eventually enacted, it will be harmonized with existing legislation, and with other legislative proposals now being considered by the Congress. We are concerned over the certification requirement, in view of the many clearances already required before construction of needed power plants may commence.

It has been a pleasure to present the views of the Edison Electric Institute to this distingushed Subcommittee.

Senator HOLLINGS. We are very pleased this morning to have Hon. Frank Curran, the mayor of San Diego, here representing the National League of Cities.

STATEMENT OF THE HONORABLE FRANK CURRAN, MAYOR, SAN DIEGO, CALIF.; ACCOMPANIED BY FRANK GOFF, PLANNING DIRECTOR, CITY OF SAN DIEGO, CALIF.

Mr. CURRAN. Good morning, Mr. Chairman.

Senator HOLLINGS. The National League of Cities and the Conference of Mayors. Is there a difference?

Mr. CURRAN. There are two organizations, the National League of Cities and the U.S. Conference of Mayors, and they function jointly.

Collectively, they represent about 15,000 cities in the United States.

Senator HOLLINGS. We had a mayor last year for that group from California. What city in California? Mrs. Clusen.

Mr. CURRAN. I didn't hear the name.

Senator HOLLINGS. Mrs. Doreen Klusa. Was that the proper name? Or Doreen Gray?

Mr. CURRAN. The mayor of Newport Beach.

Senator HOLLINGS. That is it, the mayor of Newport Beach. You are correct, sir. She represented the League of Cities and now you are also here on behalf of the league.

Mr. CURRAN. I am here on behalf of the National League of Cities as their immediate past president, and the U.S. Conference of Mayors, as one of their advisory board members, and the California League of Cities as one of their advisory board members.

Senator HOLLINGS. You are well equipped and authorized. We are very glad to hear from you.

Mr. CURRAN. Thank you very much, Mr. Chairman.

I brought with me this morning, Mr. James Goff, who is our planning director in the city of San Diego. In the event there are any questions you wish us to respond to, we would be very glad to do that.

Mr. Chairman and gentlemen, I am Frank Curran, mayor of the city of San Diego, Calif. I appreciate very much this opportunity to testify concerning the proposed legislation on coastal zone planning and management being considered by this committee.

As I said before, I speak to you today as mayor of a southern California coastal city which will be directly affected by the legislation under consideration, and as a representative of the National League of Cities, U.S. Conference of Mayors, and the League of California Cities.

I can assure you that in California both the State and local governments are responding to a ground swell of public concern that the coastline be developed under a master plan which will provide for maximum protection of our coastal environment.

We commend and support the concern and the basic objectives which have motivated the proposed Federal legislation, namely, to protect, preserve and enhance our Nation's coastal resources and environment. However, we do take issue with the method of the approach reflected in these bills. Specifically, we oppose the concept of transferring total authority over coastal planning and zoning to Federal and State governments. Enough flexibility should be included in any Federal legislation to enable local governments to work in close cooperation with regional, State, as well as Federal, governmental agencies in developing appropriate master plans for the preservation of the coastline, reserving to the State and Federal governments the power to set standards and guidelines, and to overrule local planning decisions only when it is clearly in the public interest to do so.

I might at this point break in and suggest that our planning director has brought with us a series of documents which are already in existence in our community, showing our concern with coastal development here. We would like to submit these to the committee when we complete our presentation.

Senator HOLLINGS. Right, sir. That will be included in the file.

Mr. CURRAN. As a member of the California Lieutenant Governor's Task Force on Coastline Preservation, I have firsthand knowledge of the efforts being made by the State and local governments of California to come to grips with the problem of developing a statewide program for preserving the coastal environment from adverse modifications. The task force, which was appointed by our Lieutenant Governor, Ed Reinecke, is composed of 12 mayors and members of county boards of supervisors from the coastal areas of California.

The task force recently submitted recommendations to Lieutenant Governor Reinecke, which have been incorporated in bills which are currently under consideration by the California State Legislature. It is our position that the approach embodied in this legislation provides the needed flexibility and framework for cooperation between State and local government which we would like to see incorporated in the Federal legislation which you are considering.

In summary, the recommendations are as follows:

(1) That the State enact legislation requiring that each city and county along the shoreline be required to establish a shoreline master plan as a part of its general plan in conformity with State-approved standards and criteria.

(2) The definition of the boundaries of the "coastal zone" would be determined by local and regional agencies, subject to the approval by the State.

(3) The local governments would then submit their shoreline master plans to regional councils of governments bordering their coasts, which would in turn prepare regional plans for coastline preservation, taking into consideration other regional plans, such as transportation, open space and land use.

(4) The regional plans would then be sent to the State government for review and approval, with the State holding a veto power.

(5) Local governments would be required to submit their coastline plans and obtain State approval within 1 year. After that date, there would be a State-mandated moratorium on adverse development in local jurisdictions not having approved coastline preservation plans.

With respect to Federal legislation on this general subject under consideration by your committee, I would like to offer the following points for your consideration:

(1) Paramount is the conviction that coastal zone management is only one issue of broader concerns relating to sound land use planning. Any solution to the coastal zone management problems must be considered as part of the land use planning problem and not as a separate entity.

(2) The point of the coastal zone management legislation appears to be an effort to protect and guide the development of water resources and estuarine areas, a most laudable objective. However, the scope of regulations under proposed Senate bill 582 before you calls for—controls over all land development—would affect matters well beyond water resource development. Thus, agencies responsible for coastal zone management cannot be solely water resource agencies. They must be agencies with responsibilities extending to all matters of land use and community development.

(3) As the activity proposed in the legislation before you would have a major impact on community development in all coastal areas,

populated and unpopulated, it would appear that other Federal agencies, such as HUD, might handle the program more effectively than the Department of Commerce because of HUD's greater experience in planning and community development. Under the legislation, federally supported community development planning continues an unrelated patchwork, with significant planning activities located in HUD, DOT, Interior and now under this proposed legislation the Department of Commerce.

(4) The proposed legislation before you encourages a major role for State governments, suggesting that States establish control over all public and private development in the coastal and estuarine zone —in effect a State veto over local actions. There appears an underlying assumption here that States will do a better job of regulating development within a general management plan than local government will. However, experience does not bear this out. It may be easier for developers and speculators to influence and perhaps control one State agency hidden in the State bureaucracy than to affect the decisions of several local governments which are under constant scrutiny of local citizens, through the public hearing process. Also, a huge State bureaucracy will be necessary to review all public and private development plans in the coastal zone area.

(5) The definition of coastal and estuarine zone suggested in section 304(b) setting the zone as the area "near" the coastline is extremely vague. "Near" extended far enough could cover a significant portion of the United States population, a fact particularly true for my own city of San Diego.

As a matter of fact, one of the assumptions in coastline definition was a thousand yards from the sea, and if that were true in our city, for instance, about three-quarters of the city would lie in the coastal zone planning, so practically the whole city would be subject to those rules.

Senator HOLLINGS. Right at that point, Mayor Curran, it would be helpful if the National League of Cities would submit their suggested language. We would appreciate it.

Mr. CURRAN. We will ask our staff to respond to that.

Senator HOLLINGS. Thank you.

(The following information was subsequently received for the record:)

NATIONAL LEAGUE OF CITIES,
U.S. CONFERENCE OF MAYORS,
Washington, D.C., May 29, 1971.

Hon. ERNEST F. HOLLINGS,
Senate Commerce Committee,
New Senate Office Building,
Washington, D.C.

DEAR SENATOR HOLLINGS: During the testimony on coastal zone management legislation by Mayor Frank Curran of San Diego, California, you requested our ideas on modification of the proposed coastal zone legislation to provide a better definition of the coastal zone. We recognize that there are many problems in developing such a definition, and for this reason and others we therefore have urged, as Mayor Curran noted, that the coastal zone management matters should be dealt with as part of the broader land use planning legislation. Such an approach would allow individual states to deal with their coastal zone problems in the total land context. Under such circumstances some states might define coastal zone areas in a different manner than others, however, the decision

would be left to the states. We do not believe that a firm Federal guideline in this area would be appropriate, at least until land use planning activity has been given a chance to itself.

Sincerely,

DONALD G. ALEXANDER,
Legislative Counsel.

Mr. CURRAN. (6) The legislation places emphasis on development of separate State plans, but gives little indication of any coordinative mechanisms to assure that the State plans accomplish the same goals. The Secretary of Commerce is only given very general directives for his plan approval functions.

(7) There are no requirements for a pass-through of any grant money to local governments to provide them with planning and program capacity. In addition, the distribution of funds among the States will be left to the discretion of the Secretary of Commerce, without any guidelines. The bond and loan guarantees proposed for State water development plans under section 307 also make no provision for local plans and programs. Local government can have an equally beneficial effect on water development, and if assistance is to be available local governments are the level of government in most urgent need of fiscal relief.

(8) And, finally, under the proposed legislation before you, no provision is made for representatives of local governments on the advisory committee.

Now I wish to offer the following recommendations for consideration in your subsequent deliberation regarding coastal zone management legislation:

First, I strongly recommend that legislation include provisions for Federal assistance to aid State and local land use planning activities including the issue of coastal zone management. Second, I feel that your legislation must give Federal encouragement to the development of general statewide land use planning goals. These goals would set patterns for land development without dictating land uses by individual communities. Third, it is very important that there be a requirement that local elected officials have a major role in the development of such State plans.

Fourth, that there should be ample opportunities for local governments to develop responsible land use plans by themselves, within the context of the general State and Federal goals.

Fifth, I believe Federal legislation must encourage State technical assistance to aid localities in developing and implementing comprehensive community development plans.

Sixth, that new legislation should provide ample assurances that coastal zone planning activities will be coordinated with—or perhaps even more effective—developed as a part of comprehensive planning activities already mandated under other adopted Federal legislation.

Seventh, Federal legislation should provide encouragement to local officials to utilize regional planning mechanisms which are under their control to make areawide comprehensive land use planning decisions which cannot be made by the individual jurisdiction.

And, finally, we believe that the elected officials at the local level must be assured the retention of substantial opportunities to adopt and implement community development plans and programs in our

communities be in concert with concerned regional and State as well as Federal agencies involved.

We, at the local level, accept this responsibility and we urge that your legislation assist us in our combined efforts to implement sound comprehensive planning encompassing this vital issue of coastal zone management.

In California, local government has demonstrated that it remains vigorous and responsive to changing needs. Experimentation is constantly going on to develop regional groupings of local governments in order to respond to problems which cut across political boundaries and demand areawide solutions. The Federal legislation should recognize that there is a wide variation between the capabilities and willingness to act of local governmental units within the different coastal States. California has a proud tradition of solving problems at the State level, and of effective cooperation between State and local governments. While we welcome Federal leadership in setting goals and providing financial assistance to help solve the problems of preserving the coastal environment, we do not think it necessary or desirable that this be done at the cost of removing the decisionmaking process from the local level.

In conclusion, I submit that the most effective way in which the Federal Government can contribute to the solution of the problem of insuring the sound development of the coastal lands is by making matching funds available for planning and land acquisition and by providing a legislative framework through which the State and local governments can structure their relationship in a manner which will maximize the opportunity for innovation, rather than by imposing a rigid formula which would result in bypassing local governments.

Mr. Chairman, thank you for the privilege of appearing before you.

Senator HOLLINGS. We thank you very much for your statement, sir.

Along with the spirit of maximizing the flexibility and use of local approaches, of course, as we pointed out to the previous witness, we used local government phraseology in the various sections, but as to the advisory committee itself, that was the intention that was left without specifying the actual category of any one of the 15 percent.

I couldn't conceive of an advisory committee not including local authorities and local expertise, specifically from the mayors' association.

This is true in many of the coastal cities, just as in your great city of San Diego right there.

So we couldn't function with a competent coastal zone authority without that. But it is left not without thought. It is intentionally left that way with some others in there. You have got recreation, fisheries, ports, industry, land development, and we have got about almost 15 different categories I can think of. I think one of the principal ones would be yours.

Is there anything further you wish to add this morning?

Mr. CURRAN. Not at this point, Mr. Chairman, except that I would like to, as I said, leave some of these documents with you to——

Senator HOLLINGS. We accept those for filing and we appreciate them very much.

Mr. CURRAN. Thank you.

Senator HOLLINGS. Thank you very much.

We next welcome Mr. Clair Guess, the executive director of our South Carolina Water Resources Commission, and, I think, Mr. Guess, you appear here today representing the National Legislative Conference.

STATEMENT OF CLAIR P. GUESS, EXECUTIVE DIRECTOR, SOUTH CAROLINA WATER RESOURCES COMMISSION; ACCOMPANIED BY R. DEANE CONRAD, OF THE COUNCIL OF STATE GOVERNMENTS

Mr. GUESS. Part of it. Thank you, Mr. Chairman.

Senator HOLLINGS. For the record, will you present Mr. Conrad?

Mr. GUESS. I do want to present Mr. Deane Conrad from the Council of State Governments, who appears with me.

The National Legislative Conference was scheduled to appear today. Unfortunately, the Honorable Mr. Clayton of Texas is confined with sickness. Mr. Andrews and Mr. Briscoe could not appear today because of other important matters. However, they will file with the committee a statement on their views.

Mr. Chairman, and members of the Subcommittee on Oceans and Atmosphere, I want to express my appreciation for the kind invitation sent to me by the Chairman to testify with respect to two very important coastal zone management bills, S. 582 and S. 638, and those aspects of S. 632 and S. 992 related to coastal zone management.

I am Clair P. Guess, Jr., executive director of the South Carolina Water Resources Commission, and a participating member of the Interstate Conference on Water Problems. The Interstate Conference on Water Problems, serviced by the Council of State Governments, provides a forum to which representatives of each of the States are invited to meet with Federal representatives having common interests in water resource problems of the Nation. It is in this latter capacity that I speak to you today at the request of the chairman, Mr. Norman Billings of Lansing, Mich., who could not appear.

The four bills referred to contain very important and significant proposed legislation. Each is designed to focus upon major needs of the Nation with respect to natural resource planning and management. Importantly, S. 582 and S. 638 are focused most directly toward problems long needing attention on the part of the national interest and, inescapably, a responsibility and a duty of coastal States. They both provide for planning, managing, protecting and developing for use in the coastal estuaries, marshlands and related ocean and lake frontages in a multiple disciplinary frame of reference.

S. 582 as now drafted provides for a very important Federal-State relationship, a framework for effective coastal and estuarine zone protection, management and use. The cost-sharing formula of 66⅔ percent on the part of the Federal input is a very favorable level of input and rightfully reflects the degree to which the national interest is involved, especially since this vital zone of the Nation has a very high degree of interstate relationships with respect to tourism, recreation, sports and commercial fisheries, national and international commerce and the protection of breeding and spawning areas for

shellfish and fishes that move into national and international waters. The sponsors of this bill have taken a fine forward step in the right direction in offering this proposal as a basic means of moving this Nation and its States into an effective arrangement for handling a major national problem if adopted.

However, there are points which call for additional consideration, and I will comment upon them at this point:

There seems to be a growing national consensus that points up the urgency for moving at an early date in providing a truly State-Federal coastal zone management program, which fully recognizes the role of the State and the role of the Federal interests in a climate of understanding that respects all interests, and works cooperatively toward an improved status of the coastal zone areas of the United States. Obviously, any successful planning and management program must carry with it the input of several disciplines which need not be antagonistic toward bringing about a truly balanced approach in making decisions related to the coastal zone of the United States. The problems of the coastal zone are not solely related to biology and not solely to engineering principles, nor solely to water quality standards nor, as a matter of fact, to economics, sociopolitical views, geology or any of the other technical sciences available to us in this area. S. 582, as introduced by Senator Hollings of South Carolina, and other Members of the Senate, recognizes the necessity for a multidiscipline approach both to the planning, management and operations of the coastal zones. This is very important to a successful program in this area.

I note also in section 313(a) there is provided a means of mitigating differences of view between the State and Federal interests in case of serious disagreement through the Secretary of Commerce and, if need be, to the Office of the President. While this route has merit, it does carry an implication of being heavily weighted on the Federal side.

Apparently, it would be helpful to add a provision in the bill calling for the creation of an advisory council to the Secretary of Commerce on coastal zone affairs. Such a council could well afford to have one representative from each of the coastal States designated by the Governor or otherwise provided for by law, and one representative from each of the Federal agencies having coastal zone related responsibilities. In the performance of its duties, the council could serve an important function in extending State-Federal relationships, provide a forum and make recommendations in mediating serious disagreements, and, together with the comments of the Secretary of Commerce, cooperate with the Executive Office of the President where it is necessary under conditions where prior agreement had not been reached. Such a council could also be an effective voice in the continuing review of Federal policy with respect to these areas of concern. In comparing S. 638, as proposed by Senator Tower, with S. 582, there is a difference between S. 582 and S. 638, wherein under section 306(a), lines 19 through 22 of S. 582 at page 6, indicates that successive grants may be made for a period not to exceed 2 years; provided that no such grants shall be made under this subsection until the Secretary finds that the coastal State is adequately and expeditiously developing such a management plan and program.

S. 638, as proposed by Senator Tower, does not contain this restrictive period in time. There is merit in so doing. For example, many coastal States have not fully addressed themselves to the problems related to their tidelands and coastal frontages, and most have not made appropriations nor provided the technical expertise to move ahead in this area. Many are awaiting actions on the part of the Congress in order to provide the highest cooperative arrangements. During the interim, however, a large number of coastal States will have to adopt new legislation to broaden the powers of the designated State agency responsible for coastal zone affairs. Much time is needed to adequately train responsible staff members, hold public hearings and make an in depth base line study of the coastal zones as a responsible input into both the management plan and program development requirements as well as administrative grants that may follow as provided for in section 306 at page 7.

Similarly, the deadline of 3 years in time, set forth at page 10, lines 8 through 13, as a final date for ultimate coordination of various segments of the management plan into a single unified plan, may also pose restrictions that are unintended. In matters related to interstate affairs on boundary waters, there may arise the need for legislative consent on the part of two States. Foreseeably, where some legislatures meet biennially, there could be an automatic barrier for as much as approximately 2 years in time. Again, time for public hearings, State legislative procedures, State appropriations and trained staff expertise add additional limitations. Perhaps it would be helpful if these matters are left to the discretion of the Secretary of Commerce or at least extended to no less than 5 years in each instance, even though the urgency for moving rapidly and effectively is a matter of due concern.

Obviously, there will be some time lag needed in training personnel and in obtaining appropriations on the part of the States. At this point in time, notable work has been done in New Jersey, Massachusetts, Maryland, Florida, North Carolina, South Carolina, and many other coastal States, with respect to their coastal zones. However, few have perfected required legislation, designated a specific agency and made appropriations that could accommodate the Federal legislation as proposed in S. 582. Therefore, I would recommend that these grants be made for the purpose of developing management plans and program development in a less restrictive way. Objectively the States need "seed money" at an early date in order to proceed with a satisfactory management plan and program to meet the criteria to be established by the Secretary of Commerce and in order to fully accomplish the objectives of S. 582 for reasons mentioned earlier.

What is not spelled out in the bill, in another area, is due some comment and may well be an administrative regulation. It is the flexibility within a management plan that could be accommodated by the use of a State permit system. Such permits could control a given use in time and restrict usage to specific purposes. Now and in the future, this possible tool could prove very beneficial in the management processes.

The provisions of section 312 of S. 582 are commendable. There is need for setting aside and separately funding estuarine sanctuaries.

Information gained from these proposed natural laboratories could add measurably to the body of knowledge related to water-oriented ecosystems.

Now, with reference to S. 638, generally speaking the objectives of S. 638 as introduced by Senator Tower, while quite similar in objectives to S. 582, there are significant differences that give rise to comment.

Recognizing the total national interests in coastal zone affairs as opposed to a single State's interests, the 50 per centum development is unrealistically low on the Federal side when all the national interest values are taken into account. Sixty-six and two-thirds or 75 percent for the Federal share is probably more reflective, when taking into account all the values that are inseparable from national and international interests. It is also true that the gross authorizations for appropriations in each section related to Federal funding seems inadequate at this time to move the objectives of the bill into action programs at an early date.

This I refer to as being a shortcoming in S. 638.

There are two commendable points of the bill that should be retained for they add measurably to the Federal-State relationship by providing in section 305(b) the latitude for the Secretary of Commerce to make the judgment as to whether or not a State has become eligible for grants under section 306 without a specified time frame. Section 311(a) is also commendable in providing an advisory committee to the Secretary. However, it fails to support the specific idea that designated representatives of coastal States having coastal zone responsibilities or expertise would be included in the membership of such an advisory committee or council. This phase of the bill would probably be strengthened if States, who are the prime cooperators of the proposed legislation, were assured to be included in any advisory arrangement.

Section 312 in its entirety seems acceptable at this time. However, section 312(b)(3) at page 14 is especially desirable as a management tool for protection of the public interest. It provides for a clear line of responsibility to the States.

Mr. Chairman, you also invited comment on S. 992 as introduced by Mr. Byrd of West Virginia, cited as the "National Land Use Policy Act of 1971." Also, S. 632 as introduced by Mr. Jackson cited as the "Land and Water Resources Planning Act of 1971." For the most part, comments on these two proposed measures will be restricted to the interrelationship they have on coastal zone and estuary affairs of the States and the Federal Government.

Measured in light of S. 582 and S. 638, neither of these bills sets into sharp focus the immediate and urgent attention to the coastal zones of the Nation. However, each of them does provide a climate of total involvement in the planning, management, protection, utilization and conservation of water and related land resources. For example, the water related aspects are assumed from the spring heads to the continental limits of the ocean and give rise to the overall development of water resources wherever they are and for whatever purpose they may be dedicated. Land use policy is similarly treated. There is merit in considering, in a much broader spectrum, the interlocked nature of these resources that recognize no political

boundary. Therefore, it seems most appropriate that the Nation's attention should be directed toward the development of policy and management systems that encompass large geographical areas and provide for adequate funding, staffing, and a truly cooperative venture within regional systems that will provide for adequate State involvements at all levels.

In the terms of S. 992 there seems to be some weakness as set forth in section 104 limiting the time frame to 2 years for the development of a land use program and, further, that the Federal offerings would expire 3 years after date of enactment. Some States may not be able to move within this time frame because of a much needed response for new legislation, annual appropriations and a reorientation in policies on the part of the States involved. The 50 percent Federal cost-sharing input should be reexamined. Due to the nature of the national interest, a 60 to 75 percent Federal input may be more realistic.

The Federal review system which invites most, if not all, Federal agencies to review any State plans, is far too cumbersome and places unneeded control over States who have capabilities in making such judgments and who will be sharing a reasonable percentage, if not half, of the cost of such programs. Section 104(a)(7) apparently moves too far into the particulars with respect to controls and regulations related to air, water, noise or other pollution when such control measures have already been provided for by State and Federal Acts.

Section 110 is unclear in the allocation of funds based upon State population and growth, and the nature and extent of the coastal zone. If the objectives of the bill are accomplished with respect to the coastal zone, then we should look more to the area involved in coastal zones rather than weighing the formula on the basis of population. It may also be found to be true that there are far more areas of coast estuaries to be saved, protected, managed and improved in the less densely populated areas as opposed to those having higher populations. In some of these areas irreversible losses of estuarine values have already been taken into account.

In general, section 104 is far too restrictive to accommodate a flexible plan which may otherwise be adequately handled by administrative decisions controlled by a permit system and/or zoning ordinances on both public and privately owned coastal zone areas. In general, an interpretation of the thrust of S. 992 could be construed to place the coastal States in further servitude using the States only as a medium through which a preponderance of force could be put into effect through a single principle, viz, the Secretary of Interior in coordination with the Secretary of Housing and Urban Development. The proposal set forth in S. 992 also indicates a notable absence of advisory committees or councils to the Secretaries to which State membership should be and could be a very helpful part.

Generally speaking, S. 632 contains similar objectives to S. 992, however; it is rather clear that S. 632 is far broader in scope. Section 101(a) assures broad participation at cabinet level and names the Vice President as Chairman of the proposed Land and Water Resources Council. This apparently is a step in the right direction for it respects several interdisciplinary interests.

Section 102 clearly spells out a much needed Federal policy related to the coordination within Federal agencies having water and related land resources planning responsibilities.

Section 103 opens desirable avenues for comprehensive planning that not only reflect a multidiscipline approach, but also encompasses regional or river basin units as being desirable planning units.

Section 104 rightfully recognizes the commingled interests of agriculture, urban, energy, industrial, recreational, fish and wildlife, and other resources of the entire Nation as being an important entity in total planning concepts. Part 2 of section 104 provides for a strong system of review before authorizing Federal projects. It is desirable to have them reviewed at the level of the proposed council, followed by Presidential review, and then transmitted to the Congress for decision.

Section 105 materially enhances the coordination of State programs and is a desirable approach toward handling the multitude of interrelated problems in State-regional planning efforts.

Section 106(a) provides for an acceptable and much needed Federal planning information center. Such a center could serve the national interest by providing a point of exchange of views both to the Federal agencies and to statewide or regional planning organizations.

Section 106(b) provides an unusual institution to resolve conflicts and adds immeasurably to the opportunity and the rights of States to express redress.

Under section 202, S. 632, membership of commissions, in subsection (b) and (c), there is a notable lack of balance with respect to State representation on a river basin commission which should be noted. For example, the Federal interest could include as many as one Federal chairman appointed by the President and one additional member from each Federal department or independent agency determined by the President to have a substantial interest in the work to be undertaken by the Commission. Obviously, this could add up to as many as 10 or 12 or more Federal representatives. Subsection (c) of section 202 would provide one member from each State which lies wholly or partially within the area. On the assumption that one or more States may enter into a river basin commission arrangement, the States' view could be reflected by as few as one person, or probably two.

Apparently, this proposed act could be strengthened by allowing each member State to name as representatives on the Commission one member from each of its departments having a substantial interest in the work to be undertaken just as is provided in section 202(b) for the Federal departments.

In closing, I believe it is important to note that S. 632 is pointed in the right direction. In some senses it may be premature; however, it expresses and provides for a combining of effort, a retardation of fragmented programs, and it is a proposal that could effectively support the interstate regional concepts that are now, or soon will be, vitally needed in the coastal zone affairs of the Nation. While coastal zones are identifiable areas, they are also influenced by the planning and management programs upstream and dramatically influenced by what is taking place in the immediate environment of the coastal zones.

Mr. Chairman, if a recommendation is in order, I would like to propose that consideration for enactment S. 582 with amendments as are proposed become a favored position of this committee. Time is too short for further postponement in responding to the needs of ecological protection and the beginning of clarification as to the specifics of the management, development, and utilization of the coastal zone areas. For the most part, we have been dealing in generalities in the immediate past years where coastal problems are concerned. The time is now, that we begin removing the mystery and clarify the haze that hangs so heavily over the heads of those who are responsible for making decisions affecting the coastal zones. This is true in the private sector, as well as the public sector.

I commend each of you on this committee for helping in the design for a brighter future for the coastal zones of this Nation. If there are questions, I shall be happy to attempt to answer them.

Senator HOLLINGS. Thank you very much, Mr. Guess, for your very excellent statement. Of course, we are fortunate in having a man of your experience to appear before this committee.

The time is short and the concern that you express in this statement, that 3 years is not enough for coastal zones, that you have got legislatures, for example, who may not meet for 2 years, and those kinds of things, but then the other things are concurring, just the things in that paragraph of yours, the environment, ecological protection necessary to be confronted immediately—the land use policy bill of the administration only provides for 2 years, as you point up, and we thought 3 years.

What we are trying to do is get the money for the States. I can't see refusing what we have. This particular statement, and the general impetus, thrust, and momentum all from the States and local communities, say: Look, you Federal Government, you are way behind times here. The direction really has been given by the local entity and the States. They are tired of waiting on us, and I would like you to comment on that. Because I think that 3 years to get the money to do the planning—the urbanization's coming about in these particular coastal areas at a very, very rapid rate.

Mr. GUESS. Senator, I would like to comment further on that.

I didn't mean to imply that 3 years' restriction would restrict or lessen the importance of this matter. I have had some experience in the Beaufort area and again, beginning next month in the Charleston area where estuarine problems are already acute.

I am afraid sometimes that we may move too rapidly and fail to provide in-depth studies. Before making major decisions it takes approximately, with all the help we were able to muster on the task force operation with the State and Federal agency working together, a minimum of 1 year in order to get the necessary basic technical knowledge before objectives can be clearly spelled out.

So, before we could move, it takes about a year for each baseline study of fact, preceding effective planning.

What I would like to see—if a 1-year limitation will help move the States, I will certainly be in favor of it.

I have worked with policy formulating groups quite a long time. They are slow at best. We now have a coastal zone bill before our

general assembly. There is some difference of view, of course, about this bill. It is designed to move cooperatively with the proposal that is currently before this committee, and to adopt a position so that if this national legislation passes we will be ready to go to work.

But I think the States need to be encouraged in every direction, and maybe they could tune up for it, but there are these problems. As I mentioned, the case between North Carolina and South Carolina could be restrictive. And then the question of funding beyond the 66⅔ percent. Right now it is not on the scene. But I think several States have this problem. Some have overcome it. They have gone a little faster.

Senator HOLLINGS. You have had experience with all these States working with their authorities. Congress is not going to abolish itself. So if we really need more time we can do that. But we want pressure on these States and we want pressure on the local areas to do some planning immediately, because the developments are occurring and they have got to sort of play catchup football to even be halfway in step with the principles.

Mr. GUESS. I agree. I think we do need to put pressure on them. Preliminary planning, for example. This would add a little more complexity to the bill, but if we could get preliminary planning, it would be helpful. This is one way we might be able to do it, and then into a final plan, and then into national programs.

Senator HOLLINGS. Government is always planned. I would like to see it act. You mentioned Beaufort. We had Joe Frazier four and a half years ago, and he put on exhibition matches long before he was champion. We got money enough to start seven day-care centers right there in Beaufort. We needed about $40,000 to complete the project.

They came to Washington and they studied it, and after they got through studying it they told me yes, you can get $40,000, $20,000 each for two consultants. They agreed that is what we needed and everything, but they just wanted to continue to study it.

That is the approach of Government. And I think that is the restlessness out in the cities today, that why doesn't the Government act?

Mr. GUESS. Mr. Chairman, Mr. Conrad may have some comments to add to this topic. He has had quite a lot of experience with several of the member States, and he has attended most of our conferences.

Senator HOLLINGS. Yes, sir.

Do you have any comments, Mr. Conrad.

Mr. CONRAD. I would be very brief in remarking on my experience serving as secretary to the National Legislative Conference Environmental Task Force. I am sorry they were not here to articulate for you the position they took and had adopted by the full conference, consisting of all State legislators throughout the country, in calling for the enactment of coastal zone management legislation both at the Federal and State levels. They were not concerned merely with Federal action but did point to their own States and urged them to begin enactment of management programs for their coastal zones.

The criteria that they established were prepared in a booklet of policy position which I would like to present for the record.[1]

[1] See pp. 779–800.

Senator HOLLINGS. We will accept it.

Mr. CONRAD. And I would comment further that the committee itself has determined that the general objectives in the language of the bills presently before this committee, and I refer specifically here to those related directly to the coastal zone, do express their own intent, and they therefore support enactment of a measure combining the objectives of these bills.

One further comment might be that they elected to address the land use planning and coastal zone management questions independently, because of their recognition of their individual constituency interests and the preparedness of State planning capability relative to coastal areas. They did not sense this same public approval for the broad scope of action in the areas that are not as critically affected.

Senator HOLLINGS. Elaborate right there, because there seems to be some difference. We all want, as we go with the coastal zone bill, to make it consistent with overall land use policy. But from your experience in the Council of State Governments, elaborate on that statement you have just made, that there is a meeting of the minds on coastal zones that is not with respect to the overall land-use policy in the States.

Mr. CONRAD. There is policy encouraging the extension of National and State, and, for that matter, local land-use planning. It is the opinion of the committee, however, that this is not at a stage which would support immediate adoption of any of the bills that are presently being considered before this Congress. On the other hand, there is strong support for adoption of national, coastal zone management programs. Furthermore, I would say that that support includes consideration of any time limitations that have been articulated here, providing there is adequate Federal funding.

Senator HOLLINGS. One other question, Mr. Guess, because I know the hour is late. The advisory council now—I had some misgiving meeting in this room we have got here today, but this is about the only room that is going to be sufficient or adequate for your advisory council. You have got one from each of the coastal States. That is about 30 or 32, including the Great Lakes, one from each of the Federal agencies, and then if we get the various functions and everything else in there, you are going to have a rally. Do you really mean to have that kind of council?

Mr. GUESS. Mr. Chairman, I probably shot for the moon in that description. However, in some reasonable form I do feel that the voice for the State should be pretty close to the Secretary of Commerce, because there is a tremendous amount of power and judgment in these affairs, and while I make no personal reference to any particular Secretary of Commerce, I do feel that the lines of communication between the Federal Government and State government should be strengthened in any area we can, and I acknowledge this is being a broad proposal. I realize it will be very cumbersome, but it may be that one out of every five States will work, or something of this kind.

My only proposal is that we do have a very strong tie between those on the ground doing those jobs and those that have to set policy. I think such would be a helpful arrangement.

Senator HOLLINGS. Well, one helpful arrangement would be to use, your good offices, that is, the Commission you represent here today, or the Council of State Governments, which represents all the States. There is no magic in 15 in our Advisory Committee. We are trying to get really expert help that can be of assistance. But once you start out 40 or 50 people meeting around—Mr. Conrad knows. It is hard enough on one of those Governors' conferences now.

Mr. GUESS. I realize it could get out of hand and become very cumbersome. I would also like to concur in Mr. Conrad's comment, too, that when it gets down to the matter of priorities and urgency, I feel that your bill is high priority, and somewhere, as I mentioned in my comments, we are probably a little premature on this broad scope paint brush type of land related plan. I feel that we need more time to study that matter. However, urgent priorities should come in the adoption on this coastal zone management bill during this session of Congress, if possible.

Senator HOLLINGS. Well, thank you very, very much, you and Mr. Conrad both, for your appearance here this morning.

Mr. GUESS. Thank you, sir.

Mr. CONRAD. Thank you, Senator.

Senator HOLLINGS. The next witness, Mr. Gary Terry, executive vice president of the American Land Development Association.

STATEMENT OF GARY A. TERRY, EXECUTIVE VICE PRESIDENT, AMERICAN LAND DEVELOPMENT ASSOCIATION

Mr. TERRY. Mr. Chairman, my name is Gary A. Terry, and I am the executive vice president of the American Land Development Association, the national trade association representing the land development industry.

On my left is Mr. William Ingersoll, of the District of Columbia and Northern Virginia law firm of Brown and Ingersoll, who is our counsel. I am here today in place of our president, Mr. John Dunnan, who notified me several days ago that he would be unable to come to Washington to testify as planned.

Now, nearly 18 months old and numbering almost 400 members, coast to coast and in Canada, ALDA is one of the fastest growing major trade associations in the United States.

While we make no apology for the obvious fact that the primary purpose for the existence of our organization is to advance the land development industry, the members of ALDA, nevertheless, recognize their unique responsibilities in the proper use and conservation of our Nation's natural resources and strive to understand the interdependencies of living things. Appreciation for this recognition and willingness to receive knowledge led the Senate minority leader, Hon. Hugh Scott of Pennsylvania, in February 1970, to welcome ALDA in a speech on the floor of the Senate and to introduce into the record, ALDA's "Statement of Beliefs and Policies." With the indulgence of the chairman, I should like to quote very briefly from Senator Scott's remarks. After taking note of the critical nature of land use decisions, the Senator said:

> I am delighted to note that a newcomer on the Washington scene, the American Land Development Association—ALDA—has taken the first small step in promoting this new environmental-ecological approach. The founders of this

fledgling association have set forth in their "Statement of Beliefs and Policies of ALDA" a terse announcement of their awareness that as land developers, they hold the key which could unlock a truly beautiful and livable America. I believe this association represents a commendable undertaking, and I wish its members well.

Among those statements of beliefs and policies which prompted the Senator's well wishes is the following:

We recognize that land is a limited basic natural resource. We are aware that land and its development are essential to the production, composition, consumption, and utilization of the Nation's total wealth. We are cognizant of our duty to conserve and maintain the land in our possession or under our control and ownership in a manner befitting a precious natural resource.

With these elements in ALDA's background thus sketched, I wish to assure the chairman that ALDA recognizes both the timeliness of his committee's deliberations, the magnitude of its responsibilities and the gauntlet it must run in attempting to satisfy the legitimate needs of the many competing interests which these bills may affect. ALDA supports the committee in its consideration of S. 582, S. 638, and related, proposed legislation.

ALDA applauds the stated purpose of the coastal zone bills S. 582 and S. 638, to encourage the coastal States to "achieve * * * a balance between development and protection of the natural environment." The chairman came to one of our regional land seminars in Atlanta a few weeks ago and did a pretty good job of selling us on the importance of cooperative action to arrest the degradation of coastal and estuarine zones.

One good developer wanted so much to jump on the Senator's bandwagon, but found himself with deeply conflicting feelings inasmuch as he owns 4,000 acres on an island which could very well become a sanctuary under the proposed legislation.

While we are enthusiastic about saving the muskrat's home and feeding ground, we know also that people want to develop land and people want to enjoy the product of the developer in its many uses and variations. While those who love muskrats can vote, the muskrats can't, and the balance must be sought in its broadest manifestation between persons, that is, voters—not animals. Some of these persons will simply be conservationists and others will be preservationists—those who, in some abstract manner, think all nature should be preserved undisturbed. I have deliberately omitted reference to those who would exploit and defile the land with no regard to natural consequences—for in our business, every reputable, progressive and financially successful developer must be a conservationist. Success consists in being sensitive to the wonderous and unique beauties of this great country. What we sell is an opportunity for people to enjoy them.

Moreover, the balancing of interests and uses will have to be refined to reflect the differing needs for developed facilities. We hope this proposed legislation will make clear the legitimacy of private development. Not everyone wants to be forced to enjoy nature, to sit in the sun or recreate at a public facility. People can be quite sincere in their regard for their neighbors, yet not want all things in common. Statistics show, and projections show a phenomenal present and future demand for privately owned vacation and

leisure homesites and homes. Demand for vacation and second homes is expected to approximate 200,000 units per year in the 1970's.

We don't think the public at large needs all coastal areas and we reject what seems to be a prominent viewpoint among unenlightened persons that public developments are intrinsically good and private developments are intrinsically bad and result in waste and destruction of our resources. The evidence is that it is often the consumer of public facilities and the "servants" of the public who are most responsible for the lamentable state of our environment and the economically almost irreversible spoiling of natural and manmade attractions. Consider the tin can and bottle-glass-strewn public beach at Huntington Beach, Calif., or the crime against the beauty and charm of San Francisco committed by the California Highway Department when it attempted to ram a freeway down through the historic and charming Embarcadero; or the disappointing spectacle of a major highway cutting straight through the quiet beauty of the Delaware Water gap. Recreational land developers, even in the wildest race for profits in which a few have admittedly engaged, never did so much to adversely affect so many.

Let me address my remarks to S. 582.

I assume that section 306 on page 6 of S. 582 is a misprint and should read section 305. Unless corrected, I will refer to the section entitled Management Plan and Program Development Grants as section 305 and the section entitled Administrative Grants as section 306.

It appears that under section 305, a State may submit to the Secretary of Commerce a request for management and program development grants, and it would be reasonable to suppose that the request must include a description of the methods used to develop the plan and program, along with such documentation as might be available. If the Secretary accepts whatever is submitted, he is free to approve the section 305 grants and the State then formulates a management plan and program with Federal financial assistance. Further, if the plan and program, when completed, conforms to the requirements of section 306(c) and otherwise meets with the Secretary's approval, the State is eligible for administrative grants pursuant to section 306.

The requirement of that section which we find to be the greatest potential safeguard to the legitimate interests of our industry is that contained in section 306(c)(1) which requires the approved plan and program to have included an opportunity of full participation by relevant Federal agencies, State agencies, local governments, regional organizations, and other interested parties, public and private. We assume that members of our association would qualify for full participation as interested private parties and inquire whether our association itself, through its State and regional affiliates, might also qualify under the heading regional organization, or whether this term applies exclusively to governmental and quasi-governmental organizations such as river basin compacts or commissions?

While we are not certain exactly what "full participation" means, it suggests, and we hope it means representation of major affected industries on the State boards or commissions responsible for developing the management plans and programs. This would seem to be

the only meaningful way in which we could participate in the contemplated far-reaching decisions which so vitally affect us.

The requirement in section 306(c)(2) calling for public hearings in the development of the management plan and program definitely indicates that full participation means something more than an opportunity to present views at a public hearing at the State level. There would be no reason to provide for the same thing twice, in succeeding paragraphs.

If our reading of section 305, and those parts of section 306 which I have cited, is correct, then we see a potentially serious problem in section 305 which relates to the concept of full participation. As I have noted, it appears that the States need not wait until the final management plans and programs are approved by the Secretary before they collect the Federal grants available under section 305, but may receive the grant after submitting some type of initial proposal.

The result of this may be that States willing to forego the actual final approval of the plan and program and the consequent eligibility for a section 306 grant, and simply content themselves with the section 305 assistance, may, in fact, in the program and plan development stage, exclude the representatives of the major affected industries from the full participation called for in section 306(c)(1). Since it is unreasonable to withhold Federal funds designed to foster development of management plans and programs until those plans and programs are actually developed, we recommend that section 305 be rewritten to require States, as part of their initial proposal in applying for the section 305 grant, to identify the major legitimate private interests which would be affected by a statewide or regional plan and program. We recommend further that as a condition for receiving the grant, the States be required to show that reasonable attempts have been made to secure the active and full participation of such interests, and that these interests will be allowed and encouraged to continue to participate in the manner which I have previously suggested as most appropriate.

On another matter, section 306(g) enumerates the very substantial management, control and proprietary powers which states would be required to exercise and vest in an agency or agencies before the Secretary would approve administrative grants.

According to the wording of paragraph (g), the way is open to the States to vest all of this authority in one agency.

It occurred to us that this would be a tremendous amount of power and authority to allow in one agency. We wonder if there would not exist an almost overpowering temptation, with such powers in hand, to use all land for which recreational development is authorized, for example, for public facilities and forget about the needs of the private sector and those who wish private ownership of recreational areas and facilities. If preservation of ecological systems is one of the major goals of these bills—and surely it is—then allowing tendencies which might foster limiting development to the public use may not be wise. There are many public facilities which could in no way match the ecological compatability of such private developments some of our members are doing on Hilton Head in the chairman's own State, at Big Sky, Mont., on the Deschutes River in Oreg., and in the lake country of Wisconsin, just to cite a few.

Moreover, we have reservations about allowing the same agency which regulates private developers to also develop and operate public facilities. We would hate to have to try to get projects approved, under the circumstances, where such a single agency had developed within itself strong entrepreneurial tendencies on behalf of the State. We recommend that the committee consider at least requiring that the powers referred to in section 306(g)(3) be vested in an agency apart from other such agency or agencies having the other powers listed in section 306(g).

We greatly favor another of the features of S. 582 and S. 638. I refer to the provision for a coastal and estuarine zone management advisory committee, authorized in section 311, to advise the Secretary on policy matters concerning the coastal and estuarine zones.

By its wording, the provision apparently contemplates membership made up both of Government officials and persons outside the Government. However, the composition is not specified. I would hope the committee would give some strong indication in its report to the Senate and charge to the Secretary that their intent is for the Secretary to include, on the committee, representatives from the major affected industries. Also, we favor the inclusion of the language in section 311(a) of S. 638 which provides for the committee to advise on a regular basis.

Language should be included in the bills specifically prohibiting States from freezing all development in contemplation of their formulation and implementation of management plans and programs. This is necessary because of the ruinous effects on developments under way should moratoriums be imposed during the potentially long lapse of time involved between the decision in a state to apply for a management plan and program development grant and the Secretary's approval of the grant.

The federal authority to prohibit States from imposing such moratoriums would stem from the discretionary authority over the funds. There would seem to be no constitutional problem so long as the Secretary's basis for refusing to approve the plan and program is the State's imposition of a moratorium as a direct result of its intention to formulate a federally assisted plan and program.

Our fear with respect to the problem of moratoriums on development is that the bills, as they are now written, may tend to give impetus to the already growing idea among some groups and legislators in some States that the only way to deal with land development is to stop it altogether. It is somewhat ironic that two entirely different factions for entirely different reasons come to the same conclusion that development must be frozen.

On the one hand we have those who want the land left undisturbed, while on the other hand, we face those who say we must stop entirely because we are not disturbing the land fast enough, that is the buildout rate of recreational and second home communities, including those which combine aspects of first and second home developments, is not fast enough.

The injunctive powers of the courts are still available to those who can show real harm or possibility of harm. We think this is the way to proceed against developers who may be continuing a poorly conceived project. We would not like to encourage what we

feel to be a false notion abroad in part of the land that all development should be frozen.

On the subject of delays, section 313(a) recognizes the possibility of disagreements which may arise between the State and some Federal agencies or among Federal agencies concerned with given plans and programs. Although resulting delays could be substantial, there is no provision for a final, predictable mechanism for resolving such differences nor for limiting the time in which a resolution must be found.

Another, albeit more predictable, delay may be found in section 313(b)(3) which is addressed to the situation where there is necessity to obtain a Federal license or permit before carrying on a given activity in a coastal and estuarine zone.

It requires the applicant to secure, from the appropriate State agency, certification that such activity complies with the plan and program. As a safeguard, there is provision for automatic waiver of the certification requirements if a State fails to act on a request for certification within 6 months. In view of the fact that, in every instance, the basic decisions regarding permitted use of the area would already have been made—because there would be an effective plan and program before necessity for certification would arise—the six month period seems excessive. Providing the applicant is prompt and fully cooperate in supplying the State with such data as it may reasonably require in order to act on the application, 3 months would seem to be a generous allocation of time.

Another weakness in section 313 is in the failure to provide any limitation on the time for consideration by the concerned Federal agencies of the application for a permit. Of course, where reasonable time limitations are imposed by the laws dealing with the specific licensing authority of the involved Federal agency, this aspect of the problem of delays is alleviated.

Long or interminable delays during the pendency of a project can spell financial ruin to even the finest and most progressive of developers.

In discussing S. 582, I have not meant to appear uninterested in S. 638 or the coastal zone aspects of S. 632 and S. 992. We have felt that differences between the two coastal bills are slight, with the exceptions of estuarine sanctuaries and funding, and most of my foregoing comments apply to both. S. 632 is comprehensive and complicated, and I frankly confess to a certain difficulty in separating the topics under consideration now from the larger aspects of the bill. Since I am not now prepared to discuss the entire bill, I beg to be excused from an analysis of the coastal aspects.

With respect to S. 992, I must also make a confession. We have read it and analyzed it to some extent but not to the extent it would warrant if we believed it would go anywhere in the House this session. The fact that we think it will not, is not in any way meant to detract from the merits of the bill nor the influence of its sponsors, but is based on our assessment of the probability of action on it by the House Interior Committee.

Again, without wishing to reflect in any manner on any of the bills, I would hazard a guess that, among S. 582, S. 638, and S. 992, if any receives action in both Houses it will certainly be S. 582. We

have, therefore, spent the bulk of our analysis on it. I am not prepared at this time to make any predictions (and of course they are not asked for) regarding S. 632 but we will be studying it carefully.

I wish to thank the distinguished chairman and members of this committee for allowing me to appear on behalf of the land industry and appreciate your time and attentiveness.

Senator HOLLINGS. Mr. Terry, we appreciate very much your appearance.

The observation about the House committee. Can you elaborate on that. There has been some concern that we make it bog down. What experience, and what do you hear around? You don't think a land use policy is going to be passed in the House?

Mr. TERRY. I think if a land use policy bill is passed in the House, it will most likely be Congressman Aspinall's.

Senator HOLLINGS. But do you think it will pass this year?

Mr. TERRY. No.

Senator HOLLINGS. Why not?

Mr. TERRY. Various ways we have of testing the water—which simply boils down to a matter of judgment—we feel as a number of witnesses today that perhaps an entire land use bill is a little premature. We feel that probably a coastal zone, estuarine bill is not. It would have a good chance.

Senator HOLLINGS. Well, I have just some obvious things to point out.

I know your concern for being a member of the advisory group, and I think you understand that it was our intention to not specify the various groups to be included—I rather think about the freezing—where you say, the language should be included in the bill specifically prohibiting the State from freezing. And then, the injunctive powers of the courts are still available. That would be about the opinion—I am just guessing now—of the committee membership, that the injunctive powers are there and rather than legislate it, we would still use or employ the injunctive powers of the court on the basis of a taking without due compensation. I don't think we want to legislate affirmatively what they may or may not do while they are planning. I don't know, except someone mentioned a case, perhaps in San Francisco—was there a moratorium? In your experience have you run into this?

Mr. TERRY. There is a bill in the California legislature for a moratorium in the entire State. There are various bills for moratoriums covering particular areas. I am not sure whether they would even be constitutional, but this is the problem we face.

Senator HOLLINGS. I think the Constitution is probably better than any law.

Mr. TERRY. Pardon.

Senator HOLLINGS. I think the constitution in that regard would be better than any added proviso on any particular legislation now.

Mr. TERRY. Well, a proviso in the legislation would certainly tend to discourage at least the introduction of this kind of legislation, although we may eventually have to take care of it based on the Constitution. It would certainly save a us a lot of time if we didn't have to.

Senator HOLLINGS. Under section 306, let's see, on page 6: "In order to qualify for grants under this subsection, the coastal State must demonstrate to the satisfaction of the Secretary that such grants will be used to develop a management plan and program consistent with the requirements set forth in section 306(c) of this title." And, of course, that is the part that you have approved of, where you had the public hearing and everything. So I think that is clear.

Well, do you have anything you wish to add further?

Mr. TERRY. No, thank you.

Senator HOLLINGS. We appreciate very much your appearance.

We will leave the record open. If there are any written questions we would like to submit, you can furnish answers for us, I am sure.

Mr. TERRY. Yes, indeed.

Senator HOLLINGS. Good.

Thank you very much for your appearance here today.

The committee is adjourned.

(Whereupon, at 1:10 p.m., the hearing was adjourned.)

COASTAL ZONE MANAGEMENT

TUESDAY, MAY 11, 1971

U.S. SENATE,
COMMITTEE ON COMMERCE,
SUBCOMMITTEE ON OCEANS AND ATMOSPHERE,
Washington, D.C.

The subcommittee met at 10:05 a.m. in room 1318, New Senate Office Building, Hon. Ted Stevens, presiding.

Present: Senator Stevens.

OPENING STATEMENT BY SENATOR STEVENS

Senator STEVENS. The committee will come to order.

I do have a statement here. I have been asked by the chairman of the subcommittee to hear the testimony here today.

We have a twofold purpose this morning as we conclude this round of hearings. We shall reopen our ocean dumping hearings in order to receive the statement of Dr. Robert M. White, Administrator of the National Oceanic and Atmospheric Administration, who was out of the country when we held several days of hearings in April. We shall also conclude our hearings on two coastal zone management bills and the coastal zone aspects of two national land use policy bills.

At a later time, we will be pleased to welcome Senator Lawton Chiles, whose State of Florida has experienced many of the problems and promises that we are trying to address in our pending legislation. The Senator's personal knowledge of the problems of Florida's coastal zone will be most helpful to the committee. When he does arrive, we have agreed to hear him.

One area of our coastal zone management deliberations last year that was left incomplete was our consideration of Federal credit assistance programs for financing State capital improvements for the coastal zone. We have asked both the Department of the Treasury, represented by Assistant Secretary Weidenbaum, and the Investment Bankers Association of America, represented by Mr. Frank Smeal, to comment specifically on the bond and loan guarantee provisions of S. 582 and S. 638. We have also asked them to discuss other Federal credit assistance programs in being or proposed, in an effort to determine which program, if any, would be most appropriate for the coastal management legislation.

The Sierra Club is represented here today to discuss our pending legislation, and I am pleased to welcome Mr. Jonathan Ela, who I am sure will help us from the environmental perspective.

Finally, Dr. William Hargis representing the Coastal States Organization as its chairman, accompanied by Mr. Thomas H. Sud-

duth, executive director of the Ocean Science Center of the Atlantic Commission in Georgia and also the secretary of the Coastal States Organization, will conclude these hearings.

We are pleased, Dr. White, to have you here today. As administrator of the National Oceanic and Atmospheric Administration, we are pleased to receive your statement. If you want to do so, you may summarize your statement or you may read it completely, whichever you would prefer.

STATEMENT OF DR. ROBERT M. WHITE, ADMINISTRATOR, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION; ACCOMPANIED BY JAMES BRENNAN, GENERAL COUNSEL'S OFFICE, DEPARTMENT OF COMMERCE; AND DR. ROLAND SMITH, PLANS AND PROGRAMS OFFICE

Dr. WHITE. Thank you, Mr. Chairman.

I would like to go through my statement, but first, let me express my appreciation to you and the committee for permitting me to testify on ocean dumping in light of my recent absence from the country and the inability to testify at the time of the hearings.

I would like to introduce my colleagues here at the table, Mr. James Brennan, from my general counsel's office in the Department of Commerce, and Mr. Roland Smith from our Plans and Programs Office.

I am here today, Mr. Chairman, principally to testify on behalf of the administration's proposal, S. 1238, the Marine Protection Act of 1971, a proposal to regulate ocean dumping.

The National Oceanic and Atmospheric Administration has considerable interest in the problem addressed by this bill and will assist the Environmental Protection Agency in its implementation. Our activities in observing and studying the ways in which the oceans and atmosphere disperse dumped material and our knowledge of the effects of such materials on the living resources in the marine environment are examples of areas in which NOAA can contribute to the total information base that will have to be brought to bear in establishing criteria and reviewing and evaluating permit applications for dumping materials in the oceans and our coastal waters. Therefore, I am most grateful for the generous opportunity you have afforded me to comment on S. 1238 as well as related bills pending before you—namely, S. 1082, S. 1286, and S. 307.

S. 1238, the "Marine Protection Act of 1971," to regulate the dumping of material in the oceans, coastal and other waters and for other purposes represents the means for promulgating the policy set forth in the report of the Council on Environmental Quality, "Ocean Dumping—A National Policy." I am pleased to note that NOAA, through the elements that were brought together by its formation, contributed to this report. It is an outstanding document and one of its important recommendations calls for legislation, as put forth in S. 1238, to control and regulate ocean dumping of wastes.

S. 1238 would establish a national program for the control of ocean dumping administered by the Administrator of the Environmental Protection Agency (EPA), with the advice and consulta-

tion of other appropriate Federal agencies. Under section (5) the administrator would be required to establish and apply criteria for reviewing and evaluating permit applications for transporting material to be dumped or to actually dump material. These criteria are to consider the likely impact on the marine environment, ecological systems and economic potentialities. Also, in establishing and revising such criteria the Administrator shall consult with other Departments and agencies, including the Secretary of Commerce.

Although several agencies are charged with differing responsibilities to protect and enhance our environment, we believe it is necessary that the final decisionmaking authority be vested in EPA as proposed. NOAA and others in the Department of Commerce will, as provided in the administration bill, have an opportunity to give their assessment of the impact and consequences of various courses of action. We will be working very closely with EPA on the development of procedures for the review of permits so as to assure that the interests and capabilities of NOAA are brought to bear in the review process.

NOAA is already making important contributions to the solution of problems resulting from ocean dumping. We have the capability to provide description and prediction services in support of on-site operations and in some cases we can and do provide ecological information and assessments needed to determine the extent of possible damage to living marine resources. In fact, it was the work of our laboratory at Sandy Hook, N.J., under contract to the Army Corps of Engineers, that brought to the attention of the Congress and the public the problem of ocean dumping in New York Bight.

Ocean pollution is of major importance to our living marine resources and, as a fisheries organization, NOAA has a deep and continuing interest in the problem. Pollution-induced ecological change can have tremendous consequences to the physiology and mortality of these resources. We believe that through our on-going research—through scientific probing into the physical, chemical and biological properties of the oceans, coastal and other waters—we are developing an important part of the total understanding which will be needed for intelligent regulation of dumping.

As I have noted the formation of NOAA has assembled in a single organization a broad range of talents and facilities to address problems of environmental observation and prediction. These include physical and life scientists and engineers; fleets of 10 aircraft and 43 vessels; the Nation's only operational civil environmental satellite system; and a complex of 25 laboratories in all coastal regions of the Nation.

A broad scope of environmental quality problems is being attacked at the laboratory complex at Oxford, Md.; Sandy Hook, N.J.; and Milford, Conn. They include surveys to delineate the extent of heavy metal contaminants in fish and shellfish, assessment of the environmental effects of ocean dumping in the New York Bight, and diseases of marine fish and shellfish.

A major survey effort (MARMAP) also has been initiated to monitor and assess marine fish stocks. Its scope is being increased to include sampling of heavy metals as background data for the study of fish contamination. This survey is concentrating on the waters

adjacent to the United States and its major estuaries. In addition to its own fisheries management responsibilities, NOAA provides research and monitoring in support of pollution studies and control activities of other agencies such as the Environmental Protection Agency. Its Environmental Data Service operates national data centers for physical atmospheric and oceanographic data. These are the largest collections of such data in the Nation and through international exchanges they also provide access to environmental data on a global basis.

In the marine environment, NOAA has programs concerned with the general circulation of the oceans—ocean currents and water masses and ocean variability—both of which are essential for determining the routes and fate of pollutants in the oceans. Within the coastal zone and Great Lakes, circulatory studies are being undertaken to better describe transport mechanisms and develop prediction services. We are initiating a new program to specifically address the impact of marine mining upon the environment.

Another major NOAA program that can contribute information that should be useful in evaluating ocean dumping permits is the sea grant program. Its efforts are focused largely in the region most concerned with and affected by ocean dumping—the coastal zone. Among the areas of study sponsored under this program have been:

(1) The definition of local or regional marine ecosystems which are bases for understanding the effects of human intervention and hence for management decisions.

(2) Social, economic, and legal factors involved in decisions on use of coastal areas.

(3) Use of coastal areas for conservation purposes, including preservation of both sites and species.

(4) Effects of minerals recovery on the environment, including the location of new resources and the study of the ecological effects of their recovery.

(5) Legal regimes for resource management in various States.

(6) Advisory service and studies relating to pollution abatement and dispersion.

Information from NOAA programs summarized above are available to EPA and shall constitute an important part of the total knowledge and understanding needed to effectively regulate ocean dumping. Specifically, the information should be useful in:

(1) Identifying materials potentially harmful to the marine environment and its associated living marine resources.

(2) Predicting present and future impact on the marine environment of ocean dumping to aid in the selection of dump sites, setting standards for disposal of materials in the ocean, and in considering the urgency of terminating certain disposal practices.

(3) Establishing baseline conditions and variations in the oceans as a consequence of dumping.

I believe that the provisions of section 5(a) of S. 1238 requiring consultation with the Secretary of Commerce will permit NOAA to meet its responsibilities with respect to effect of ocean dumping on those living resources that are of concern to NOAA, and we will be working closely with EPA on the ocean dumping program. S. 1238

is, in my opinion, the best proposal for the regulation of ocean dumping before this committee, and I recommend its enactment.

S. 1082 would regulate the discharge of wastes in territorial and international waters until 5 years after its enactment, prohibit such discharge thereafter, and authorize research and demonstration projects. It would prohibit loading of waste material by any vessel in a U.S. port if such waste is to be dumped in ocean waters unless a permit is obtained from the administrator of EPA and the Coast Guard is notified of such loading. No permits would be issued for discharge of any wastes whatever between the Continental Shelf and the coast of the United States. Moreover, S. 1082 authorizes EPA to conduct and assist others to conduct research, surveys, and demonstrations of recycling, reusing and otherwise disposing of waste material.

Likewise, S. 1286, the Emergency Water Pollution Prevention Act of 1971 would amend the Federal Water Pollution Control Act by providing for an immediate cessation of dumping into the ocean of waste material from vessels. The Administrator of EPA would set up a permit system regulating ocean dumping. Disposal would be permitted only when it would not produce harmful effects on the environment and be in areas outside the territorial waters of the United States and beyond the Continental Shelf as designated by the Administrator of EPA.

Neither S. 1082 nor S. 1286 provide for consultation by EPA with other agencies. We believe such consultation is necessary and, therefore, favor the enactment of S. 1238. We also concur with the position of the Council on Environmental Quality, which does not at present favor an absolute ban on all dumping or the barring of the discharge of wastes on the Continental Shelves bordering the United States.

The last bill on which I would like to comment is S. 307, a bill to foster oceanic and environmental research and development. S. 307 would amend the 1966 act which established the National Council on Marine Resources and Engineering Development and the Commission on Marine Science, Engineering, and Resources by adding a new title to be cited as the "National Oceanic and Environmental Research Act of 1971." S. 307 addresses but one aspect of ocean dumping. That is, it spells out, in section 405, a specific statutory basis for the Department of Commerce and the National Oceanic and Atmospheric Administration in relation to that of the Environmental Protection Agency. As indicated above, we believe the Department's interest and expertise will be properly considered under section 5 of S. 1238. I can assure this committee that it is the intent of the Department of Commerce to make sure that the expertise and the knowledge of NOAA on ocean processes is fully brought to bear and made available to the Administrator of the Environmental Protection Agency in the granting of permits and licenses for ocean dumping.

The additional provisions of S. 307 outline a role for the Secretary of Commerce in connection with a number of very important oceanic and environmental problems. Specifically, section 404 of S. 307 deals with the need for a broad effort to develop the necessary information and understanding of ocean environmental conditions,

physical, chemical and biological, which affect the concentration and dispersion of pollutions of all kinds, whether due to dumping or any other polluting process. Such basic understanding of the ocean processes is seriously deficient at the present time. Such information and understanding is essential if proper remedial measures and management techniques are to be devised. Section 406 of the bill addresses the importance of providing ocean and atmospheric environmental information which is necessary to protect the coasts of the United States as well as to support the development and conservation of the resources of our offshore waters. We are all only too familiar with the devastating effects of hurricanes, tidal waves, and storm surges. The ability to understand and predict such environmental hazards is of critical importance to this Nation.

Section 407 raises the question of man's capabilities for beneficially affecting the marine environment and calls for a program to study and investigate possibilities for using the oceans in beneficial ways and also to study the consequences of any proposed ocean environmental modifications.

Section 408 proposes the systematic establishment of an oceanic and environmental research laboratory system. Section 409 directs the Secretary of Commerce to undertake a program of fundamental and applied research in marine technology. Section 410 calls for the establishment of estuarine sanctuaries to be used for the basic study of oceanic and coastal processes.

Mr. Chairman, I believe that the marine environment holds great potential for mankind in terms of its resources, and that its preservation and conservation is of utmost concern to society. The interest of the chairman of this subcommittee in and support for the activities of NOAA, which is reflected in this bill, is a source of great satisfaction to the Department of Commerce. However, I believe that the authorities already available to the Department of Commerce—and other agencies—enable it to pursue the high priority activities outlined in the bill.

S. 307 would largely provide authorities already available in Commerce and in other agencies such as EPA, NSF, Navy, Interior, and the Corps. As you are aware, extensive activities are already underway under existing authorities.

With respect to the provisions of S. 307 proposing a system of laboratories, I know this committee is aware that there are already available a large number of laboratories operated and supported by various Federal agencies or by States, educational or other nonprofit organizations or by industry. We believe these existing laboratories and capabilities are adequate and can be used to pursue the objectives of S. 307. We are already working with other agencies to assure effective coordination in the use of these laboratories and, accordingly, do not believe that a system such as that proposed in section 408 is necessary.

Also in reference to section 410 of the bill, we do not favor a grant program for estuarine sanctuaries at this time in view of the fact that this subject is being considered under other bills.

In view of the above, I believe the authorities of S. 307 are not essential and that enactment is not necessary to carry out a vigor-

ous ocean and environmental research program. I therefore recommend against its enactment.

I wish to thank the members of this committee for the opportunity to appear before them and comment on the bills under consideration.

Senator STEVENS. Thank you, Dr. White. I am sorry that we seem to have so many hearings going on with the Commerce Committee that more of our colleagues are not here, because I am sure you realize we have great interest in NOAA, and the chairman, in particular, is sorry he is not able to be here.

As I gather it, you are telling us that the authorities that already exist within NOAA, you think are sufficient to continue your advisory role to EPA should the administration's bill, S. 1238, be enacted. Is that right?

Dr. WHITE. Yes; as a general statement, Mr. Chairman. S. 1238 calls upon the administrator of EPA to consult with the Secretary of Commerce as well as the heads of other agencies in establishing criteria and promulgating permits and licenses, S. 307 goes to the question of the way in which the Administrator of EPA will consult with the Secretary of Commerce in the granting of such permits and licenses.

It is our belief that such consultation will take place under the provisions of S. 1238 and does not require spelling out in the legislation. The remaining aspects of S. 307, on the other hand, Mr. Chairman, do not go to the question of ocean dumping but go much more broadly to a number of questions dealing with ocean and environmental activities.

I think it would be fair to say that each point made in that bill is very vital and very important. As I have indicated in my statement, I regard the ocean activities of this Nation as vital. I think the sense of the bill is to specify and indicate the kinds of programs that, should the Congress pass such a bill, it might wish to see the administration carry out more fully.

I think, also, there is no question that authorities exist for carrying out most provisions on S. 307 either in the Department of Commerce today or in other agencies.

Senator STEVENS. From where do you derive that authority? From the general appropriation acts?

Dr. WHITE. No. It comes from the basic enabling legislation for the various agencies that came to make up NOAA.

Senator STEVENS. Are you saying to us that those individual departments which you drew into NOAA through reorganization had this general authority and that you carried it with you into the NOAA organization?

Dr. WHITE. That is correct. The effect of the Reorganization Plan No. 4 was to bring the authorities of the individual components into NOAA.

Senator STEVENS. There is no place, however, where the specific delineation of the NOAA objectives set forth in S. 307 have been passed and enacted by the Congress?

Dr. WHITE. No. I think that that is an important point, that there is no place in a single piece of legislation that attempts to consolidate and express the programs of NOAA as S. 307 does.

Senator STEVENS. I understand and I am sure that you are aware of the OMB process. I do not want to embarrass you at all, Dr. White, but is there anything in S. 307 that would be antagonistic to the goals of NOAA as you envision them as the Administrator?

Dr. WHITE. No; there is clearly nothing antagonistic to the goals of NOAA. In fact, the provisions of S. 307 in many ways crystallize and summarize many of the objectives of the organization.

Senator STEVENS. As you pointed out, the expertise of environmental observation and prediction as far as the oceans are concerned are assembled in NOAA today.

Dr. WHITE. That is correct, sir.

Senator STEVENS. And you have the environmental laboratories and the total problems of the marine environment under your supervision as far as the observation and surveillance is concerned. Is that not correct?

Dr. WHITE. That is correct, Mr. Chairman. This is not to say there are not other agencies also involved in some of these, but the principal focus resides, at least on the civil side, within NOAA and the authority for doing it.

Senator STEVENS. To the extent that there is research, monitoring, and pollution activities in either the atmosphere or the oceans, that is your basic responsibility under the NOAA reorganization, is it not?

Dr. WHITE. We have responsibilities, sir, with respect to both the oceans and the atmosphere that go to a full spectrum of problems that deal with those environments. We are not, of course, a regulatory, licensing, or control agency. We are an agency that does research and development and provides services, and we provide services in support of many activities.

One of those very important activities, of course, is in participating in the Nation's fight against environmental deterioration and supporting many agencies, the EPA, the Corps of Engineers, the Department of Interior, by providing information and knowledge about environmental processes in the oceans and the atmosphere which they need to carry out their functions.

Senator STEVENS. I know the administration envisions the reorganization of the Government which would create a new departmental structure. However, under the existing structure is there anything in S. 307 that would not represent a sort of codification of your existing authority and a projection of that authority into the goals as defined for NOAA already?

Dr. WHITE. I think there are two points in S. 307 which probably could be interpreted as being an expansion of existing authorities, authorities that do not presently exist. The first would possibly be in the research laboratory system called for in S. 307. We now do maintain the support of laboratories. If the interpretation of that section is to support a system of existing laboratories, increasing support to them and making sure that they are properly coordinated and have a total national program, then that is now provided in the authority.

If it envisions a new set of laboratories, then that is new authority which we do not presently have. That is subject to interpretation.

The other one, I think, in which we are pretty clear on, in which

the authority does not exist, is the estuarine sanctuaries. I think that does represent a new authority to procure estuarine sanctuaries for scientific research.

Otherwise, the authorities do exist.

Senator STEVENS. As I understand your comments, relative to the estuarine sanctuaries, you think this is premature to go into that at this time. Is that the impact of your statement?

Dr. WHITE. I think we need estuarine sanctuaries and we need them very, very soon. I am hoping that other bills that address the question of estuarine sanctuaries are passed so that we can get these set up as soon as possible. We are rapidly losing our estuaries that are unaffected by human activities and we do need to set aside some of these areas for scientific study.

Senator STEVENS. If we include estuarine studies in both bills, is there any harm in the redundancy? Do you feel that in the coastal zone management bill—which I gather you feel is preferable, we ought to exclude the subject from S. 307? Is that the impact of your statement?

Dr. WHITE. We think it is perhaps more appropriate in dealing with the coastal zone area, but it is quite appropriate where it is, of course, and we believe the decision should be made to have it in one place or the other.

Senator STEVENS. Are you suggesting, Dr. White, that we should separate monitoring from surveillance responsibility under S. 1238, the administration's bill? Or are you actually saying that you should have a monitoring responsibility and not a surveillance responsibility?

Dr. WHITE. You are talking about NOAA?

Senator STEVENS. Yes.

Dr. WHITE. No, sir. What we are saying is the standard setting function is clearly one that is the responsibility of the EPA. In order to set such standards and make such regulations, a wide spectrum of information is going to be required. Some of this will come from monitoring systems and some from ocean research and environmental processes.

We are saying that NOAA does not have any authorities or any responsibilities in the regulatory and standard setting, but it does have, as an ocean and atmospheric agency, clear responsibilities in carrying out of the research into the processes which might affect pollutants, and providing that information and that support to the regulatory and control agencies.

Senator STEVENS. As you know, Congress, as well as the administration, has had a great deal to do with the establishment of NOAA. I am under the impression that NOAA's role, in terms of S. 1238, is a very limited one.

Do you envision that? Are you implying that you seek only a very limited role if S. 1238 becomes the law?

Dr. WHITE. We are hoping, Mr. Chairman, that if S. 1238 becomes law, our role will be very, very prominent. This will depend, of course, upon the interactions between EPA and NOAA. We are hoping to work very closely with EPA so that full capability of our organization is prominently used in their tasks of regulating and controlling pollution. I hope it will be very prominent, sir.

Senator STEVENS. What could we do to assure that? I think this committee would particularly like to see that occur.

Dr. WHITE. Well, I think that the provisions in S. 307 calling out the specific statutory basis for NOAA clearly represents an intent to spell this out. Of course, our position in the administration is that it does not require spelling out, but if the Congress desires to spell that out, our task is to carry out the provisions of the law.

Senator STEVENS. Should S. 307 be enacted, and enacted prior to S. 1238, do you feel that you would have clearly delineated authority, or in other words, codification of the authority, as far as your activities are concerned?

Dr. WHITE. If S. 307 is carried forward, the law would be a systematic application of many of our existing functions and our responsibilities.

Senator STEVENS. The staff points out that there is sort of a dichotomy here in the sense that S. 1238 envisions that you have—or Commerce would have, and we assume they rely upon you and your agency—a right to review the standards in terms of marine environment that the EPA administrator might set. On the other hand, your statement indicates that you believe you would be involved in reviewing the application for permits.

Now, are we incorrect? For instance, if you look on page 6 of S. 1238, it says, "establishing, revising the criteria of the consultation." Do you have sufficient authority under this bill to also be involved in the permit activity, Dr. White?

Dr. WHITE. Sir, in the provisions of that bill, it requires the administrator in reviewing applications for permits to make provision for consultation with interested Federal and State agencies, and we, of course, are an agency of prime interest.

There is also, of course, the authority available under the Fish and Wildlife Coordination Act which requires consultation with the Department of Commerce, NOAA, as well as the Department of Interior, on any permits or licenses involving any modification of a body of water such as a discharge of wastes which might have adverse effects on fish and wildlife.

So, in addition to the authorities in S. 1238 or the requirements of consultation by the Administrator of EPA with the Secretary of Commerce, there are also in existence authorities under the Fish and Wildlife Coordination Act which would have to be followed, and consultation with this organization would have to be carried out.

Senator STEVENS. I was not here, but I am informed that Mr. Ruckelshaus indicated that he would not delegate any authority concerning the permit activity to any other agency. Am I correct in that?

Dr. WHITE. My comment does not imply in any way the suggestion of delegation of authority from the Administrator of EPA to anybody else. But the Fish and Wildlife Coordination Act does call out specifically the role of the Department of Interior and now the Department of Commerce, also, on any activities that involve granting licenses and permits for things such as discharge of wastes into waters of any kind. That Act does not address the question of who will grant such permits. Those permits now, according to S.

1238, would be granted by the Administrator of EPA. Under that Act, there is a requirement for the licensing and permit grant authority to consult with the Secretary of Commerce and the Secretary of Interior insofar as the effects such discharges might have on fish and wildlife.

Senator STEVENS. I think what we are saying, Dr. White, is that you may have the authority to consult, but do you feel that there is a sufficient requirement for the Administrator of EPA to consult with the expertise of NOAA under S. 1238?

Dr. WHITE. I think we would have to say, Mr. Chairman, that the provisions in S. 1238 will provide the necessary consultation with the organization.

Senator STEVENS. Dr. White, other witnesses have testified that the post-dumping monitoring program, as well as the surveillance activities in the dumping area, could be performed by the Coast Guard, and others have said that they do not think it should be.

Could you tell us how you envision, assuming S. 1238 is enacted, the relationship between the Coast Guard and NOAA in terms of these activities, and do you contemplate using Coast Guard vessels for your activities?

Dr. WHITE. I think the principal role of the Coast Guard would be in the law enforcement and surveillance, in that sense, of the dumping activities. I think the scientific monitoring and the scientific surveillance, which is different, should logically be a function of NOAA, which has the research vessels, the monitoring facilities, the scientific laboratories that you need in order to take these data and determine what is happening to the pollutants in the water.

So, in my mind, I see a distinction between the functions of the two agencies; one being a sort of scientific and technical monitoring of the fate of the pollutants that might result from the dumping, and the other one being a law enforcement kind of surveillance referred to in section 8, which is clearly the function of the Coast Guard.

Senator STEVENS. Do you believe that monitoring functions ought to be specifically assigned to NOAA as far as the scientific aspects are concerned?

Dr. WHITE. I think we are the best equipped agency in the Federal Government to do that. We do have the vessels and the scientific laboratories to do that.

Senator STEVENS. In your statement, you set forth some specific areas of study under the sea grant program. We are involved also in the coastal management concept now. I wonder if you could expand a little bit in terms of the six areas of program study, and tell us what you have done or what you are doing in this regard. We would like to have a record as to what NOAA is doing or contemplates doing in those areas.

Dr. WHITE. Mr. Chairman, are you asking only specifically with regard to sea grant or with regard to all of NOAA's activities in regard to this?

Senator STEVENS. We are trying to relate the sea grant program areas to the coastal management program.

Dr. WHITE. The sea grant program's principal focus is on the coastal zone areas and the whole question of the management of the coastal areas.

First, it is making major studies of the ecology of the coastal zone. These studies are being carried out, for example, at the University of Hawaii—and I can go through details of this if you would like, sir—which is completing a study of the ecology of Kaneohe Bay there; at Oregon State University, studies which are being carried out jointly with State agencies of the entire Oregon coastline; a project with Louisiana State University, this one in cooperation with the Corps and State agencies. Here, we are conducting a study of the marshland, very vital to that area of the country. And with the University of Miami, a study of the renewal of the Florida coastal systems with the study initially being concentrated on Biscayne Bay.

So this is a pretty broad distribution around the country of ecological problems around the coastal zone which we are sponsoring and supporting.

Secondly, we are looking at models for coastal zone management. I think we all agree that there is a very strong need for improved methods of managing our coastal zones and we have work underway looking at various models for such a management. For example, at the Center for Environment and Man in Hartford, Conn., there is work going on with Nassau and Suffolk Counties in Long Island looking at the development of management models for decisions which might affect Long Island Sound.

With the University of Michigan, we are developing coastal zone management models which could be used for decisionmaking on Lake Michigan. At the University of Washington, on the West Coast, we have a group of political scientists, economists, lawyers, biologists, oceanographers, who are working together to set up a management model for the Puget Sound area.

So, this is the thrust of the program that deals with the question of setting up models for management—what happens when you make decisions of one kind or another, what kind of trade-offs do you have.

Thirdly, we are looking at the whole problem of the conservation and recreational potentialities of the coastal zone area, and some examples of this would be work we are supporting with Michigan State University looking at the new coho salmon fisheries up on the Lakes.

We are working with the University of North Carolina on beach maintenance problems; again, with the University of Hawaii, in looking at the effects of tourism both on the economic structure of a State and on the coastal zone activities; what is actually happening as a result of the increasing tourism there.

Senator STEVENS. Dr. White, I wonder if you could tell us, or if you could provide for the record, a delineation of all the programs with which you are dealing in NOAA that relate to coastal zone management at the present time. I ask that you submit it later after you review it.

Dr. WHITE. I would be glad to do that, Mr. Chairman.

(The following information was subsequently received for the record:)

Coastal Zone Activities of the National Oceanic and Atmospheric Administration

The formation of the National Oceanic and Atmospheric Administration (NOAA) has brought together sufficient of the Federal Government's coastal zone responsibilities with the accompanying talent and facilities, so that a concerted approach to the problems of the coastal zone can be mounted effectively. The eventual management of the nation's coastal zone must include the resolution of conflicts on use, restoration, and preservation of the resource. Thus, this will require that there be a complete understanding of the complex dynamics and ecological relationships found uniquely in our estuaries, bays, harbors, and nearshore areas. NOAA's activities in the coastal zone contribute to all of these areas. At the present time, for example, NOAA has responsibilities in estuarine ecological studies; coastal storm surges; estuarine and coastal mapping, tides, and currents; coastal weather prediction; estuarine flushing prediction; fresh water run-off monitoring; estuarine circulation surveys; estuarine aspects of the life histories of sport and commercial fish; and the whole spectrum of Sea Grant College activities as they relate to coastal zone activities.

NOAA administers programs which, with their services, products and related research, contribute to the development of the coastal zone and consequently to effective coastal zone management. These programs include Sea Grant, Fisheries, Mapping and Charting, Monitoring and Prediction, Environmental Quality, and the Great Lakes programs.

SEA GRANT

The National Sea Grant Program is oriented primarily to the coastal zone and its marine resources and utilization, with over 80 percent of its research funds spent in coastal zone applications. The following areas of the Sea Grant Program are those that relate primarily to the coastal zone:

1. *Ecology of the Coastal Zone*—Most continuing Sea Grant Programs have as a major goal the definition of the local or regional marine ecosystem as a basis for understanding the effects of human intervention and hence for management decisions.
2. *Models for Coastal Zone Management*—Models for coastal zone management include mathematical and theoretical models in which social, economic, and legal factors are included as well as scientific and engineering parameters. The models are designed for manipulation to show the effects of alternative decision paths and are to be direct tools for coastal zone management.
3. *Coastal Zone Utilization for Conservation and Recreation*—Conservation, recreation, and aesthetics are inseparable under Sea Grant program doctrine and include preservation of both sites and species.
4. *Effects of Minerals Recovery on the Environment*—The most urgent minerals need is for sand and gravel in areas short of industrial aggregates or beach sand. Sea Grant institutions are locating new sources, and studying the effects on the ecosystem of their recovery.
5. *Legal Regimes for Coastal Zone Resource Management*—Before Sea Grant, no complete studies of legal regimes in the various states had been compiled and analyzed; a study by the Marine Council considered only a part of the total picture. Sea Grant Institutions are conducting studies appropriate to their regions. The studies include compiling and analyzing legal regimes in terms of scientific validity, and conservation and economic impact.
6. *Socio/Economic Studies of the Coastal Zone*—Generally, coastal zone decisions have been based on expediency or economic pressures; Sea Grant has undertaken definitive studies of the long term social and economic values (as opposed to short range development) as a basic input to management decisions.
7. *Coastal Zone Environmental Prediction*—Environmental forecasts primarily for beach users and fishermen are not wide-spread in Sea Grant, but research does exist in areas of need, jointly with the Weather Service and National Marine Fisheries Service.
8. *Pollution Abatement and Dispersion*—Advice to managers on disposal of solid and liquid wastes is urgently needed in every state, and each Sea Grant

institution has a program to provide such advice. Studies include definition of the current regimes that disperse wastes, pick-up of waste elements in the food chain, and the half-life of toxic wastes.

FISHERIES

The current NOAA fisheries activities in the coastal zone date back to the organization of the Fish Commission in 1871. Through the years the responsibilities for marine fisheries services by the Federal Government have evolved into essentially six major roles.

One role is that of Federal participation in the development of State/Federal cooperative management of fisheries resources. We now work with 40 coastal state agencies concerned with coastal zone fisheries—10 states have separate agencies for sport and commercial fisheries; however, we also deal with other agencies such as those working with Health, Recreation, Economy, etc., on specific fisheries problems related to these agencies.

A second role is to work with conservation agencies and groups to maintain adequate habitats—spawning nursery and feeding areas—for fisheries resources. We maintain contact with conservation organizations concerned with resources in the coastal states, such as the National Wildlife Federation and Sports Fisheries Institute, including briefings and meetings on specific common problems.

A third role in fisheries activities is to assess, monitor and predict the levels of stocks of fish for both sports and commercial purposes. This role, together with our efforts to break down institutional barriers, are the major thrusts NOAA is to make in support of rational fisheries management.

A fourth role is that of providing Federally sponsored means for commercial fishing vessel operators to acquire new and more efficient vessels. Of some 1400 vessels that have received financial assistance under Fisheries programs since 1956, over 90 percent fished at least part of the year in the U.S. Coastal Zone.

A fifth role is that of maintaining U.S. interests in international fisheries matters which effect stocks of coastal zone fisheries commissions, treaties and agreements.

A sixth role in response more to Federal agency coordination is that of providing data to the Corps of Engineers and the A.E.C. essential for reviewing applications for proposed alteration in coastal areas.

Present activities of NOAA fisheries which relate to the coastal zone include:

1. Research on important species.
2. Fundamental ecological research.
3. Mariculture.
4. Applications and management assistance, including: pollution studies (especially thermal, radiation, and pesticides). Review of proposed physical alterations in estuarine areas for potential damage.
5. Economic studies to determine the extent of fishing capacity in our major sport and commercial fisheries, the effect of existing regulations on the economic status of fishermen, and examination alternative management schemes and means of implementation.
6. Legal studies concerning Federal/State jurisdictional relationships.
7. International affairs programs developing current strategies and negotiating postures for U.S. interest in international waters, as well as participating in the development of new concepts in international law consistent with the long-range multiplicity of U.S. interests in this zone.
8. State aid programs in support of management oriented fishery research projects.

MAPPING AND CHARTING

The marine mapping and charting program of NOAA provides for the coastal zone nautical charts and related publications necessary for safe and efficient marine navigation. It also provides the precise seaward and coastal boundary delineations necessary for determining ownerships and jurisdictions for management of the coastal zone.

Nearly all government agencies (Federal, State and local) are users of the maps and charts produced by this program. In addition, the shipping industry, port authorities, petroleum and mining industries, ocean-oriented industries,

recreationers and sportsmen all use these charts. The benefits lie in safe navigation, location of resources, settlement of boundary disputes, coastal development, coastal management and zoning, and a starting point for scientific understanding. The following categories are included in the mapping and charting program:

1. *Nautical Charting*—The oldest service we have in support of the coastal region is our charting program which dates back to the formation of the Coast Survey in 1807, when it was established to provide a survey of our coasts to help protect our nation's commerce in its early period. The present day needs for nautical charts have broadened in use. More than 800 nautical charts are now on issue for our coastal regions and 175 additional charts for the Great Lakes. NOAA produced over 2.5 million charts in FY 70 and a recent A. D. Little study projects a fifty percent increase in requirements for this decade.

2. *Coastal Mapping and Boundary Surveys*—The developing needs of coastal zone management have brought with them the demand for precise seaward and coastal boundary locations. These boundaries depend upon both tidal limits of the sea and geodetic net control from the land. States, nations, municipalities, and industrial customers alike have an urgent need to have these boundaries delineated. NOAA, as a charting agency with a tradition for the calibre and excellence of its work, is looked to by other agencies, the states, and the courts to provide accurate descriptions of our coasts. In 1970 alone over 71 charts were prepared especially for use in litigations. Not all boundary determination efforts concern litigations, however, as cooperative programs are being undertaken with the states, the most recent case being with the State of Florida. This program involves the establishment of tide gages and the processing and analysis of tidal records for the determination of tidal datum planes, photogrammetric field surveys for the compilation of coastal zone maps, and the incorporation of significant shortline data affecting offshore boundaries for nautical charts. It also includes acquisition, processing, and analyzing of tide controlled infrared and color aerial photography. The resulting accurate delineation of the mean low water line is essential for establishing offshore boundaries between Federal and state areas of jurisdiction.

3. *Bathymetric and Geophysical Mapping*—NOAA also has initiated a series of reconnaissance scale bathymetric and geophysical maps of the continental shelves. We are currently working on related surveys in response to needs of the Geological Survey and the Coastal Plains Region Commission.

4. *Tides and Currents Charting*—NOAA conducts an important program of measuring tides and currents which has traditionally been in support of nautical charting and aids to navigation. More recently, however, we have initiated circulatory studies in support of pollution abatement, particularly in Penobscot Bay, Maine. A NOAA vessel, the FERREL, is a unique facility for this purpose with its deployable buoy systems.

5. *Specialized Mapping*—As a mapping and charting agency, NOAA is called upon to provide a number of specialized products for the coastal zone. In support of the national flood insurance program of HUD, NOAA is conducting coastal inundation mapping and hydrological studies for the management of the flood loss program in coastal zones. Special maps with critical elavations and evacuation routes also are being prepared for along Atlantic and Gulf Coasts to assist communities to evacuate away from threatened coastal areas in time of severe storms.

MONITORING AND PREDICTION

NOAA's monitoring and prediction program can be considered under the following two subdivisions:

1. *Marine Prediction Service*—Rapidly expanding marine activities, including offshore drilling and mining, coastal shipping, commercial fishing, and recreational boating, have created an urgent need for intensified weather and sea forecast and warning services to these diverse marine interests. NOAA has rsponsibility for providing these forecast and warning services and does so through the following means: weather summaries, visibility, sea and lake conditions, detailed local and area forecasts, and tailored information to recreationers, fishermen and others. NOAA specially provides forecasts of severe storms and hurricanes which, with their devastating storm surge, can

cause both extensive damage and modification of the coastal area. In times of disasters such as the oil spill off Santa Barbara in 1969, NOAA can provide mobile on-site support. Ice forecasts are becoming increasingly important in the Great Lakes where the shipping season is limited and in Alaska, along the North Slope now undergoing development. Ice forecasts are being developed for these regions to increase navigational safety and contribute to the lengthening of the shipping season. Techniques also are under development to provide fishermen with environmental forecasts of coastal waters to improve the efficiency of their operation and surf forecasts are being furnished in some areas for local surfing and swimming.

These services are growing as pressures for them increase with the rapidly developing use of the coastal zone. They are a vital service to the day-to-day operations in that region and are a basic function which the Federal Government is sought to provide.

2. *Data Acquisition and Dissemination*—To support its coastal forecast and warning services, NOAA maintains a network of some 230 sites along the coasts to provide essential data which is supplemented by that collected from coastal radars, ships at sea and satellites.

NOAA operates the only civil operational satellite system of the nation. From the present satellites, analyses of snow distribution are prepared routinely which are of interest to coastal zone management in terms of potential shoreline erosion and silting potential with respect to estuarine and delta regions. Analyses of ice distribution in lakes, rivers, estuaries and bay also are produced routinely to aid shipping and those who must protect against damage to coastal facilities and the shoreline.

Routine sea surface temperature analyses from infrared observations from satellites are being developed to delineate major thermal boundaries, currents and up-wlling. We are also planning to expand analyses capabilities to determine areal extent of ice coverage in estuaries including break-up detection, regions of up-welling in coastal waters, estuarine dynamics and coastal currents.

NOAA also maintains a variety of means of communications by which to disseminate forecasts and warnings to the inhabitants and users of the coastal zone. They are disseminated by automatic telephone, VHF-FM broadcasts, and by visual displays as well as commercial and Coast Guard radio stations. Especially vital for carrying forecasts and warnings to boaters on the coastal waters is the use of VHF radio broadcasts from selected weather stations. This dissemination method fills a gap left by the mass media, who aim more at the general public, and do not serve the boater, who is at the mercy of the elements.

ENVIRONMENTAL QUALITY

Because of the immediacy of the environmental threat in estuaries and the coastal zone, NOAA is placing primary emphasis on these regions with regard to the quality of the marine environment. The following are aspects of the NOAA environmental quality program:

1. *Supporting Research and Technology*—The environmental research program of the NOAA elements contributes knowledge to a broad range of problems concerning the environment and associated biota of the coastal zone. In the Chesapeake Bay we have a study of the erosion and sedimentation history from which can be predicted future changes in the Bay floor configuration. A series of bathymetric maps resulting from this study we feel will be a fundamental source for state and Federal groups, such as the Corps of Engineers, working in the Bay.

NOAA is also active in the area of environmental effects of marine mining. Local, state and Federal regulatory bodies urgently need scientific investigation to permit adequate guidance of marine mining activities. The program of NOAA's Marine Minerals Technology Center has initiated a study of the impact of marine mining operations on the environment.

2. *Environmental Data Management*—NOAA operates the major national environmental data repositories. National Climatic Center, National Oceanographic Data Center and the Great Lakes Region Data Center which archive and inventory data and selected information for nearshore areas. Studies are made for selected areas and special inventories are prepared and maintained to support our own needs as well as those of other agencies, the public and

the academic community. For example, NODC has received and is archiving inshore data from the Federal Water Quality Administration and the Naval Oceanographic Office.

The data base maintained in our centers represent an irreplaceable wealth of material to be drawn up when making management decisions and planning for the orderly development of the coastal zone.

GREAT LAKES

The Great Lakes, though unique in our nation's coastal zone as fresh water bodies, constitute a major coastal region of the United States. This region, sharing many common problems with Canada and cooperative efforts working towards their solution, is undergoing rapid growth with many of the accompanying problems.

Many of the NOAA programs which provide products and services throughout the country serve this region and contribute to its development. In addition, a specific program is focused on the Great Lakes and its problems. This program provides current and adequate nautical charts to a growing number of mariners using the Lake Waterway Systems; it provides a water resource information service through the Great Lakes Regional Data Center; and, it provides the estimates of the hydrologic cycle and understanding of the large-scale circulation and thermal features essential in the development of water quantity and water quality assessment and control for economical, efficient and healthy water management planning.

The determination and forecast of the hydrology and hydraulics of the Great Lakes is another valuable service NOAA provides to the population, its industry and commerce. The NOAA Great Lakes Research Center conducts programs in water motion, water characteristics, water quality and ice and snow research aimed at improving this service.

Under the International Hydrologic Decade, an International Field Year of the Great Lakes (IFYGL) is to be undertaken by the U.S. and Canada as a joint effort. It is an essential research program that must be undertaken if the water quality of the Lakes is to be restored. The objective of IFYGL is to provide the scientific basis for developing a water management plan. The program is focused on a study of Lake Ontario and its basin and will provide through observations and analyses improved estimates of the hydrologic cycle and understanding of the large-scale circulation and thermal features of the Lake. NOAA, through its incorporation of the Lake Survey from the Army Corps of Engineers, is now the lead agency for IFYGL.

Senator STEVENS. I would like to assure you that the Chairman and I, putting in the time of this subcommittee, believe very strongly in NOAA's role in this activity and want to strengthen it. Consequently, we would very much like to know what you are doing and where you are going and how you see the relationship between the existing programs and the coastal management bill, if it passes, as well as whether there are any defects in the codification of your authority in S. 307. If we make this as the NOAA Bible of authority, what have we left out, if anything? Could you do that for us?

Dr. WHITE. I would be glad to do that, sir, if anything occurs to me.

Senator STEVENS. I would appreciate it very much. Do either of the other gentlemen have anything to add? I appreciate Mr. Brennan and Dr. Smith being here.

Do you or your two associates have any further comments, Dr. White?

Dr. WHITE. No, sir.

Senator STEVENS. Just one last question in terms of your differentiation between surveillance and monitoring. Do you envision using your own vessels and NSF vessels for the monitoring concept or would you use Coast Guard vessels?

Dr. WHITE. We would probably use our own vessels. They are suitably equipped. If it were more economical, we would use Coast Guard vessels or even leased vessels from private operators. I think the key point is to do it in the most economic way but have the proper direction of the scientific surveillance and monitoring.

Senator STEVENS. One of the things that interests me—you are not contemplating the duplicating of the Coast Guard in terms of surveillance by a uniform force of NOAA for monitoring as opposed to law enforcement concept, are you?

Dr. WHITE. No. The NOAA commissioned services is strictly a scientific and engineering corps used for the remote and hazardous scientific assignments and used to man our vessels.

Senator STEVENS. BCF did have law enforcement authority as well as just strictly monitoring authority. As you expand the NOAA monitoring activities in the scientific field, you are not going to be using the scientific vessels for law enforcement also and thereby detract from the ability of the Coast Guard to maintain their concepts, are you?

Dr. WHITE. No. Our law enforcement responsibilities in the fisheries area, which are to enforce the laws governing the fishery zones and to police international agreements in fisheries, are joint with the Coast Guard. The way in which we work with the Coast Guard is that we call upon the Coast Guard to provide the facilities. We put our scientists and our technicians on board Coast Guard facilities. The actual enforcement is carried out by the Coast Guard.

Senator STEVENS. Do you have any agreements between either NOAA and EPA or NOAA and the Coast Guard concerning your relationship? Has this been spelled out in detail yet?

Dr. WHITE. I have had meetings with Mr. Ruckelshaus of EPA, sir, and we have agreed that we need to sit down and come to an agreement as to what the two agencies' responsibilities are going to be in various areas, because it is quite clear that we have common needs in many areas; monitoring being one; marine ecosystems is another. There is a whole spectrum of activities where the Environmental Protection Agency and NOAA have common needs, and the Administrator of EPA and I have agreed, and we do have a group going now working out the details of what would be the agreement between the two agencies, spelling out what each is supposed to do.

With the Coast Guard, we have many different agreements, not one overall agreement, because, again, we interact with the Coast Guard in many areas. For example, they take many of our weather observations on coastal areas and at sea for us. We have agreements with them on this. We have agreements with them, for example, on the national data buoy project. We have agreements with them on the policing of our fisheries.

Senator STEVENS. Are those agreements already in existence?

Dr. WHITE. Many of them are already in being, sir, yes.

Senator STEVENS. I know we would be very much interested in having them provide a copy of those for the file, if that is not invading your province. We would also like very much to have the agreement, when you do work it out with Mr. Ruckelshaus, so we can determine whether the intent of Congress, as far as NOAA is concerned, has been carried out. Would you provide those to us at a later date or at least let us know of them?

Dr. WHITE. We will let you know the extent to which we can provide them.

Senator STEVENS. Fine. Thank you very much. We do appreciate your help.

Dr. WHITE. Thank you, Mr. Chairman.

(The following information was subsequently received for the record:)

U.S. DEPARTMENT OF COMMERCE,
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION,
Rockville, Md., November 6, 1970.

Adm. C. R. BENDER,
Commandant (DB),
U.S. Coast Guard,
Washington, D.C.

DEAR ADMIRAL BENDER: It gives me great pleasure to forward to you a signed copy of the memorandum of understanding regarding support to the National Data Buoy Project.

This memorandum of understanding exemplifies the spirit of cooperation we have always had in working with the Coast Guard. It calls for vitally important support to the buoy project. In particular, I am pleased that your officers who have been working on the development activities of the program will be able to assist NOAA as it moves ahead with this aspect of the program.

I recognize that this memorandum is only a beginning. However, I believe it can serve as a basis of a permanent agreement to be negotiated at a later date. In this regard, I have asked Rear Admiral O. D. Waters, Jr. to initiate the work on a permanent agreement.

I am looking forward to continued cooperation between NOAA and the Coast Guard in the Buoy Program and many other important activities.

Sincerely,

ROBERT M. WHITE,
Acting Administrator.

Enclosures.

NATIONAL DATA BUOY DEVELOPMENT PROJECT

ARTICLE I—INTRODUCTION

The United States Coast Guard and the National Oceanic and Atmospheric Administration (NOAA) jointly recognize that continued cooperation and coordination are desirable for the development activities and are required for the operational support regarding the National Data Buoy Development Project (NDBDP).

Two major areas of concern which require immediate attention are those of support and personnel. It is anticipated that this interim understanding will be superseded by an interagency agreement in due course, not later than 1 July 1971.

ARTICLE II—SUPPORT

1. Recognizing that certain support functions required by the NDBDP, i.e., ship time, aircraft services, communications, and the associated base support will remain within the mission and capability of the U.S. Coast Guard with the formation of NOAA, it is agreed that:

a. The U.S. Coast Guard will continue to budget for and supply ship time, aircraft services, communications, and associated base support to NOAA for the deployment and servicing of NDBDP platforms. NOAA will submit specific requests for this service to the U.S. Coast Guard for review and determination whether the requested service is within the Coast Guard mission and capability.

b. The National Oceanic and Atmospheric Administration will be responsible for providing unique equipment required by the U.S. Coast Guard in support of NDBDP.

2. The Coast Guard will continue supply support as detailed below:

a. After 18 October 1970, the Coast Guard will continue negotiation and award of all contracts already in process with an expected award date of 31 January 1971 or earlier. Appropriate document numbers, fund citation, and billing instructions will be provided by NOAA prior to award.

b. All contracts awarded by the Coast Guard, regardless of date, where contract completion is expected by 31 January 1971, will continue to be administered by the Coast Guard. Fund citation and billing instructions will be provided by NOAA prior to issuance of any change orders thereto.

c. All contracts awarded by the Coast Guard, including those outstanding on 18 October 1970, where contract completion is expected after 31 January 1971, will be turned over to NOAA for administration on 18 October 1970 or the date of award if subsequent thereto. Coast Guard liability for payments against these contracts will be limited to the amount obligated and unpaid on 18 October 1970. All subsequent change orders will be issued and funded by NOAA.

ARTICLE III—PERSONNEL

1. Recognizing that continuing close liaison between the U.S. Coast Guard and the National Oceanic and Atmospheric Administration will be required to carry out this program effectively, it is agreed upon that:

a. The U.S. Coast Guard will detail on a reimbursable basis sixteen (16) Coast Guard personnel to NOAA for the purpose of assisting in the buoy development program. The beginning date of such details will be the effective date of the determination order issued by the Office of Management and Budget (OMB).

b. The Coast Guard personnel on the attached list are assigned to NDBDP.

c. Replacements for the personnel named will be as mutually agreed upon by the Administrator, NOAA, and the Commandant, U.S. Coast Guard. If positions are vacated by Coast Guard personnel, the associated positions will be transferred from Coast Guard to NOAA.

d. Standard Coast Guard personnel reports will be submitted regularly to the U.S. Coast Guard in accordance with established procedures.

2. Since by Executive Order (as amplified by the OMB determination order) all unobligated NDBDP funds, positions (except those 16 positions now filled by Coast Guard personnel) and property will be transferred to NOAA, and since Coast Guard personnel will continue to be assigned to the NDBDP, it is agreed that:

a. The Coast Guard personnel will be under the technical direction and operational control of the National Data Buoy Development Project Manager.

b. Administrative control of Coast Guard personnel assigned to NDBDP will remain with the U.S. Coast Guard.

c. Costs of pay and allowances and other expenses, such as travel, normally chargeable for Coast Guard personnel, will be billed to the National Oceanic and Atmospheric Administration at standard rates by the U.S. Coast Guard quarterly in advance.

ROBERT M. WHITE,
Acting Administrator, National Oceanic and Atmospheric Administration.

November 5, 1970.

C. R. BENDER,
Commandant, U.S. Coast Guard.

October 20, 1970.

List of Coast Guard personnel assigned NDBDP

Rank and name:	*Service No.*
Capt. V. W. Rinehart	4074
Cdr. P. A. Morrill	4977
Cdr. W. L. King	5111
Cdr. W. F. Merlin	5734
Cdr. W. M. Flanders	5750
Cdr. R. I. Rybacki	5758
Lcdr. M. E. Gilbert	6187
Lcdr. R. H. Cassis	6765
Lt. R. H. Canada	7157
Lt. L. A. Onstad	7554
Lt. (jg.) P. J. Hartman	51635
Ens. O. M. McGuire	44175
Ens. G. L. Petrie	51780
CWO-4 R. H. Neuman	28049
YN1 R. C. Finney	341-857
SK2 G. C. Voltattorni	370-997

AUGUST 20, 1969.

Adm. W. J. SMITH,
Commandant, U.S. Coast Guard,
1300 E Street, Northwest,
Washington, D.C.

DEAR SIR: I am very pleased with your letter of August 6, 1969 (3140 Serial 223-1-0C) agreeing in principle to the assumption of the task of broadcasting weather and other environmental information to the high seas areas for which the United States has responsibilities. It is particularly gratifying that the planned San Francisco long-range radio station is scheduled to begin the broadcast of ESSA-Weather Bureau marine environmental products on July 1, 1971.

Mr. Max W. Mull, Chief, Marine Services Group, on the staff of the Director, Weather Bureau, ESSA, is the coordinator for this and other marine weather service projects. I agree that close liaison should continue between our staffs for development of broadcast procedures and products for the San Francisco Radio Station and for our other cooperative efforts in the dissemination of marine environmental information for promotion of marine safety.

Sincerely,

ROBERT M. WHITE,
Administrator.

DEPARTMENT OF TRANSPORTATION,
U.S. COAST GUARD,
Washington, D.C., August 6, 1969.

Dr. ROBERT M. WHITE,
Administrator,
Environmental Science Services Administration,
Rockville, Md.

DEAR DR. WHITE: Reference is made to your letter W1151 of 5 March 1969 which proposed an expanded role for Coast Guard radio stations in broadcasting weather and other environmental information to the high seas areas for which the United States has responsibilities under international agreements.

I agree in principle to the assumption of this task which directly relates to our mission for promotion of marine safety, and I have directed appropriate members of my staff to commence development of a detailed plan that will be mutually agreeable to ESSA and other interested agencies. It is my understanding that the requirement for high frequency radio facsimile broadcasts to civil users is the more urgent requirement at this time, but that you would desire CW and single sideband voice broadcasts as well.

Current plans call for a re-structuring of the Coast Guard Communication System to include long-range radio stations at San Francisco, Honolulu, New Orleans, and one on the East Coast. Detailed plans are currently under way for the San Francisco station and construction is scheduled to commence at the new site during early calendar year 1970. I have directed that provisions be incorporated in the design of Radio Station San Francisco to permit 8 hours of broadcast each day, simultaneously on three high frequencies.

A similar capability will be provided at the other long-range radio stations during construction, subject to adequate funding.

I recommend that close liaison continue between our staffs for development of broadcast procedures and products for the San Francisco Radio Station which is scheduled to commence full operations on 1 July 1971. Captain Gordon F. Hempton, Chief, Communications Staff, will be the Coast Guard coordinator for this project.

Sincerely yours,

W. J. SMITH,
Admiral, U.S. Coast Guard,
Commandant.

U.S. DEPARTMENT OF COMMERCE,
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION,
Rockville, Md., March 5, 1969.

Adm. W. J. SMITH,
Commandant, U.S. Coast Guard,
1300 E Street, Northwest,
Washington, D.C.

DEAR SIR: The Coast Guard and the ESSA Weather Bureau have a long history of effective cooperation in supplying mariners with weather warnings and forecasts. A large number of Coast Guard radio stations now blanket the coastal waters with the Weather Bureau's releases of warnings and other environmental information in support of safe marine operations. The purpose of this letter is to explore the possibility of extending this cooperative service to the high seas areas for which the United States has assumed responsibility in international agreements. Two specific additions are proposed:

1. That the Coast Guard undertake to make the basic high seas radio broadcasts of marine weather and state of sea information provided by the Weather Bureau for the North Atlantic west of 30°W, and for the North Pacific west to 160°E.

2. That the Coast Guard undertake to make radio facsimile broadcasts, for the same areas, of material to be provided by the Weather Bureau. The World Meteorological Organization has formally attested to the value of facsimile maps of weather and sea-state in high seas navigation and other marine operations. The only radio facsimile broadcasts from this country that are available to merchant ships are the Navy facsimile weather broadcasts from NSS, NPG, and NPM, which are designed primarily for Navy operations. There is a need for radio facsimile broadcasts of marine weather and other marine environmental information designed specifically for the civil fleet.

If these proposals are considered favorably by the Coast Guard, additional technical information will be furnished with regard to the broadcasts.

Sincerely yours,

ROBERT M. WHITE,
Administrator.

DEPARTMENT OF TRANSPORTATION,
U.S. COAST GUARD,
Washington, D.C., August 22, 1969.

COMMANDANT INSTRUCTION 3140.2
Subj: Reporting and Dissemination of Weather Information

1. *Purpose.* This Instruction sets forth policy for reporting and dissemination of weather information, directs close coordination and cooperation with the U.S. Weather Bureau in these activities, and requires submission of planning information.

2. *Program Objectives.*

a. To assist the U.S. Weather Bureau in its weather reporting and dissemination program.

b. To establish future requirements for marine weather information.

3. *Discussion.*

a. The U.S. Weather Bureau has statutory responsibility for providing weather information to the public. Under the authority of 14 USC 147, the Commandant has cooperated with the Weather Bureau by providing weather and sea data, and by disseminating weather information through visual displays and radio broadcasts.

b. A number of recent Coast Guard actions emphasize the need to determine the future direction and policies of this important program. For example, pilot projects have been undertaken to transmit marine information on VHF-FM to boatmen. Similarly, up-to-date weather information is being broadcast at frequent intervals during the day on 2670 kHz in several areas with large concentrations of recreational boats.

c. The Weather Bureau has recently authorized specified Coast Guard units to originate visual warning displays under the conditions noted in enclosure (1).

A Weather Bureau request for an expanded Coast Guard role in high seas weather broadcasts is now being evaluated. Thus, increasing demands are being placed on our resources and planning information is needed.

d. Increasing Federal involvement in coastal zone planning, potential future exploitation of the Continental Shelf, and greater emphasis on ports and waterways development all lend a sense of urgency to the development of a long-range plan for weather reporting and dissemination by the Coast Guard.

4. *Policy.*

a. *Coordination.* In order to provide part of the basis for an effective marine safety information program, close coordination and cooperation is desired with the regional directors, U.S. Weather Bureau. Weather Bureau manuals and directives are the basis for detailed weather reporting and dissemination requirements.

b. *Weather Reporting.*

(1) Weather reports shall be made by all Coast Guard Cutters that have a radioman on board and a capability for either radio telegraph or radio teletypewriter, when at sea more than 25 miles distant from the nearest known regularly reporting weather station, unless radio silence has been imposed. District Commanders may designate cutters with only a voice capability to make reports if the Weather Bureau has need for such reports in areas without sufficient reporting stations.

(2) Lightships and manned offshore light stations are also designated as weather reporting stations. District Commanders may designate other shore units as reporting stations after coordinating requirements with the regional director.

(3) Use of the Coast Guard Auxiliary to report on-scene weather is encouraged. Plans to rebroadcast from either Coast Guard or local commercial stations should be coordinated with the local Weather Bureau office.

(4) Timely reporting of data is important and delivery of the data collected shall be made by the most efficient means available that is mutually agreeable to the cognizant district commander and regional director of the Weather Bureau. Programs for reporting units shall include, but are not limited to, taking and reporting synoptic observations at 0000, 0600, 1200, and 1800 GMT daily.

(5) Coast Guard radio stations shall accept weather reports from any authorized reporting unit (government or nongovernment).

c. *Weather Dissemination.*

(1) *Visual Dissemination.* District Commanders, in liaison with the regional directors of the U.S. Weather Bureau, will designate those Coast Guard shore units, lightships, and light towers required to display coastal warning signals. To provide for a more prompt reaction to hazardous conditions that are officially observed but not yet forecast, selected display stations have been authorized by the Weather Bureau (WB Operations Letter 68-23 of 19 June 1968, enclosed) to initiate visual small craft warnings.

(2) *Radio Dissemination.* The Commandant supports a broadcast program which provides timely information tailored to the local area. Weather and other environmental information in areas of high danger and/or high boating concentration are particularly important. Scheduled weather broadcasts will be provided as directed in CG-233-1 and may include other marine information. Weather warnings—small craft, gale, storm—will be broadcast when received from the Weather Bureau. Stations authorized to initiate visual small craft warnings based upon local observations shall also make unscheduled radio broadcasts as prescribed in enclosure (2). For the present, VHF-FM frequency use will be limited (except in the Great Lakes) to warning messages on 156.8 MHz. The frequency of 156.750 MHz has recently been designated for the broadcast of environmental information and the role of this frequency is now under evaluation by the Federal Communications Commission, Coast Guard, and ESSA.

(3) *Forecasts.* A unit may supply information to the public regarding existing weather, bar, sea, or surf conditions and Weather Bureau forecasts upon request. No predictions of future conditions shall be made except that forecasts of weather and sea conditions prepared by Coast Guard units with a

qualified forecaster may be released to search and rescue participants in cases under Coast Guard control in which commercial or other government ships or aircraft are actively involved if it will contribute to the success of search and rescue operations.

5. *Action.*

a. District Commanders shall:

(1) In coordination with the Weather Bureau, develop a weather reporting and dissemination plan, taking into consideration the requirements of both commercial and recreational marine users. The Federal Plan for Marine Meteorological Services which is being distributed separately to district commanders will be useful in preparation of this plan.

(2) Provide the Commandant (O) by 1 March 1970 with resource requirements in excess of present capability to carry out the plan so that appropriate support by the Commandant can be programmed.

(3) Inplement the above policy to the extent that present resources permit.

(4) Forward to Commandant (OMS) a list of reporting and display stations designated in accordance with this Instruction, with annotation to indicate the type and frequency of reports and the type of display (day, day/night, etc.), and keep Commandant (OMS) advised of changes to this list.

b. Commanding officers and officers-in-charge of reporting and display stations shall comply with the applicable portions of the enclosure to this Instruction.

R. W. Goehring,
Chief, Office of Operations.

Instructions for Visual Coastal Warning Display Program

1. Weather Bureau Operations Manual Letter 68–23, which is attached, prescribes Weather Bureau policy on coastal warning display stations and delegation of authority to the Coast Guard under certain specified conditions, to initiate small craft displays. The following additional information is furnished to amplify Weather Bureau instructions:

a. Coastal warning signals shall be hoisted, changed, and taken in only upon receipt of Weather Bureau information from the district commander or the U.S. Weather Bureau except at those units specifically authorized to initiate small craft displays. They shall be hoisted, changed, and taken in promptly at the time indicated in the messages. They are *not* to be taken in automatically at the end of a 24 hour period.

b. The time of receipt of coastal warning information and the time of displaying, changing, and taking in storm warnings shall be logged.

c. Any interference with the unit's capability to display coastal warning signals shall be reported promptly to the supervising Weather Bureau Office and to the district commander.

d. Night coastal warning signals shall not be displayed by any Coast Guard vessel.

e. Display stations will be guided by current Weather Bureau directives.

f. Units not specifically designated as display stations shall not display coastal warning signals.

2. When information is received by a district commander from the supervising Weather Bureau Office or from a designated coastal warning signal display station, either Coast Guard or civilian, that a station is established, moved to a new location, changed from day to both day and night displays or vice versa, permanently discontinued, temporarily unable to make the required display, resuming display after being inoperative, or changing its name, the district commander shall issue an appropriate notice to mariners and take such other action as may be indicated.

3. The Weather Bureau will furnish the Coast Guard, once yearly, a list of marine visual display stations. Upon receipt, each district commander will arrange for a list of stations within his district to be published in the local Notices to Mariners.

Instructions for Weather Broadcast Dissemination Program

1. Weather information supplied by the Weather Bureau shall be included in the Weather and Marine Information Broadcasts from Coast Guard stations on frequencies designated by the Commandant for this purpose.

Warnings affecting small boats shall be given the widest dissemination and need not be confined to those stations designated to make regular broadcasts. The district commander is authorized to take such additional action as he deems necessary to insure widest dissemination of information during severe weather conditions, particularly by designating additional broadcasts on VHF–FM, which has a limited range. Weather forecasts, advisories, and warnings included in the broadcasts shall be limited to official information furnished by the Weather Bureau and shall identify the source (i.e. Weather Bureau) of the information. On-scene weather conditions observed at Coast Guard stations may be included in regular scheduled broadcasts.

2. Stations authorized to initiate small craft visual warning displays based upon locally observed weather shall also make unscheduled radio broadcasts on 2182 kHz and 156.8 MHz at such times as they initiate small craft warnings. The broadcast shall state that small craft warnings are in effect for the local area based upon observed weather conditions. Wind and sea conditions observed shall be included in the broadcast.

3. The Coast Guard and Weather Bureau have agreed that all weather and warning messages originated by the Weather Bureau for further dissemination by the Coast Guard shall contain brief instructions as to the action required. These instructions shall be incorporated in the heading by the originating Weather Bureau Office. Arrangements for obtaining the weather information to be broadcast shall be made locally between the district commander and the cognizant Weather Bureau Region.

4. All information disseminated by radiotelephone, radiotelegraph, radioteletype, or facsimile shall be broadcast in accordance with the requirements of the Coast Guard Communications Manual (CG–233) and additional local instructions promulgated by the district commander.

Operations Manual Letter 68–23

WEATHER BUREAU

SILVER SPRING, MD.

Date of Issue: June 6, 1968
In Reply Refer To: W1121
Subject: Coastal Warning Display Stations
Effective Date: June 19, 1968
File With: D–50

A. *Establishment of new coastal warning display stations*

With the increasing availability of warnings on commercial radio and television, the increased dissemination over Coast Guard radio channels, and the advent of our own VHF–FM continuous weather broadcasts, there is less dependence on visual displays to warn of approaching storms and other weather and wave hazards. As a long-range trend, the need for visual displays is expected to diminish. However, for the next few years the user requirements for visual displays are expected to remain strong because of the increasing number of small boats, many of which are not yet equipped with radio. The visual display program will therefore be continued.

New coastal warning display stations may be authorized by the Region where strong interest exists and where a dependable cooperator is available. There will be no change in the funding for existing stations. For new stations the cost of flags may be borne by the Weather Bureau, but all other expenses, including the provision of poles and halyards and their maintenance, will be borne by the cooperator. The workload of the Weather Office responsible for issuance of warnings must be considered in arranging for a new display. In any event the cooperator must agree to accept warning messages via collect telephone or telegraph, should the Bureau deem it necessary to use such means of communication. New display stations will be reported immediately to Weather Bureau Headquarters, W1422, on WB Form 530–5 for post review and documentation. All other instructions relating to the display program remain in effect.

B. *Delegation of authority to Coast Guard to initiate small craft displays*

The responsibility for warnings of expected hazardous weather and wave conditions lies with the Weather Bureau. The basis for these warnings, particularly for warnings to small craft near shore, includes official observations from

Coast Guard ships and stations. Without compromising the Weather Bureau's responsibility for issuing small craft warnings, and in order to provide for a more prompt reaction to hazardous conditions that are officially observed but not yet forecast, the Regional Director may make arrangements with the Coast Guard District Office for Coast Guard personnel making official weather and sea condition observations at selected stations or patrol craft to initiate small craft displays at such specified Coast Guard stations when existing wind or wave conditions reach the criteria established for small craft warnings, subject to the conditions listed below. Any such arrangement should be reported to Weather Bureau Headquarters, Attention W11.

Conditions for granting this authority will include the following:

1. The Coast Guard station will be an official observation and display station with a satisfactory view of the waterway.

2. The appropriate Weather Bureau Office must be immediately notified, by teletypewriter circuit or telephone, of the display and of the existing wind and wave conditions.

3. Upon receipt of the observation and the information that a display was initiated, the Weather Bureau Office with warning responsibility will promptly issue a small craft warning or revise the existing warning so as to reflect these reported conditions, using the time the display was initiated, and indicating the time of discontinuance of the warning and display.

4. Criteria for displaying the small craft pennant will be the same as that established for issuance of a small craft warning.

GEORGE P. CRESSMAN,
Director, Weather Bureau.

INSTRUCTIONS FOR WEATHER BROADCAST DISSEMINATION PROGRAM

1. Coast Guard reporting units shall be guided by Weather Bureau manuals and shall use Weather Bureau forms prescribed by the Regional Director of the Weather Bureau. Required publications, manuals, forms, and corrections thereto, will be furnished by the Weather Bureau direct to the reporting unit. In addition, the Weather Bureau has agreed to visit each Coast Guard reporting unit on a mutually agreeable scheduled basis to provide instrument calibration and technical guidance. If a unit is not visited by Weather Bureau personnel within any 12-month period, the commanding officer or officer-in-charge of the unit concerned shall inform the district commander.

2. Weather Bureau Marine Centers and Port Meteorologists that will assist Coast Guard units are listed below:

ATLANTIC AREA

Weather Bureau Office 30 Rockefeller Plaza New York, N.Y. 971–5561	Weather Bureau Office U.S. Coast Guard Base 427 Commercial Street Boston, Mass. CA. 7–8139	Weather Bureau Office U.S. Customhouse Room G–6 101 E. Main Street Norfolk, Va. MA. 2–5705

GULF AREA

Weather Bureau Office* 701 Loyola Avenue New Orleans, La. 525–4046	Weather Bureau Office 516 U.S. Court & Custom Bldg. Mobile, Ala. 433–3241	Weather Bureau Office 1002 Federal Office Bldg. Houston, Tex. 228–4265

GREAT LAKES AREA

Port Meteorological Officer
Marine Services Unit
Weather Bureau Airport Station
Cleveland Hopkins International Airport
Cleveland, Ohio
267–3900

[1] Marine Centers.

PACIFIC AREA

Weather Bureau Office 2544 Custom House 300 South Ferry Street Terminal Island San Pedro, Calif. 831-9281 Ext. 239	Weather Bureau Airport Station Lindbergh Municipal Airport San Diego, Calif. 293-5609	
Weather Bureau Office 703 Federal Building Seattle, Wash. 583-5447	Weather Bureau Office* Room 219A, Custom House San Francisco, Calif. 556-2490	Weather Bureau Office Box 3650, Pier 2 Honolulu, Hawaii 588-869

MARCH 16, 1966.

U.S. DEPARTMENT OF THE INTERIOR,
FISH AND WILDLIFE SERVICE,
1101 Blake Building,
59 Temple Place,
Boston, Mass.

GENTLEMEN: Enclosed please find an Agreement of Understanding which covers those services provided by the Coast Guard for the Fish and Wildlife Service.

This agreement in no way binds the Fish and Wildlife Service and is to be used in connection with local record keeping only. The report mentioned in Article Seven of the Agreement will greatly aid us in compiling our statistics at the end of each fiscal year.

If acceptable to you, please execute the enclosed agreement and return two copies to this office.

If you have any questions regarding this Agreement, please feel free to contact me at your convenience.

Sincerely yours,

C. G. HOUTSMA,
Captain, U.S. Coast Guard,
Chief, Operations Division,
By direction of the District Commander.

U.S. DEPARTMENT OF THE INTERIOR,
FISH AND WILDLIFE SERVICE,
Washington, D.C., April 27, 1966.

COMMANDER (DL)
1st Coast Guard District,
1400 Customhouse,
Boston, Mass.

DEAR SIR: This acknowledges Captain Houtsma's letter of March 16 (3255) with enclosed Agreement of Understanding covering Coast Guard services for the Fish and Wildlife Service.

We have executed the Agreement, and herewith return two signed copies for your records. At the same time, copies are going to all concerned offices of the Bureaus of Sport Fisheries and Wildlife and Commercial Fisheries to assure compliance with Article Seven of the Agreement.

We certainly appreciate the fine spirit of cooperation represented by your action.

Sincerely yours,

(S) JOHN S. GOTTSCHALK,
Acting Commissioner.

AGREEMENT OF UNDERSTANDING

Whereas, under the authority contained in 14 U.S.C. 92, 93, and 141, the United States Coast Guard may, when so requested by proper authority, utilize its personnel and facilities to assist any federal agency to perform

*Marine Centers.

any activity for which such personnel and facilities are especially qualified; It is hereby mutually agreed this 27th day of April, 1966, by the United States Coast Guard and the Fish and Wildlife Service, Department of the Interior, as follows:

Article One: The United States Coast Guard—Bureau of Commercial Fisheries Agreement for "Environmental Oceanographic Research Study" dated the 18th day of January 1965, will terminate on or about the 6th day of July 1966.

Article Two: To aid the Bureau of Sport Fisheries and Wildlife in its Aerial Infrared Thermometer Surveys, the Commanding Officer, U.S. Coast Guard Air Station, Salem, Massachusetts will provide aircraft services through June 1966 to transport Bureau personnel along the northern flight track set out in Appendix I attached hereto and made a part hereof. Representatives of the Bureau will contact the U.S. Coast Guard Air Station, Salem, Massachusetts or the U.S. Coast Guard Air Detachment, Quonset Point, Rhode Island to schedule the flights. Ordinarily one flight per month will be requested, that flight to occur about the third week of each month. Further details will be arranged by Commander, First Coast Guard District and Director, Sandy Hook Marine Laboratory, U.S. Bureau of Sport Fisheries and Wildlife, Fort Hancock, Highlands, New Jersey 07732.

Article Three: The U.S. Coast Guard will furnish the requisite aerial transportation to personnel of the Massachusetts Audubon Society conducting studies of the population and movement of seagulls pursuant to the Audubon Society's contract #14-16-0008-650 dated the 24th day of August 1965 with the Bureau of Sport Fisheries and Wildlife of the Fish and Wildlife Service, Department of the Interior. Bureau personnel will contact the Commanding Officer, U.S. Coast Guard Air Station, Salem, Massachusetts to make arrangements for flights.

Article Four: The U.S. Coast Guard will provide flights to enable Bureau of Commercial Fisheries personnel to conduct aerial surveillance of Soviet and U.S. Fishing Vessels off the New England Coast. Bureau personnel will make arrangements for flights with the Coast Guard Air Station, Salem, Massachusetts. Vessels on First Coast Guard District Search and Rescue Patrol will transport Bureau personnel to enable them to effect surface surveillance of Soviet and United States fishing vessels. Any information gathered during such aerial or surface surveillance concerning Soviet intelligence activities will be forwarded to appropriate United States Intelligence agencies.

Article Five: Representatives of the U.S. Coast Guard and the Bureau of Commercial Fisheries will meet from time to time to exchange information concerning photographic equipment and techniques used for law enforcement and surveillance purposes.

Article Six: The assistance to be rendered to the Fish and Wildlife Service by the U.S. Coast Guard shall remain subject to the availability of the U.S. Coast Guard craft and personnel. Search and Rescue, Aids to Navigation and other operational requirements of the U.S. Coast Guard shall take priority over services made available pursuant to this agreement.

Article Seven: The Fish and Wildlife Service will furnish the Commander, First Coast Guard District annually, on or after 30 June, a report indicating the total number of flight hours and vessel hours that Coast Guard Facilities were utilized in the execution of this agreement.

THE U.S. COAST GUARD,
By: /s/ C. G. HOUTSMA,
Captain. U.S. Coast Guard,
Chief, Operations Division,
First Coast Guard District,
By direction of the District Commander.

U.S. DEPARTMENT OF THE INTERIOR,
FISH AND WILDLIFE SERVICE,
By: /s/ JOHN S. GOTTSCHALK,
Commissioner of Fish and Wildlife.

TREASURY DEPARTMENT,
U.S. COAST GUARD,
Washington, D.C., January 14, 1966.

COMMANDANT NOTICE 5921
Subj: Fisheries Law Enforcement Liaison Officer; designation of

1. *Purpose.* This Notice advises of a proposal to designate a Fisheries Law Enforcement Liaison Officer (FLELO) in districts concerned with fisheries law enforcement responsibilities and solicits comments concerning such designation.

2. *Background.*

a. In 1964 an interagency fishery law enforcement study was conducted by representatives of the Department of State, Bureau of Commercial Fisheries, Navy, and the Coast Guard. The completed study and recommendations were reviewed by the Secretary of the Treasury and he directed the implementation of recommendations which concern the Coast Guard. Copies of the study, including the recommendations of the interagency group, were mailed to Area Commanders and coastal District Commanders on 26 November 1965.

b. One of the recommendations provides for the designation of a FLELO in each district concerned. Within those districts presently active in fisheries law enforcement, liaison with the interested federal and state agencies has been established and close cooperation has been reported. However, the designation of a FLELO should insure close liaison and cooperation in the future despite the rapid change of personnel that occurs for most of the agencies concerned.

3. *Guidelines.* Enclosure (1) contains a proposed description of the general responsibilities of the FLELO. It is to be used as a guide in determining district requirements.

4. *Action.*

a. Comments are solicited from District Commanders with respect to the following questions:

(1) Will the designation of the Chief, District Intelligence and Law Enforcement Branch, as FLELO pose any problems to the District Staff administration? If major problems are envisioned, what are the alternatives recommended?

(2) Are there any additional responsibilities beyond those contained in Enclosure (1) that the FLELO would be required to accomplish because of special fisheries enforcement requirements within the district?

(3) Can the responsibilities as outlined in enclosure (1) be handled by the present District Staff? If not, what alternatives are significant?

b. Comments are to be submitted to the Commandant (OPL) prior to 15 March 1966.

5. *Cancellation.* This Notice is cancelled for record purposes on 31 March 1966.

W. W. CHILDRESS,
Chief, Office of Operations.

PROPOSED DESCRIPTION OF THE GENERAL RESPONSIBILITIES OF A DISTRICT FISHERIES LAW ENFORCEMENT LIAISON OFFICER

The Fisheries Law Enforcement Liaison Officer (FLELO) for each coastal Coast Guard District shall be the primary link on the working level for the coordination of Coast Guard fisheries law enforcement responsibilities with other interested federal and state agencies, fishermen's organizations, and the fishing industry. The Chief, Intelligence and Law Enforcement Branch, will be designated by the District Commander as FLELO and will administer the fisheries law enforcement program.

The Coast Guard officer designated as FLELO, shall carry out the following:

a. Maintain close liaison with the local representatives of the Bureau of Commercial Fisheries, Bureau of Customs (relating to enrollment, licensing of vessels for the fisheries, and fishery matters in which Customs has an interest), and other interested federal and state agencies.

b. Assist in planning and implementing the district at-sea fisheries law enforcement program within the frame work of established laws, treaties, conventions, agreements, regulations and Commandant's policies.

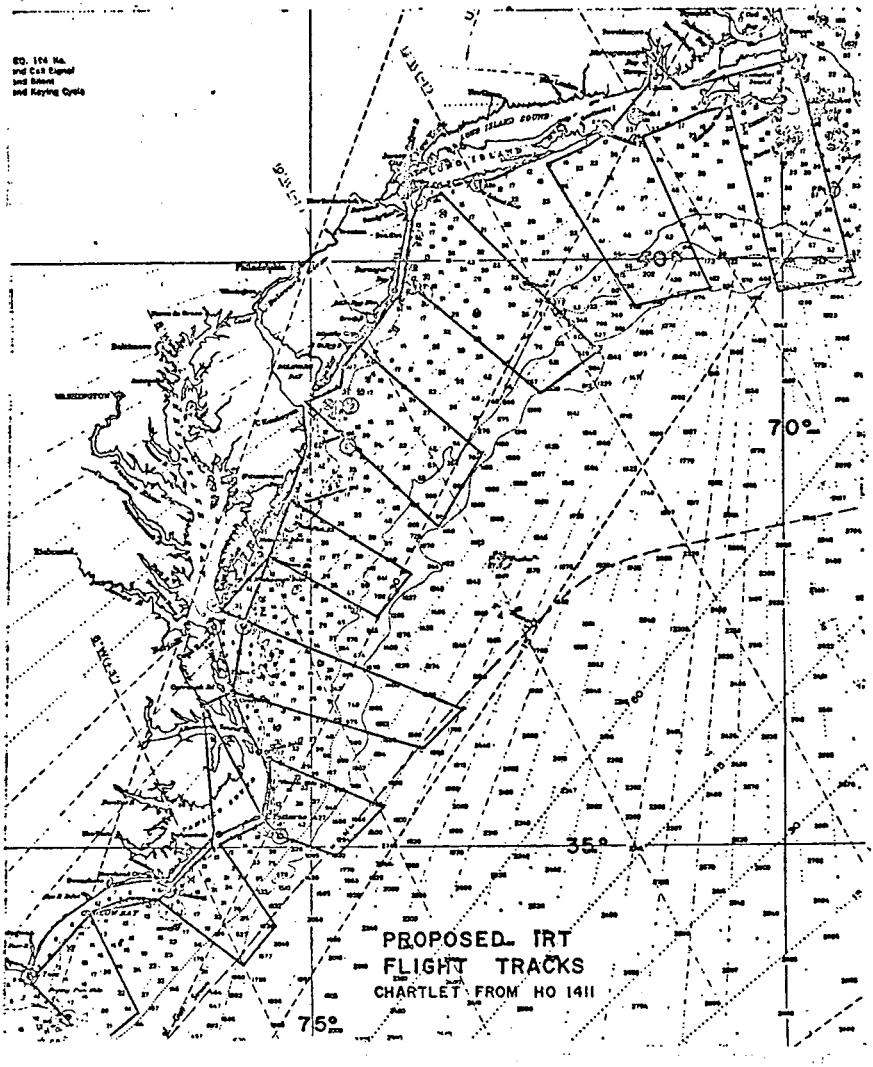
c. Coordinate the training of personnel utilized in at-sea fishery law enforcement within the district to promote effective enforcement by personnel and units assigned to fisheries law enforcement duties.

d. Maintain files of (1) at-sea violations of U.S. fishery laws which occur within the district; (2) volations of international fishery conventions and agreements which occur within the district, (3) violations of territorial waters by foreign fishing vessels, and (4) incidents of gear conflicts and harassment.

e. Review all reports of violations, gear conflicts, harassment, and direct such reports to action officers or agencies.

f. Review information gathered concerning fishery law enforcement and develop statistics concerning problems of enforcement, such as the level of compliance, effectiveness of Coast Guard fisheries enforcement activities within the district, and surface and air enforcement performance criteria.

g. Coordinate the wartime task of controlling the movements of fishing vessels.



Senator STEVENS. Secretary Weidenbaum, we want to thank you for being so gracious. We appreciate your being with us. You may proceed, Mr. Secretary, as you please.

STATEMENT OF HON. MURRAY L. WEIDENBAUM, ASSISTANT SECRETARY OF THE TREASURY FOR ECONOMIC POLICY

Mr. WEIDENBAUM. Mr. Chairman, I am pleased to be here today to express the views of the Treasury Department on S. 582, a bill to establish a national policy and develop a national program for management, beneficial use, protection, and development of the land and water resources of the Nation's coastal and estuarine zones.

I would like to offer my full statement for the record and summarize it orally.

Senator STEVENS. Your statement will be printed in the record in full, and you may summarize your statement, Mr. Secretary.

Mr. WEIDENBAUM. My comments will only cover the issues raised by the provision which authorizes Federal guarantee of tax exempt securities. The new section 307 authorizes the Secretary of the Interior to guarantee obligations issued by coastal States for land acquisition or land or water development and restoration. The total amount of guaranteed obligations outstanding at any time cannot exceed $140 million.

The Treasury Department opposes Federal guarantees of tax-exempt obligations. There are four fundamental reasons for our position.

(1) The guarantee of tax-exempt obligations is an inefficient form of subsidy. The tax revenues loss by the Treasury exceeds the interest savings to the borrower. Let's take the case of the guaranteed bond which would sell in the current market at 5 percent on a tax-exempt basis and 7 percent on the taxable basis. The tax-exempt feature thus saves the State issuing the bond 2 percent. Yet in the case of the typical investor in the 50 percent tax bracket, the Treasury would forego the 3½ percent, 50 percent of the 7 percent, which would, of course, have been paid in taxes if the taxable bond had been issued. Thus there would be a 2 percent saving to the State or local government but a 3½ percent cost to the Treasury.

(2) The guarantee of tax-exempt disproportionately benefits the investors in the higher tax brackets. For example, an investor in the 30 percent barcket receives roughly the same income after taxes on a 7 percent taxable bond as on a 5 percent tax-exempt, but an investor in the 70 percent bracket who holds a 5 percent tax-exempt bond is receiving as much interest after taxes as he would on a 17 percent taxable bond.

(3) Guaranteed obligations heighten the competition for the limited amount of funds available to State and local borrowers, hence, they raise the cost of financing of other local projects. For instance, the school board might have to pay a higher interest rate on school bond issues if investors were attracted instead to the added supply of tax-exempt bonds, with Federal guarantees.

(4) These guarantees conflict with our own Federal debt management policy. They create a class of securities which the Federal Government itself by law is prohibited from issuing.

We are also concerned with the growing tendency to rely on Government support of borrowings in the private credit market. There have been many studies in recent years of different ways of providing credit assistance to States and other borrowers. The general conclusion has been that providing credit properly is a function of private lending institutions.

These studies conclude that direct Federal credit assistance should generally be provided only where borrowers are unable to obtain credit on reasonable terms in the private market and only for programs of high national priority.

In this regard, section 307 permits Federal guarantees of tax-exempt bonds for any borrowings for the purposes set forth in that section. Thus, all eligible borrowers would be encouraged to seek this Federal credit aid regardless of their ability to obtain funds from normal private market sources.

The Treasury is not aware of any specific problems which coastal States might have in borrowing for the purposes stated in S. 582 in the private market without Federal guarantees, or, indeed, whether the States desire to borrow for these purposes.

We are especially concerned with the need to husband Federal credit resources. There have been very large increases in these credit programs financed outside the budget. Compared to increases in fiscal 1970 of $13 billion in outstanding Federal assisted loans, the new budget shows an increase of $30 billion, a massive increase in just 2 fiscal years.

In the January budget message, the President dealt with this specific problem and I will quote briefly:

> Federal credit programs which the Congress has placed outside the budget—guaranteed and insured loans, or loans by federally sponsored enterprises—escape regular review by either the executive or the legislative branch. * * * I will propose legislation to enable these credit programs to be reviewed and coordinated along with other Federal programs.

We are now working on such legislation. We hope to be in a position soon to submit a proposal to the Congress for your consideration.

I now would like to—as requested by the committee—turn to alternative methods of providing credit assistance under S. 582.

Looking at the entire problem from the viewpoint of financial efficiency, the most direct, and least expensive, method of financing is, of course, direct Federal loans. Treasury can borrow at lower interest rates than other borrowers. However, Treasury direct Federal loans show up in the budget and limitations on the budget in recent years have not permitted much expansion of direct Federal lending.

In order to avoid both the budget outlay problem as well as tax-exempt interest coupled with loan guarantees, Congress last year provided—and this is a real innovation—a new method of financing Federal guarantees and interest subsidies on taxable municipal bonds. This new financing technique was first authorized in the Medical Facilities Modernization Act of 1970, which involved credit aid to public bodies for hospital facilities. The administration submitted legislation proposing guaranteed loans for private hospitals and, in order to avoid guaranteeing tax-exempt bonds, direct

loans for public bodies. Yet both the Senate and House committees initially recommended Federal guarantees of tax-exempt bonds.

In the ensuing congressional consideration of that bill, there was no disagreement between the administration and the Congress about the problems of guaranteeing tax-exempt bonds, but the committees felt that guaranteed loans to public bodies were essential to assure the availability of credit to them. Under those circumstances, the administration agreed to a Senate amendment to the House-passed bill, which was subsequently enacted in Public Law 91–296. That amendment provided that the obligations could be purchased by the Federal Government from a revolving loan fund then resold in the private market with a guarantee.

When resold, however, the interest on any obligations guaranteed will be subject to Federal income tax. Similar provisions were later enacted by the Congress for the rural water and sewer loans of the Farmers Home Administration, Public Law 91–617. A somewhat different approach was taken for new community loans guaranteed by the Department of Housing and Urban Development, Public Law 91–609, and in that act, the new community obligations can be issued directly in the market by the public bodies on a taxable basis. Thus, the Congress in 1970 provided for the first time for Federal guarantees of taxable municipal obligations and did this in three separate acts.

Another approach to providing credit assistance to local bodies is our Environmental Financing Authority, our EFA proposal. EFA would purchase tax-exempt obligations issued by local public bodies to finance their share of construction costs of waste treatment facilities eligible for EPA grants. EFA could purchase only obligations guaranteed by EPA and only if the issuing public body is unable to borrow in the market on reasonable terms. EFA would finance its purchases by selling its own securities in the market, and appropriations would be authorized to cover the difference between EFA's taxable borrowing rate and its tax-exempt lending rate.

The EFA legislation, S. 1015, permits a more efficient method of financing than the approach taken in the three bills enacted last year. EFA, as a corporate body, has the power to issue its own obligations, has the advantages of consolidated financing and an ability to adjust the timing, maturities, and other terms of its issues to changing market conditions, and thus minimize its borrowing costs.

Also, since there is an established market for the securities of Federal agencies such as EFA's, EFA would be able to raise quickly the funds necessary to meet the urgent needs for waste treatment facilities.

While the EFA approach may be the most efficient method, short of direct Treasury financing, of providing Federal credit assistance for certain programs, the administration considers that the use of this approach beyond assisting the financing of waste treatment facilities is not justified at this time. In this connection, I will stress our objection to the use of the EFA approach on a program-by-program basis, the inevitable result of which would be to move toward the establishment of a number of small federally sponsored

agencies, hence inefficient, competing with each other in the capital markets.

In conclusion, we believe that Federal credit assistance should be authorized only for programs of high national priority and only for borrowers who are unable to meet their needs in the private financial markets. In those cases where the need for Federal credit aid is clearly established, we believe that the financing should be conducted in the most efficient manner available and in the taxable rather than in the tax-exempt market.

I would like to stress again that legislation will be proposed to facilitate overall review and coordination of both the financial and budgetary aspects of the various Federal credit programs which are financed outside the budget. Until the enactment of this legislation, we recommend against the establishment of additional programs of Federal credit aid except for the most urgent credit needs.

Mr. Chairman, this concludes my formal remarks. I would be glad to answer any questions.

Senator STEVENS. Thank you very much, Mr. Secretary.

I could ask a semiembarrassing question since I support both the bill and a proposal to help Lockheed. I assume what you are saying relative to the Lockheed situation is they do not have any private money available.

Mr. WEIDENBAUM. I was wondering when you said embarrassing, whether you meant embarrassing to me or you.

Senator STEVENS. Embarrassing to me. I think we ought to help Lockheed, but I think we ought to do this, too. I am just wondering how do you justify the approach to aid Lockheed in terms of the private guarantee of their securities and say, at the same time, that this is an unreasonable one?

Mr. WEIDENBAUM. Of course, we are still drafting the Lockheed legislation; but, in this case, we are talking about guaranteeing tax-exempt securities, and in the Lockheed case everything is fully taxable. So our basic Treasury objection here is not to the guarantee, but to the guarantee of tax exempts.

The other point that I make in my testimony is that, like our EFA proposal, there should be a demonstration that private credit is not available. That, of course, clearly is the case in the case of Lockheed. Private credit is not available without a loan guarantee.

Senator STEVENS. I think that could be demonstrated for Lockheed. But I think it could be demonstrated for these small municipalities or local governments equally as well. Doesn't the nontaxable status of the local governments derive basically from their situation as a Government entity as opposed to Lockheed, which is a normally taxable entity?

Mr. WEIDENBAUM. Well, the key point I tried making in my testimony is that the benefit to the State and local government issuing the security, which is an important benefit we want to maintain, is far less than the cost to the Treasury. It is not 1 for 1. In other words, as I point out in the case in my testimony, where a State saves 2 percent of interest through the tax-exempt feature, the Treasury loses 3½ percent of tax revenues on interest.

Senator STEVENS. You made a very valid point. The only problem, it would seem to me, is that we ought to be able to find some way

to make the impact of the guarantee of tax-exempt securities issued by local governments equal on the Treasury without regard to who purchases them.

That is a technical problem. But, it does seem to me that the guarantee route in permitting the local government agencies to issue their bonds, which is a very simple matter of guarantee, cuts down—in addition, you have not taken into account the total cost to the Federal Government of the programing and the controls that we have over local governments through our national bureaucracy and the cost of that administration in terms of comparing the cost to the Treasury. Certainly, it may cost 2 percent as opposed to 3½ percent, depending upon the tax bracket. But what about the 25 percent of the program that goes to the administration costs if we issue all the bonds from the Federal Government and then turn around and have approval and everything else placed on the local governments?

Mr. WEIDENBAUM. I suggest, Mr. Chairman, that the items I cite in my testimony are examples of ways of achieving the objective of getting needed capital funds into State and local governments without an excessive cost to the Federal taxpayer. We have no quarrel with the objective to put States and localities in a strong position in terms of raising the capital they need for their high priority programs.

In other words, in the system in the Farmers Home Administration program I described, or the HUD program, the same benefit in terms of low interest costs is available to the State and local government and other public bodies, and yet the cost to the Federal taxpayer is much less than contemplated under this bill. The difference, of course, is that the benefit to high bracket investors is reduced.

Senator STEVENS. I think what we are trying to work out is a program whereby we can get a Federal subsidy to local governments through a guarantee of their securities. This is not the same as the housing program or the new communities program, with which I am very familiar. Again, you are dealing primarily with private corporations which would be taxable anyway, and the subsidy there is in the guarantee of the security in the first instant. We would like to work out a program. Would the Treasury Department be willing to work with our staff to see if we could work out a program which would involve a uniform tax treatment of securities of local government which, in fact, did include a subsidy but which would be a constant subsidy no matter who purchased the bond?

Mr. WEIDENBAUM. The Treasury staff certainly would be very pleased to work with your committee, Mr. Chairman, to assist in developing proposals which would meet those objectives. I really do not want to commit myself on the specific recommendation that we might develop, keeping in mind the need to raise funds at State and local levels, coupled with the need for equity—and I have to emphasize that—equity to the Federal taxpayer.

Bear in mind, please, Mr. Chairman, this is the administration that has been urging the Congress to expand Federal financial assistance to State and local governments in a very major way.

We are most sensitive to the financing problems faced by States and local governments.

To be very personal, I am the man in the Treasury Department who developed the general revenue-sharing proposal jointly with State and local officials throughout the country, and spent most of the last 2 years dealing with them on their very pressing financial problems. So I assure you we are intimately aware of the financial needs of State and local governments.

Senator STEVENS. I commend you on it as one who supports that proposal. But again, I think the problem in regard to these State and local securities is that there has been an antipathy downtown towards these for many years. It seems that what you are saying to us is that you have no objection as long as we use taxable securities and guarantee them. I agree that there is a built-in advantage in this plan, but I do not think there is a necessary subsidy. We are trying to have the Federal Government bear part of this responsibility through a financing program.

There are some positions, which you have presented, you have in common with us. You have indicated that we should help local governments undertake high priority programs. You also agree that the local governments do not have those resources, and also that the Federal Government's borrowing capacity and its standing will assure the marketability of these, if either a guarantee is given or the Government issues them themselves, if it can be done cheaper by the Federal Government.

Mr. WEIDENBAUM. May I add a proviso? Point one, many State and local governments clearly demonstrate the ability to market substantial amounts of their own securities without any Federal assistance.

Senator STEVENS. I agree, but not in new program areas. We have demonstrated in new communities and other areas that with the Federal guarantee in new program areas, there is a borrower acceptance immediately, whereas, otherwise, you have to have an attractor. I think you agree with that.

Mr. WEIDENBAUM. That is why in our EFA proposal, which is before the Public Works Committee at this time, we have a proviso that EFA will lend only if credit cannot be obtained—if these bonds cannot be issued at a reasonable rate in the private market. I do not think we should underestimate the ability of State and local governments to raise large amounts of funds in private markets without any Federal participation. We certainly do not want to preempt that.

In other words, in an incremental sense, these programs are designed to assist State and local governments but not to replace the great bulk of their efforts to raise their own capital. Again, I need to point out that the administration—the President personally, in his budget message—showed very strong concern over the growing proliferation of Federal credit programs. My formal statement quoted at greater length than I did orally from the President's message. He has instructed us subsequently, of course, to develop specific legislation. When you sit in the Treasury you are impressed by the proliferation—I can use no other term—the proliferation of Federal financing arrangements, whether it be guarantees or other

credit programs, outside of the budget. Whether they involve budget expenditures or not, because of the Federal guarantee, they preempt the credit market in the sense the Federal Government is deciding which items in the private sector are going to be financed with private funds.

Senator STEVENS. I do not think we have any disagreement, Mr. Secretary. We just happen to think this is a very high priority program. That is all. It is a practical matter. Yet we do have a disagreement in one sense, and that is that I commend the administration for what it has done in terms of recognizing the needs of local governments in terms of revenue sharing. But I do not think that there has been an adequate treatment of increasing the ability of small local governments to finance their own programs without the necessity of Federal grants and aids. We have, I believe, an efficient way of doing this through guarantee, assuming as we do that you have made a very valid point about the cost to the taxpayer, the difference between purchaser "A" and purchaser "B" and their own income tax bracket. But I think we ought to be able to work that out and we would truly welcome it if you could do that.

Do you have any last comment? I must tell you that I would like to recess for just 5 minutes. I have to go up for a quorum so they can report out one of my bills.

Mr. WEIDENBAUM. I just want to say that the Treasury would be pleased not only to work with your staff but with you or members of the committee and the staff, and if you have further questions, please do not hesitate to call upon us. We would very much like to be helpful to you.

Senator STEVENS. I think that is a very constructive attitude and I feel certain we can work it out because I am sure we want to have a Federal guarantee of these and permit the local governments to go out into the bond market themselves. Whether the Congress as a whole agrees is another matter.

We will take about a 5-minute recess.

(The statement follows:)

STATEMENT OF THE HONORABLE MURRAY L. WEIDENBAUM, ASSISTANT SECRETARY OF THE TREASURY FOR ECONOMIC POLICY

Mr. Chairman, I am pleased to be here today to express the views of the Treasury Department on S. 582, a bill to establish a national policy and develop a national program for management, beneficial use, protection, and development of the land and water resources of the Nation's coastal and estuarine zones.

The Administration has provided this Committee with comments on S. 582 and its relationship to the legislation proposed by the Administration, the National Land Use Policy Act, which has been introduced in the Senate as S. 992.

My comments will be addressed to the issues raised by the provision in S. 582 which would authorize Federal Government guarantees of obligations the interest on which would be exempt from Federal income taxation.

S. 582 would add a new title III to the Act of October 15, 1966, and the proposed new section 307 would authorize the Secretary of the Interior to guarantee obligations issued by coastal States for the purposes of land acquisition, or land and water development and restoration projects. The total amount of guaranteed obligations outstanding at any time could not exceed $140 million.

As stated in the Treasury Department's report of April 14, 1970 to Chairman Magnuson on S. 3460, 91st Congress, which is similar to S. 582, the Treasury Department opposes Federal guarantees of tax-exempt obligations because of four fundamental problems raised by such guarantees:

1. The guarantee of tax-exempt obligations is an inefficient form of subsidy since the Federal tax revenue loss exceeds the interest savings to the borrower because of the tax-exempt feature. For example, a guaranteed bond might sell in the current market at 5 percent on a tax-exempt basis and 7 percent on a taxable basis, in which case the tax-exempt feature would result in a savings to the borrower of 2 percent. Yet an investor in the 50 percent Federal income tax bracket would net only 3½ percent after taxes on a 7 percent taxable bond. Thus, only 2 percent of the 3½ percent Federal revenue loss would be realized by the borrowing public body.

2. The guarantee of tax-exempts disproportionately benefits investors in the higher Federal income tax brackets. That is, an investor in the 30 percent tax bracket receives roughly the same income after taxes on a 7 percent taxable bond and a 5 percent tax-exempt bond with the same Federal guarantee; but an investor in the 70 percent tax bracket who holds a 5 percent tax-exempt bond is receiving as much interest after taxes as he would on a 17 percent taxable bond.

3. Such guaranteed obligations heighten the competition for the limited amount of funds available to State and local borrowers from high tax bracket investors and raise the cost of financing other local projects for which direct Federal credit aid is not provided. For instance, a local public body might be required to pay a higher interest rate on its school bond issues if potential investors were attracted instead to the added supply of tax-exempt bonds with Federal guarantees.

4. Such guarantees conflict with Federal debt management policy by creating a class of securities (tax-exempt) which the Federal Government itself is prohibited from issuing by the Public Debt Act of 1941.

In addition to our concern with the problems resulting from Federal guarantees of tax-exempt obligations, we are also concerned with the growing tendency to rely on direct Government support of borrowings in the private market.

There have been several studies in recent years by the Administration, the Congress, and others of the various methods of providing Federal credit assistance to States and local public bodies as well as to private borrowers. The general conclusion from these studies has been that the provision of credit in our economy is properly a function of private lending institutions and that direct Federal credit assistance should generally not be provided except in cases where borrowers are unable to obtain credit on reasonable terms in the private market for programs of high national priority.

In this regard, section 307 would permit full Federal guarantees of tax-exempt bonds for any borrowings for the purposes set forth in that section. Thus, all eligible borrowers might be encouraged to seek this Federal credit aid regardless of the borrower's ability to obtain funds from normal private market sources. The guarantee would effectively shift to the Federal Government the investment risk normally entailed in these obligations so that they would sell on the market at rock bottom interest rates along with other top rated securities. It is easy to see how widespread availability of Federal guarantees would quickly lead to Federal intervention in credit activities throughout the economy.

The Treasury Department is not itself aware of the specific problems which coastal States might have in borrowing for the purposes stated in S. 582 in the private market without Federal guarantees of their obligations or, indeed, whether the States desire to borrow for these purposes.

We are especially concerned with the need to husband Federal credit resources, just as we do Federal budget resources, in view of the current large increases in Federal credit programs which are financed outside of the Federal budget. In the Budget for the fiscal year 1972 it is estimated that the amount of such Federally-assisted loans outstanding will increase by $30 billion compared to an increase in fiscal 1970 of $13 billion.

In his Budget Message to the Congress on January 29, 1971 the President stated:

Furthermore, Federal credit programs which the Congress has placed outside the budget—guaranteed and insured loans, or loans by federally sponsored

enterprises—escape regular review by either the executive or the legislative branch. The evaluation of these extrabudgetary programs has not been fully consistent with budget items. Their effects on fiscal policy have not been rigorously included in the overall budget process. And their effects on overall debt management are not coordinated well with the overall public debt policy. For these reasons, I will propose legislation to enable these credit programs to be reviewed and coordinated along with other Federal programs.

The Treasury Department is currently working with other agencies in preparing the legislation referred to by the President and we hope to be in a position soon to submit a proposal to the Congress.

I understand that your Committee wishes to consider the feasibility of alternative methods of providing credit assistance under S. 582 and that you would also like to discuss the collateral issues raised by the various alternatives.

DIRECT LOANS

Looking at the problem just from the standpoint of financial efficiency, the most direct, and least expensive, method of financing is direct Federal loans. That is, the Treasury Department is able to borrow at lower interest rates than would be required on the market obligations of other borrowers. Direct Federal loans would, of course, require direct budget outlays. Limited budgetary resources in recent years have not permitted significant expansion of direct Federal lending, and it appears in some cases that the Congress is unwilling to rely on the availability of budget funds to finance Federal credit programs.

GUARANTEES OF TAXABLE MUNICIPAL BONDS

In order to avoid both the budget outlay problems with direct loans and the tax-exempt interest problem with loan guarantees the Congress provided last year for a new method of financing, namely, Federal guarantees and interest subsidies on taxable municipal bonds. This new financing technique was first authorized in P.L. 91–296, the Medical Facilities Modernization Act of 1970. In that case, which involved Federal credit aid to public bodies for hospital facilities, the Administration submitted legislation proposing guaranteed loans for private hospitals and, in order to avoid the tax-exempt bond guarantee problem, direct loans for public bodies. Yet both the Senate and House committees considering this legislation recommended instead Federal guarantees of tax-exempt obligations.

In the Congressional consideration of the medical facilities bill there was no apparent disagreement between the Administration and the Congress regarding the problems created by tax-exempt bond guarantees. Nevertheless, the committees apparently felt that guaranteed loans to public bodies, since they would not depend upon the availability of direct loan funds in the budget, were essential to assure the availability of credit aid. Under the circumstances the Administration agreed to a Senate amendment to the House-passed bill, which was subsequently enacted in P.L. 91–296. That amendment provided that the obligations could be purchased by the Federal Government from a revolving loan fund then resold in the private market with a guarantee. When resold the interest on any obligations guaranteed under that Act would be subject to Federal income taxation notwithstanding the fact that they were obligations issued by States or other public bodies. Similar provisions were later enacted by the Congress for the rural water and sewer loans of the Farmers Home Administration (P.L. 91–617). A somewhat different approach was taken for new community loans guaranteed by the Department of Housing and Urban Development (P.L. 91–609). Under that act the new community obligations can be issued directly in the market by the public bodies on a taxable basis. Thus the Congress in 1970 provided for the first time for Federal guarantees of *taxable* municipal obligations and did this in three separate acts.

The Farmers Home loans and the medical facilities loans are expected to be made directly by the Federal agencies at low interest rates and then sold in the private market with a Federal guarantee and supplemental interest payments to the investor in whatever amounts necessary to meet the market The new community loans will be made and held by private investors but will also receive a Federal interest subsidy and guarantee. The Treasury Department and the Administration supported these provisions as preferable to

guarantees of tax-exempt bonds and in recognition of the urgent needs for Federal credit assistance in these three areas.

CONSOLIDATED FINANCING

Another approach to providing credit assistance to local public bodies is the Environmental Financing Authority proposal by the President in his Environmental Message to the Congress on February 8, 1971.

The Environmental Financing Authority would purchase tax-exempt obligations issued by local public bodies to finance the non-Federal share of the costs of the construction of waste treatment facilities eligible for Federal grants from the Environmental Protection Agency. EFA could purchase only obligations guaranteed by EPA and only if the issuing public body is unable to borrow in the market on reasonable terms. EFA would finance its purchases by selling its own securities in the market, and appropriations would be authorized to cover the difference between EFA's taxable borrowing rate and its tax-exempt lending rate.

The EFA legislation (S. 1015) would permit a more efficient method of financing as compared with the approach taken in the three bills enacted last year for Federal guarantees of taxable municipal bonds. That is, EFA as a corporate body empowered to issue its own obligations in the market would have the advantages of consolidated financing and an ability to adjust the timing, maturities, and other terms of its issues to changing market conditions in order to minimize its borrowing costs. Also, since there is an established market for Federal agency securities, EFA would be able to mobilize quickly the funds necessary to meet the urgent needs for waste treatment facilities.

While the EFA approach may be the most efficient method, short of direct Treasury financing, of providing Federal credit assistance for certain programs, the Administration considers that the use of this approach beyond assisting the financing of waste treatment facilities is not justified at this time. In this connection, I would particularly like to stress our objection to use of the EFA approach on a program by program basis, the inevitable result of which would be to move toward the establishment of a number of small Federally sponsored agencies competing with each other in the capital markets in the funding of new and comparatively modest Federal financial assistance programs.

In conclusion, we feel that Federal credit assistance should be authorized only for programs of high national priority and only for borrowers who are unable to meet their needs in the private financial markets. In those cases where the need for Federal credit aid is clearly established we believe that the financing should be conducted in the most efficient manner available and in the taxable rather than in the tax-exempt market. I would like to stress again, as indicated in the President's statement on credit programs in the Budget Message, that legislation will be proposed to facilitate overall review and coordination of both the financial and budgetary aspects of Federal credit programs which are financed outside the regular budget. Pending the enactment of this legislation we would recommend against the establishment of additional programs of Federal credit aid except for the most urgent credit needs.

This concludes my remarks on the provision of S. 582 of major concerns to the Treasury and on several alternative methods of Federal financial assistance that have recently been enacted or proposed by the Administration. I would be happy to answer any questions you may have.

Senator STEVENS. The committee will come back to order.

We now have with us our colleague, Senator Chiles, from Florida, and we welcome you here. I am sure that the chairman would prefer to be here with you but he had to be away, so I would like to welcome you.

STATEMENT OF HON. LAWTON M. CHILES, U.S. SENATOR FROM FLORIDA

Senator CHILES. Mr. Chairman, industrial development in the United States has come full circle. Beginning with Jamestown

only a short distance from the Nation's capital, and St. Augustine in my home state of Florida's east coast, settlements were established that provided the jumping-off place to interior development. Coastlines, at first, were largely left in their natural state. As the country grew in age and population, its commercial needs swelled, and coastal areas soon became an attractive magnet that drew the entire spectrum of human involvement. Our beaches were soon faced with the same intensive pressure that spread across the mainland during the industrial revolution. Only recently have we acknowledged the need to corral this involvement into constructive channels. S. 582, the National Coastal and Estuarine Zone Management Act of 1971, has this as its primary purpose.

The State of Florida has a direct interest in this legislation as it has the longest usable coastline in the United States.

Senator STEVENS. I wish you hadn't said that. I notice that "usable" part there.

Senator CHILES. That is a little objective.

Senator STEVENS. "Enjoyable" might be better. We have 65 percent of the coastline in the United States, and I understand it is not as enjoyable as Florida. I am sorry to interrupt you.

Senator CHILES. From a geographic standpoint, the State is, in fact, a coastal zone folded back on itself.

I have read testimony that cites that 53 percent of our country's population is concentrated within 50 miles of our coasts and the Great Lakes. In Florida, 80 percent of our population lives in coastal counties, the majority of which reside along the seaboard edge. My State has recognized the responsibilities of this situation. For example, the Coastal States Organization was formed as a result of Florida's initiating a "Sea and the States" conference in Miami in November 1968 sponsored by the Florida Commission on Marine Sciences and Technology. Other Florida initiatives in coastal management include a system of aquatic preserves, the first State with aquaculture law in the Nation, a 50-foot set-back law on ocean front construction, a dredge and fill permitting system, a bulkhead line certification procedure and limited research in marine resources and environmental protection.

Florida also recognizes that there is much work to be done and consequently the State's Coastal Coordinating Council has given full endorsement of S. 582. State funds, because of other pressing needs, are limited, and proposed plans for certain coastal areas have been forced to be delayed in lieu of priority areas.

The problems are many and varied. Private beach development restricts public access. Dredging and filling may downgrade commercial fishing. Offshore drilling rigs limit freedom of navigation and become pollution sources, and estuarine waste disposal depreciates all surrounding recreational uses. Until now, we have responded to this challenge on a first come, first served basis, but unless regional alternatives among competing uses are illuminated, we will continue to be helpless in responding to claims motivated by short-term advantages to individuals, industry and local government.

So, now we come to the central question: How to provide for the many diverse and often conflicting coastal demands, both public and

private, and still obtain the greatest long-term social and economic benefits? We know only too well that each single action may be justified in its own right, but the effects of piecemeal development can be chaos.

The facts are all in that our coastal and estuarine zones are among the most productive natural areas found anywhere and are under constant pressure for development, transportation, urban growth, recreation—the full range of human activities. Development pressures for new residences and apartments, tourist facilities and industries, ocean front recreational facilities and other users of estuarine areas, all with their associated service and utility demands, are mounting daily and focus attention on the importance of balancing development and conservation considerations in both planning and implementation, a primary objective of S. 582.

In Florida, S. 582 would greatly facilitate the work already started, would supply the impetus for enforcing procedure and would provide a much needed dependability and increase of funding necessary to develop data and obtain research findings, establish sanctuaries essential to proper planning and permit intelligent and reasonable management of the coastal and estuarine zones of the State.

I enthusiastically endorse S. 582 as an essential and positive step in the planning and management of the Nation's extensive and valuable coastal resources, which otherwise will be dissipated by unprogramed and uncontrolled use of the presently dwindling estuarine areas of the Nation.

Senator STEVENS. Thank you very much, Senator Chiles. I think that Florida has made a tremendous contribution to the initiation of the program which deals with these very difficult issues.

I will only ask you one question. I am sure the Chairman would ask this if he were here also. Do you believe we can wait for the total bill in terms of our total land use policy act?

Senator CHILES. No, sir, I do not, because I think that we have the momentum to do something on coastal areas now and I think there is going to be a great resistance—in many areas and in many States there will be a great resistance to the Federal Government getting into the area of total land use—and I think this bill is the kind of bill that encourages a State and gives a State incentive to do something about its coastal area.

That is where the greatest pressure is today. That is where actually we are dissipating the resources the fastest, and that is where the people and the problems are, and it is more important to move in that area. We have some time to worry about the land use in the interior at some later time. I think this is the critical need now, and this is where the momentum is, and I do not think we can wait on total land use. I have some problems with it myself.

Senator STEVENS. I happen to be a cosponsor of the other bill, too, but you make quite a point about the fact that 53 percent of the population of the country lives within 50 miles of the coast. I think it is also a valid comment that in that coastal area, because of the problems that have already become acute and the awareness of the public of those problems, the concept of planning and zoning

has been more readily accepted than it has in the less densely populated areas in the center of the country.

I am sure that we agree that we would like to go ahead with the coastal zone management bill, even though many of us support the other bill, also. You have some maps, Senator, that you would like to present?

Senator CHILES. Yes, sir. I have the Florida Coastal Zone Land Use and Ownership Report which is dated November of 1970, and it was prepared for the Florida Coastal Coordinating Council and I would like to give this to the staff.

Senator STEVENS. We would very much appreciate having that.

We want to thank you for taking the time to come and present your testimony.

We now have Frank Smeal, representing the Investment Bankers Association. Thank you for being so patient and being with us today. We will be pleased to hear from you.

STATEMENT OF FRANK SMEAL, INVESTMENT BANKERS ASSOCIATION OF AMERICA; ACCOMPANIED BY JOHN PETERSEN, DIRECTOR OF MUNICIPAL FINANCE

Mr. SMEAL. Mr. Chairman, I would like to read the detailed statement for the record.

Before I do that, however, I cannot resist calling attention to a certain remarkable, if not unique, area of agreement with the witness from the Treasury on certain elements of this proposed legislation,

We share their apprehension about off-budget financing and about the proliferation of Federal agency financing. At the same time, some traditional differences in positions have surfaced here, as they always do.

Among other things, we feel that undocumented assertions about the excessive cost of tax-exempt finance, trade of "the so-called inefficient subsidy" thesis, that collide with the results of our own careful research which shows, in fact, that there is a standoff between what the Treasury theoretically might collect if financing were on a taxable basis as against the subsidy actually provided by tax-exemption in the market.

Senator STEVENS. A standoff?

Mr. SMEAL. We feel that the market subsidy is roughly equivalent to what would be gathered in under present tax rates. This makes no provision for the administrative costs of such a program about which you asked the Treasury witness.

In any event, I am Frank Smeal, vice president and treasurer of Morgan Guaranty Trust Co., New York City, and vice president for Municipal Finance of the Investment Bankers Association of America. I am accompanied by Mr. John Petersen, director of Municipal Finance, Investment Bankers Association of America.

We are authorized to testify on behalf of the more than 600 investment firms—both securities dealers and banks—who underwrite and make secondary markets for bonds of the 50 States and their political subdivisions. They have extensive experience and expertise in financing State and local government capital needs. Our member firms also underwrite and make markets in the securities of cor-

porations and the Federal Government, including its agencies. Because we serve as bankers and dealers in all debt instruments, we believe that we are objective in our appraisal of the effects of proposals to finance programs through the use of Federal credit assistance.

What we have to say deals with the way in which the capital expenditure portions of the coastal zone management program might be financed. In particular, what should be the joint roles of State and local debt-financing and Federal aid in this effort? That is an important question because we believe that how this program to protect and to enhance our natural environment is financed has very great consequences for another environment which we all inhabit, our financial system. This system too has an "ecology," a complex relationship with balances and limitations. The original savings which our economy generates to preserve itself and to grow is a limited resource, capable of being exploited, overworked, and neglectfully taken for granted. In order that our selection of priorities be effective rather than empty, a continuing problem for public policy is the generation of ample savings and their employment in the most efficient manner. Alternative ways of financing Federal assistance must be examined in terms of meeting that larger problem as well as the program purpose immediately at hand.

In our testimony this morning we shall examine several aspects of the loan guarantee program as set forth in section 307 of both S. 582 and S. 638. First, we shall briefly describe the technical content of this section and point out how it differs between the two measures. Second, we shall examine the overall growth and implications of Federal credit activities and indicate the fundamental policy questions that existing and proposed forms of Federal credit assistance raise. These we believe are especially important when such assistance is extended to State and local governments. Third, we shall review what we believe to be useful criteria that should be met in the design of such assistance programs, the most important of which, we feel, is the demonstration rather than the presumption of need. Last, we shall discuss what we think may be the preferable alternative methods of financing Federal assistance on both the current and capital accounts.

Before beginning our examination of the capital financing provisions set forth in S. 532 or S. 638, I want to stress that we have not come to judge the overall substance or desirability of either of these bills or their merits in comparison to other measures beyond that section of the program dealing with the mechanics of the credit assistance program. Thus, our assignment today is a very specific one. It is up to this committee and this Congress to decide the relative priorities in this program, the intensity with which the needs are felt, and the degree to which the Federal Government should commit its resources to meeting those needs. Our sole aim is to provide this committee with what we believe to be an informed viewpoint on the alternative ways in which program objectives may be met, once the dimension and directions of those objectives have been determined.

If we do testify today with a special conviction and predilection, it is that the private capital market should be given every opportunity to continue to operate as fully and effectively as it has and it can in meeting the diverse credit needs of the 80,000 State and

local governments. Beyond that, to the extent that particular needs are shown to exist, Federal credit assistance should be designed with those specific needs in mind and it should be implemented fairly and efficiently to meet that objective without penalizing or circumscribing unnecessarily the operation of that market.

As now written, section 307 of both S. 582 and S. 638 sets out broad powers of the Secretary of Commerce to "guarantee the bond issues and loans of coastal States for purposes of land acquisition or land and water development and restoration projects." The amount of the aggregate principal of outstanding guaranteed loans is limited to $140 million. The only difference between the two measures is that the terms and conditions of these guarantees are prescribed by the Secretary of Commerce in S. 582, whereas the Secretary of the Treasury has those prerogatives in S. 638.

In view of the brevity of section 307, the terms and conditions specified by either the Secretary of Commerce or of the Treasury will be of overriding importance in determining which and to what extent projects will be aided. The policy question thus is open as to whether these guarantees are intended to assist specific "hardship cases" for projects containing unusually high elements of risk or are intended to lower generally the costs of borrowing for the program purposes. Since Federal guarantees act to raise the credit standing of all borrowers to the highest level, Federal guarantees are of greatest benefit to those projects that would otherwise pay the highest rates of interest. They contain the greatest element of subsidy when applied to such cases. However, if such guarantees are intended to assist all borrowings undertaken for coastal zone management purposes, the authorized ceiling may well be insufficient to meet the demand, in which case the guarantees will have to be rationed among would-be claimants by the Secretary of Commerce. It would seem, therefore, that the purpose of the guarantee and the probable scope of need should be clearly ascertained and the appropriate criteria for their dispersing should be incorporated into the legislation.

Second, section 307 should probably provide a specific authorization or other provision for making good the amount of the guarantee in such an event.

Third, in S. 638, there is a division of responsibility for the guarantee program between the Secretary of Commerce and the Secretary of the Treasury. Since the former is charged with the execution of the program while the latter has the all-important prerogatives of specifying the terms and conditions of such guarantees, there is the possibility, if not certainty, of disagreements and, correspondingly, lapses in program implementation.

Aside from the need for a greater precision in setting out the objectives of this section and for an explanation of the procedures to be followed in making guarantees, we would say that the bond guarantees envisaged in section 307 have certain advantages over other methods of credit assistance that might be suggested. First, the federally guaranteed security is familiar in our market, since this form of assistance has been used in other selected areas; and similar instruments used for housing and urban renewal and various other selected purposes are well known and widely traded. Furthermore, this form of assistance does utilize the existing market mechanism for its implementation and does not depend upon the

creation of new credit institutions or banking procedures. Lastly, it is selective in the sense that they do give the greatest benefit to those projects with intrinsically the greatest risk and lowest investment quality.

The choice of how much and what kind of credit assistance is a very important one. This is true not only because of the microeconomic implications of efficient funding for specific projects but because the rapid expansion of all Federal credit assistance has important implications for the entire economy. Moreover the application of these programs to the State and local sector in particular raises important questions relating to the proper balance of autonomy and mutual responsibility among the major levels of our Federal system of Government. Before examining the relative merits of alternative forms of such assistance, we should like to review some of the larger issues involved.

There is already a large army of Federal credit assistance programs that are growing at an exponential rate and dramatically changing the composition of credit flows in the economy. A key reason for this rapid growth has been that this form of financing permits the instatement of large new programs without the resulting expenditures being reflected directly in the budget. Quite apart from the usefulness of the underlying purposes hereby financed, there are many problems with this method of program finance.

Before reviewing the ramifications of these, we should like to discuss the massive dimensions of these programs. As the chart from the special analysis of the budget indicates, total Federal credit assistance outstanding will have grown by 250 percent over the last 11 years; from $100 billion in 1960 to a contemplated $250 billion in 1972. While that part reflected in the budget will have grown hardly at all in the last 4 years (approximately $50 million outstanding from fiscal year 1968 through fiscal year 1972), that part off the budget will shoot from $100 billion to over $200 billion, thereby doubling in 4 years. In fact, between fiscal years 1971 and 1972, direct budgeted loans will increase by $2.7 billion, while off-the-budget loans will grow by $28.7 billion.

How does this $31 billion increase in federally assisted credit fit into the total credit flows of the economy? The accompanying table gives some indication of this by comparing net financial capital flows (funds raised) to that amount absorbed by new direct Federal and federally assisted borrowing. This fiscal year it appears that the Federal direct and assisted share of new capital raised will be over 30 percent. In fiscal year 1972, if the budget deficit requires $15 to $25 billion in public borrowing, as many observers think, and if federally assisted credit programs grow by approximately $30 billion, as is scheduled, then the combined total of federally assisted and direct borrowing will be $45 to $55 billion. This would represent approximately 40 percent of all net credit demands placed on the capital markets in the next fiscal year. By fiscal year 1972, the combined $525 billion in publicly-held outstanding Federal direct and assisted obligations will equal about one-half of the GNP in that year. Such a rapid explosion of Federal credit demands should be of paramount public concern, especially given the fact that the bulk of it is beyond the pale of budgetary review and control.

Federal credit programs can distort the budget as a document for orderly choice among program priorities and as an instrument for economic control. The problem arises from the way in which the Government has chosen to keep its books and a peculiar accounting convention that encourages the concealment of Federal credit activities. The principal attraction is that large amounts of resources can be allocated without immediate budgetary impact. Guarantees are viewed as costless—except in the case of actual defaults or defaults that are staved off only by elaborate refunding or grants. Subsidized borrowing through agency borrowing or loan sale operations requires seemingly small appropriations to cover the debt-service subsidy. However, of course, these subsidies—and the attendant administrative costs—grow through time, and each fresh crop of new commitments brings higher future levels of outlays and contingent obligations. Thus, programs build in uncontrollable expenditures that snowball through time and reduce the latitude available to future Congresses and administrations. And the budget—because these items are excluded—no longer shows the economic plan of the Government or its pervasive influence over resource flows. This in itself is bad. But, when the fact is that putting expenditures outside of the budget has come to be a positive virtue, things are worse yet.

Much Federal credit assistance is awkward and expensive as a method of financing. In part, this problem is a product of the multitude of programs and varieties of securities which the Federal Government sponsors. Although explicitly or implicitly, these all constitute Federal obligations, they command varying rates of interest as they compete with one another as well as with other securities. For example, in 1971, federally guaranteed loans typically carried gross yields of 9½ percent—while borrowers, after subsidy, paid rates ranging from 0 to 6 percent. Federal budget and nonbudget agencies that year borrowed at rates between 7 and 9 percent, while direct Federal lending generally commanded still lower interest rates.

Some programs are financed by sales of loan assets to private investors as 100-percent obligations which do not appear as budget items. This device may be used by agencies that have no lending or borrowing authority of their own; but a relatively small amount of seed capital placed in a revolving fund can be converted into a large-scale loan-brokering operation as the fund is turned over several times a year. All of the additional financing costs are absorbed by the Federal Government, including the servicing of the loans, after they are sold. These programs are thus able to influence the flow of credit and allocation of resources outside the discipline of the budget. Moreover, this is done without taking advantage of the most efficient means of financing: direct Treasury borrowing.

A related problem is that some programs not only assist borrowers but may actually elevate them above the impact of both monetary and fiscal policy and reward them with unintended and unwarranted gains from inflation and credit stringency.

Federal credit programs are preemptive in their demand for credit and generate heightened competition for funds and higher

interest rates. In effect, Federal agency lending operations take would-be debtors that have been price-rationed out of the capital markets and reinject them as an agency borrowing with Federal Government backing. Since these programs do not increase the total supply of savings in the economy, their operation merely pushes the pressures along. Market rates of interest go up to create a new margin of hardship cases in some area that is not insulated.

It is patently incorrect to argue that a reshuffling of securities by agency lending operations, such as the proposed Environmental Financing Authority, in some fundamental way lessens the pressure for all credit markets by recycling the rationing process at the new, higher interest rates needed to ration the limited supply of credit. Carried to extremes, it will simply accentuate the overall financing problem for State and local governments and everyone else by driving up rates of interest.

Federal credit programs can be perverse in their impact on monetary and fiscal policy. One of the ironies involved in proposals for credit assistance is that the greatest pressures for such assistance develop in times of restrictive credit and high interest rates. Yet at that very time, the infusion of an additional demand and a reducing of the interest sensitivity of greater amounts of borrowing exacerbates the problem of bringing the economy under control. At such times, when monetary policy is forced to work overtime to curb demands by squeezing out would-be borrowers, the injection of new, strongly-positioned demands by Federal agencies intensifies the restraint. Other borrowers—of lesser priority perhaps only because they are unknown or unrepresented—are forced out by a process which drives up all interest rates. Unless we give every worthy borrower a Federal subsidy or guarantee or agency loan, we must come to realize that in times of credit stringency, capital market demands must be lessened, not intensified. This is done by encouraging savings and by financing out of current revenues. To the argument that such action requires raising taxes or making hard choices among expenditures, it must be replied that those who borrowed—or could not borrow—because of the recent high interest rates in effect did pay taxes. These taxes are collected in the form of higher debt service costs and fewer houses, public facilities, and other investment opportunities that are priced out of the market.

The ultimate influence of Federal credit programs on credit flows and resources is unclear and may be counterproductive. Federal credit assistance is necessarily discriminatory and certainly stimulative of total credit demands. But our knowledge of the longer-term consequences—the details of restrictive credit and resource flows and their economic and political implications—remain hazy at best.

The answer that these credit programs merely rechannel existing credit flows misses the point. As we and others have repeatedly pointed out, any rearranging of credit flows as a means of levering resources from one use to another always involves a loser who has been bid out of the market. Just as the budget does not reflect

the beneficiaries of these programs, neither does it disclose the activity that no longer takes place. The net results may be completely counterproductive. The ultimate alternative could be one of scrapping a free capital market and the substitution of blanket Federal credit support. The only borrowers then would be those with priorities.

The foregoing discussion was not meant as an indictment of the particular areas aided or as a denial that the programs can have individual merits. It has been meant to call attention to a method of finance that can be subject to abuse and overuse and to a dangerously myopic attitude that paper can be turned into resources. We ask for a continuing candid assessment of what is the appropriate means to finance expenditures.

We are not alone in our concerns. Both the President and the Treasury have acknowledged the problems raised by the various types of Federal credit programs. Reportedly, both a special subcommittee of the Cabinet Committee on Economic Policy and the President's Commission on Financial Structure are exploring the conduct and implications of the programs. Legislation is to be proposed to improve the visibility and coordination of these programs.

We hope these studies exhaustively cover the full economic and financial impact of these programs, their true costs of resource reallocation effected in the capital markets, and the longer term budgetary impacts involved. Especially in the area of agency financing, we hope these studies review the administrative costs involved in having the Federal Government operate as a financial intermediary, and they review the advisability of establishing new permanent institutions to handle problems which may often prove to be cyclical at most.

The proposed environmental financing authority represents an unfortunate example of an ill-conceived agency financing procedure that in its present state seems to present more problems than solutions. In our recent testimony before the Senate Public Works Committee, we emphasized the following shortcomings in S. 1015 that would create the authority:

(1) There is no real evidence that a lending authority such as that embodied in EFA is needed or that, in any event, the authority is the best way to meet such a need. The assertions that governments are unable to sell pollution control bonds in sufficient volume at the going market rate or that this rate is unreasonable have not been substantiated.

(2) It would create diffusion of responsibility and unnecessary complexity in the water pollution control program. The power to propose loans is vested in one department (the Environmental Protection Agency) but the power to lend is left to another (the Treasury).

(3) There is no definition of "reasonable rates." The Administrator of the EPA is delegated broad latitude in judging eligibility for EFA loans. The intended magnitude of the lending program is not set forth in the legislation.

(4) There is a lack of any real guidance in determining EFA's relending rates and terms. The Secretary of the Treasury has been granted virtually unlimited control over the size of the subsidy and, hence, the size of the lending program.

The lack of a demonstrated need and of clear definitions and precise instructions constitute a broad delegation of administrative power. Furthermore, the agency would be removed from the budget in violation of the recommendations of the recent President's Commission on Budget Concepts.

The contemplated agency financing device that EFA embodies is not new: off-the-budget (as it is planned to be) and with open-ended latitude in setting its borrowing volumes and lending rates, it has the familiar earmarks of existing credit assistance devices. What is new and discouraging to us is that its institution might foster the large-scale application of such credit assistance to the area of Federal aid to State and local governments. To the extent that such assistance might come to supplant both grants and conventional municipal borrowing, it gives the appearance rather than the substance, of genuine support. There would be superficial evidence of substantial Federal program commitment, but, because of both the looseness of the legislative language and the possibility of undesirable side effects and feedbacks, the dollar worth of that commitment is indeterminate. Such a method of debt financing could easily be extended to other major Federal programs, with the mandatory requirement that all State-local borrowing related to Federal aid be performed through such agencies. This would mark a major change in our inter-governmental fiscal structure, one that would limit the political and fiscal flexibility of State and local units and necessarily make them subservient to the budgetary requirements of the Federal Government.

These developments and tendencies toward them—the direct or indirect undermining of the municipal bond market that could result—do not square with the preservation and enhancement of a balanced Federal system. They would be contrary to the objective of building a meaningful partnership between the Federal and State and local governments.

Our concerns on this score are not baseless. It is true that up until now the bulk of Federal credit assistance has been directed toward housing and agriculture. But last year, Congress saw fit to enact three administration-backed bills that created new, off-the-budget credit mechanisms that are specifically designed to promote the use of Federal credit assistance to State and local governments: Agricultural credit insurance fund loans (Public Law 91–617); medical facilities construction amendments of 1970 (Public Law 91–296); Housing and Urban Development Act of 1970 (Public Law 91–609). Two involved loan sale operations; the other requires State and local governments to attempt to issue taxable bonds before they may receive the program's guarantees, interest subsidies, and low-cost debt service loans. Our view is that, aside from the merits of the purposes thus funded, the proliferation of these expensive and awkward circumventions of both the Federal budget and con-

ventional municipal finance does no service either to State and local governments or the efficient operation of the capital markets.

Some of the criteria for Federal credit assistance to State and local governments are:

(1) The need for such assistance should be firmly established and carefully documented. Existence of any gaps in the conventional credit market should be clearly shown, not merely presumed. To the extent that such a need is evidenced, then the solution should be tailored to meet that need as directly and economically as possible without distorting and undermining the conventional market's ability to satisfy the legitimate credit needs of other borrowers.

(2) Once a particular need is demonstrated, then the credit assistance mechanism used to meet that need should be designed to avoid creating situations where there is any unfair and wasteful competition of such assistance with the private capital market. Wherever possible, it is better to allow the market mechanism to continue to allocate credit among competing uses. Therefore, such assistance should work within the broader framework of the market and avoid a general substitution of managerial judgment for the price mechanism.

As a starting point, it is best to restrict assistance to those units or uses that have demonstrably failed a market test. The test should be objective and not prejudiced toward making a failure worthwhile by extending loans at submarket levels. This is best accomplished by requiring that applicants for assistance make a bona fide attempt to sell truly marketable bonds at the going market rate. If this cannot be done, then the credit assistance should be extended at rates of interest and on terms which do not penalize those that do sell or borrow by conventional means.

3. Credit assistance should not inadvertently lead to a demoralization of State and local government fiscal responsibility or an unfair distribution of overall financing effort between aid recipients and the Federal Government. While assistance programs may insure that units get sufficient credit at rates and terms that make priority projects possible, they should not entirely insulate recipients from an awareness of the real costs involved. Nor should it impede them in their attempts to improve their credit worthiness or to institute such improvements in their operations that make conventional sale of securities feasible.

Here again, the way in which assistance is extended is of crucial importance. Criteria for receiving aid and the rate at which loans are made must be sufficiently strict so as to foster a genuine attempt to acquire funds in the open market. Furthermore, by restricting assistance to the hardship cases and special circumstances, the available assistance will be stretched to help those that are most in need.

4. Credit assistance programs should be designated so as to clearly reflect the degree and amounts of subsidy they contain and the other costs entailed. Furthermore, the scope, terms, and conditions of such assistance should be clearly defined in the legislation that creates them. The administration of the program should be

largely a ministerial function, free from the real or potential incorporating of new and unintended policy objectives by those charged with the execution of the program.

Obviously, broad delegations of power and discretionary judgment with respect to such things as program qualification, ascertainment of need, lending rates and loan volume are inconsistent with maintaining firm control over the satisfaction of program objectives. Broad latitude on the part of administrators may lead to operations that make the assistance program either ineffectual or too limited to be of real help or that push beyond the bounds of legitimate and intended areas of need. In either event, administrative actions, if not properly defined, can lead to nonuse or misuse of powers.

5. Credit assistance programs should be as simple and straightforward as possible. They should not lead to a proliferation of new bureaucracies and institutions to handle each particular problem. Such a diffusion of credit assistance plants the seeds of interagency competition and consequently program delay.

Moreover, institutionalization of such assistance builds into the governmental structure an unintended clientele whose existence and growth depends on things other than the objective and original purpose of the program. To be efficient, programs should have the ability to expand and to contract as the basic need for assistance itself fluctuates. Programs that call for the establishment of elaborate institutions for their implementation involve a heavy fixed cost and large overhead that lacks such flexibility. For that reason, rather than attempt to duplicate the skills already present in the private market, it is better to channel aid as might be required through the existing private and public institutions operating in the conventional market.

6. Any credit assistance should not constrain the freedom of action and ready access to the market on the part of all State and local governments. A strong and sensible attraction to the existing municipal bond market is that it permits these units to borrow as much as needed, when needed to fulfill their own particular policy objectives. The tax exemption of their securities permits them access on a generally preferred basis that means a lower rate of interest over what they would otherwise have to pay. That is why States and localities reacted violently to the abortive attempt of the Tax Reform Act of 1969 to levy Federal taxes upon the income from their securities. Correspondingly, credit assistance to these governments should not directly or indirectly infringe upon the continued health and independence of the municipal bond market. Credit assistance programs that depend on circumventions of this traditional means of financing capital expenditures should be avoided and those intended to supplement it should not be instituted without the study, suggestions, and consent of these governments.

7. Credit assistance should not be used in the stead of grants-in-aid where the latter are preferable and required. Because credit assistance permits the levering of large amounts of resources for relatively small current outlays, there is a predilection to use credit aids to minimize the impact of the program on the current budget.

Although the full costs of borrowing are often submerged and are not fully felt for many years, they are nonetheless just as real. Credit assistance builds into future budgets uncontrollable expenditure commitments as well as a large overhang of direct or contingent liabilities. By the same token, State and local government units with almost boundless financing needs on their own account, have little need for Federal credit assistance that simply promotes their indebtedness. Debt owed to the Federal government or its agencies is a liability on their accounts just as that which is owed directly to private investors. The best assistance they can receive—and that which indicates the degree of Federal commitment to a program—is the grant-in-aid supported by current revenues. Conversely, use of Federal credit assistance to paper over deficits not only distorts program choices in favor of "loanable projects and programs," it creates excessive pressures on the capital markets as they work overtime to allocate credit supplies among hyperinflational demands for funds.

We are aware that the foregoing criteria set up tough standards in the establishment of credit assitance. Yet we hope that our statement thus far has driven home the point that extensions of such assistance are not merely a technical detail. Alternatives that are proferred on the basis that they are market-broadening, circumvent some supposedly inefficient or overburdened conventional means of financing, minimize budgetary impact, or allow for great administrative flexibility should be suspect until they are examined in depth on all these scores and many others as well. Every allocation of credit involves a real cost and those that supposedly take place beyond the private capital market and the discipline of the price system offer the greatest opportunity for inefficiency and misapplication. To achieve a blend of credit assistance to activities which have merit but fail the market test and of a free and vigorous competition for funds among those who are able to compete is not easy—but it is essential, nonetheless.

We should like to conclude by expressing our preferences among financing techniques. This discussion is meant to be suggestive rather than exhaustive: but we do think it provides sound guidelines to follow in considering any extensions of Federal credit activities. To the extent possible, Federal participation should consist of grants, or to the extent a need can be determined, of direct loans or advances to recipient governments. To the extent possible, these in turn should be funded out of current revenues. If these are insufficient, then the remainder—including any justifiable additional assistance to recipient units—should be funded by direct Treasury borrowing.

The great advantage to these procedures is that such assistance is visible in the budget and financed in the most economical manner —either by taxation or by Treasury borrowing, which is the cheapest means by which to raise required capital in the credit markets. Unfortunately, the way in which this Government has chosen to keep its books and its reluctance to select among competing demands for funds has led to a general retreat from these means of raising

public funds. As of late, it has become a virtue to remove funds raised for public purposes from the public accounts, as if this somehow lessens the burden of their repayment.

As a secondary possibility, new and existing programs should be collected into a single umbrella approach and shall have some central means of coordination. Several reforms should accompany such a rationalization of credit activities. First, all transactions and their subsidy elements should be clearly reflected in the budget. Second, the relending rates or guarantee costs of these programs should be set at levels that will not subvert use of the traditional borrowing mechanism. Third, in those instances where the intent of the borrowing program is to rescue certain credit rather than to subsidize generally a given activity, there should be the requirement of a bona fide market test as a condition for receiving special assistance. Last, such central matters as the scope of the program, the degree of subsidy, the requirements for participation in the program should be clearly and firmly established by Congress and subject to its constant and thorough review. Broad delegations of such items constitute an extension of authority to set policy that may either dilute or abuse the intent of the credit program.

Aside from the extension of Federal credit aids through the use of guarantees or agency lending programs, several other devices have been suggested that might better serve the aims of credit programs, when and if they can be shown to be necessary. Among these are direct subsidies to State and local borrowers who opt to sell taxable securities or subsidization of certain tax-exempt investors who now do not find the feature of tax exemption worthwhile. Another suggested possibility is a general-purpose bank that would provide temporary accommodation of municipal borrowers allowing them to place their bonds with the bank in times of credit stringency and then to recall the bonds for sale in the conventional market when interest rates recede to normal levels. Where a need can be demonstrated, all of these offer possibilities for assistance preferable to the current trend toward proliferation of small, multipurpose, ill-controlled agency relending schemes.

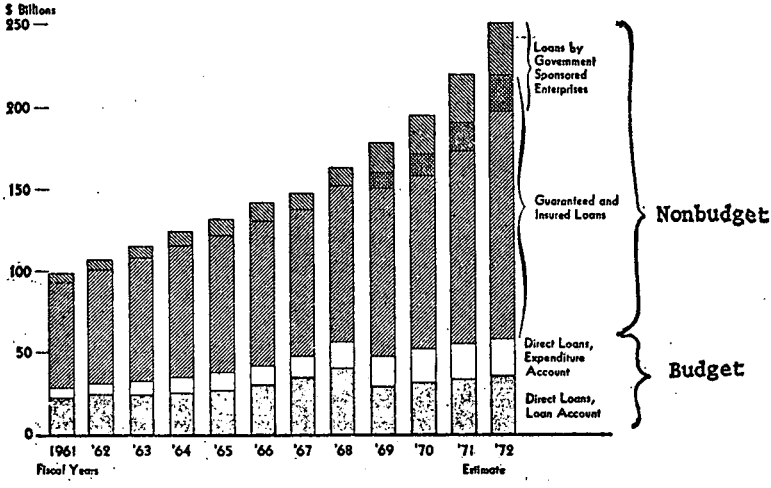
Before further expansion of Federal credit assistance takes place, all alternative methods of assistance should receive an impartial and complete examination. Effective methods of congressional and executive review must be established and current and future programs must be successfully integrated into the budget. Only with such prerequisite steps can the impact of such assistance on the economy be understood and controlled.

Therefore, we hope that this committee will continue to seek the involvement of all interested parties—including the State and localities themselves—in its investigation of this highly important area of assistance.

We value the opportunity of presenting our views on this legislation and we will be happy to help this committee in any way it feels necessary. Thank you.

(The attachment to the statement follows:)

FEDERAL AND FEDERALLY ASSISTED CREDIT OPERATIONS



Source: The Budget for Fiscal Year 1972: Special Analysis, Page 83.

NET FEDERALLY ASSISTED BORROWING FROM THE PUBLIC INCLUDING GOVERNMENT-SPONSORED AND GOVERNMENT-GUARANTEED AGENCIES

[In billions of dollars]

	Fiscal years			
	1969	1970	1971*	1972*
Direct Federal borrowing	−$1	$5	$18	$15-25
Federally assisted borrowing	13	15	21	30
Total	12	20	39	45-55
Net credit raised in capital markets	90	94	108	120-125
Total Federal share of net credit (percentage)	13	21	36	38-44

* Estimated.

Sources: Federal Reserve flow of funds. The Budget for fiscal year 1972: Special Analysis, table C-8. Manufacturer's Hanover Trust Co., Economic Report, February 1971.

Senator STEVENS. Let me explore your one suggestion concerning the possibility of the general-purpose bank to provide temporary accommodation of municipal borrowers.

Are you referring to a private bank or a Government institution which would hold these bonds and then replace them on the market?

Mr. SMEAL. I am talking about something that would be most analogous to the old RFC. I make no brief for this kind of transaction, but it might apply to true hardship cases where credit is not available at reasonable costs. If the condition of the market improves, a procedure can be established to rechannel these issues back into the market at lower rates.

Senator STEVENS. You would not contemplate a Fannie Mae type of activity for purchasing and reselling?

Mr. SMEAL. No, I would not.

Senator STEVENS. I must say, you have indicated some amount of agreement with Secretary Weidenbaum. With regard to the limit on the market for tax-exempt municipals, can you tell us whether they are guaranteed or not, and whether you can estimate the overall size of the market that would be available? Are we wrong by putting a limit in this bill?

Mr. SMEAL. There is probably more than one question there. You seem to be asking about the capacity of the tax-exempt market itself.

Senator STEVENS. Right.

Mr. SMEAL. The capacity has seemed almost endless. Projections for 1976 have the new issue volume in this market at somewhere between $26 and $28 million. These are demands that are made upon the market. Financing that was done in this market last year must have been of the magnitude of $18 billion. We are expecting something closer to $20 billion this year and it is being handled, we think, at fair rates. We do think the capacity to handle each program through normal market procedures is there.

We do know, however, that small, obscure communities do have to pay very high rates, and it is this kind of borrower, perhaps, which this and other programs might really help.

Data is really not very good on any of these programs, whether it is pollution or coastal zone, in indicating that fair bids are not available in the market.

Senator STEVENS. What do you think of the suggestion that, if we have this credit assistance available at all, it should be under the new communities approach of a guarantee of taxable securities as opposed to a guarantee of nontaxable, tax-exempt securities?

Mr. SMEAL. Of course, this raises all of the problems associated with agency proliferation; the increased cost of the Federal agency financing itself. Very recently we had an issue of an insured Federal agency issue which sold at a rate considerably in excess of that on a high-grade public utility bond. So, as these agencies expand the demands upon the markets they, too, begin to sell Federal credits too cheaply and this concerns me very much.

Senator STEVENS. You list an advantage for tax-exempt municipal bond guarantees which is such that an approach would be selective

in the sense that they do give the greatest benefit to those projects with intrinsically the greatest risk and lowest investment quality.

Would that not depend upon whether limiting such guarantees to these cases were stated as the objective of the legislation providing the guarantees? Do we have a program? You are implying that there be greater utility where there is greater risk and lowest investment quality. On the other hand, we are saying that they should be used for high priority objectives. Is our plan inconsistent with yours?

Mr. SMEAL. No. I think I understand the Treasury's objections to the guaranteeing tax-exempt obligations. On the other hand, I think there are both high priority programs and high priority borrowers for whom the application of a Federal guarantee to a tax-exempt bond might be appropriate. I have in mind, for example, public housing and urban renewal, which is the outstanding example of the kind of Federal guarantee which has worked exceptionally well and provided funds at low rates for projects of high social priority.

I do think there is some role for the federally guaranteed tax-exempt bonds in this whole array of programs. I do not know whether this is one of them.

Senator STEVENS. Perhaps Congress is slightly duplicitous about this from a public acceptance point of view. You mentioned the impact on the public. If some of these matters were disclosed fully in the budget, they might lead to comments about balancing the budget, surplus, and other things.

Don't you feel there is a role in this case of giving the credit of the Federal Government the portion of stability of that credit to local governments, so they can do for themselves what they ought to be doing for themselves without involving any Federal taxpayer expense other than the guarantee?

Mr. SMEAL. I think there probably is. We are concerned about full exposure of this role and full consideration and review and control of that role. I have no doubt that there is a role for Federal guarantees in the high priority areas.

Senator STEVENS. Do you agree with Secretary Weidenbaum—as I understand he agreed with me—that it would be possible to devise a system of guarantees, whereby the impact on the Treasury of the tax-exempt State and local securities would be the same without regard to the tax bracket of the purchaser? Do you think that could be done?

Mr. SMEAL. I have not thought about it.

Senator STEVENS. Mr. Petersen, do you have any comments on that?

Mr. PETERSEN. Well, I would say, Senator, there are technical problems in a number of areas. As Mr. Smeal pointed out, I would not say a fundamental, but more technical difference is our assessment of just what is the opportunity cost involved, and we feel the Treasury is in pretty much of a break-even proposition with the tax-exempt subsidy.

63-902—71——17

Senator STEVENS. I understood that point of Mr. Smeal's. I do believe, however, that Secretary Weidenbaum had a point that if the tax advantage depends upon the tax bracket of the purchaser and the cost to the Treasury is disproportionate, if you happen to be in the 70-percent bracket as opposed to the 30-percent bracket, then we ought to devise a means of a guarantee which would have a uniform subsidy and a uniform impact on the Treasury without regard to who purchases them. I think he agreed with me that it could be done.

Mr. SMEAL. It may be. I really do not understand the question or the procedures he has in mind in devising a guarantee which would equalize the cost benefits to the Treasury. This would require some assumptions about the way investors' interests shifted. Now, this is one of the problems with many of these things. We do not know if we take away the opportunity to invest in a tax-exempt bond where that investor will go with his money and what his tax bracket will be.

Senator STEVENS. Let's put it this way. Is there anything more marketable than the tax-exempt security of the local government guaranteed by the Federal Government?

Mr. SMEAL. That is about as good as you can get.

Senator STEVENS. That is what we want. But he disagrees because of the impact on the Treasury, depending upon the purchaser and the purchaser's tax status. I am exploring in order to see if it is possible to eliminate or at least equalize that impact on the Treasury without regard to who is the purchaser.

Mr. SMEAL. I do not know how it could be done. I would like to think about it. I have exhausted my contribution at this time. I would be happy to take a look at it with Secretary Weidenbaum and see what he has in mind. Your last statement or question was a good one. I think I understand your problem. I do not understand the solution, however.

Senator STEVENS. Could you answer one other question. Relative to these taxable securities as far as the similarity to the new communities type security, would they not be less acceptable on the market than those proposed by the bill?

Mr. SMEAL. I think they would. We have those. The problem of taxable municipals is a very complex one which we really do not understand. There may be some future role taxable bonds plus subsidy in some of the major problem areas which States need to finance, but I am not sure.

Senator STEVENS. We certainly thank you, and if you could give us any guidance on the problem which the Secretary mentioned, we would appreciate it very much. Thank you both for your courtesy and for giving us your thoughts.

Next we have Dr. William Hargis, who is accompanied by Mr. Thomas Sudduth and Deane Conrad. We are happy to have you here, gentlemen, and you may proceed in any way you wish.

STATEMENT OF DR. WILLIAM HARGIS, DIRECTOR, VIRGINIA INSTITUTE OF MARINE SCIENCE, REPRESENTING COASTAL STATES ORGANIZATION; ACCOMPANIED BY THOMAS H. SUDDUTH, EXECUTIVE DIRECTOR, OCEAN SCIENCE CENTER OF THE ATLANTIC COMMISSION, GEORGIA, AND SECRETARY OF THE COASTAL STATES ORGANIZATION; AND R. DEANE CONRAD, SPECIAL CONSULTANT

Dr. HARGIS. Mr. Chairman, we have prepared a brief and can submit it for the record. It is brief and I would like to read and summarize part of it with your permission.

Senator STEVENS. Your statement will be placed in the record and we are happy to have you summarize it.

Dr. HARGIS. The Coastal States Organization and the people associated with the organization have considered the problems and the various legislative offerings to determine the need and justification for development of a separate coastal zone management program. The brief that is before the committee represents our best efforts at this time in developing our position.

We consider that there is a clear rationale for development of separate coastal zone management and research program on several grounds. This consideration has been developed carefully over several years.

In the first place, generally speaking, it is clear to us that the environmental systems of the earth, physical, chemical, geological, or biological or terrestrial and aquatic or atmospheric are a continuum. Being a continuum, one should argue that you should not make separation. However, mature deliberations and experience in government has convinced us that divisions are necessary to comprehension and manageability.

There are ample reasons to separate the upland terrestrial and the atmospheric entities from the coastal zone or vice-versa in development of a truly National—that is, involving State, Federal, and local—Coastal Zone management system. These are:

(1) Is a different regime naturally, encompassing adjacent land masses, coast by land masses, shorelines, adjacent waters, and the bottoms and resources of those areas? We are all aware that along the shoreline there are wetlands, beaches, in very much demand for various uses; surface minerals, subaqueous lands, subsurface minerals; and we are also aware that the waters are important naturally as well as to the activities of man.

Many of the biological organisms in the coastal zone are extremely important economically, aesthetically, ecologically, and they are dependent upon the quality of the waters.

All of these elements of the coastal zone are closely situated temporally and spatially and they are closely interdependent. They are a unit. Management can and must be approached as a unit.

We are all much concerned over the environments and resources of the world's oceans. The coastal zone is the key or gate to the oceans. Effective management of the coastal zone automatically

assures control over quality of ocean environments and quantity of resources available for future use.

The coastal zone is a different regime socially. It is the area where man, the terrestrial environment, and the sea interact most heavily. Most people in the United States live in the coastal zone—and by coastal zone here, we are using the broad concepts as have been developed in several of the Senate offerings, S. 582 most specifically, and this includes the territories, commonwealths, and States of the oceans as well as of the Great Lakes. Most of the people in the United States live in the coastal zone. This is as true, of course, in Virginia as it is in many of the other States along the coast.

There is heavy public interest in the environmental resources of the coastal zone. I agree with Senator Chiles that we have an impetus—we have a movement underway and we should not allow it to falter in an attempt to encompass too much. It is in the coastal zone that the greatest contests between public and private interests and rights will take place.

In the coastal zone there are multiple demands and uses for environments, and the qualities and resources of the coastal zone add an extra dimension to the social complexity and conflict in the area.

The coastal zone represents a different industrial and commercial regime. Broadly speaking, the coastal zone is the site of greatest commercial and industrial development due to global transport patterns and to location of population.

Upward trends of these activities continue as the world shrinks, population levels climb, and industrial demand for water in vast quantities grow.

The coastal zone is a politically complex regime. Further dimension of complexity is added when the interests of nations meet and contend at the borders of territorial and resource sovereignty and bi- and multinational management must be considered. For example, in the current problems that have developed over the fishery rights along the Atlantic and Pacific coasts and also the gulf coast.

The coastal zone is socially and politically important. This is somewhat different from the political complexity, *per se*. Coastal environments and resources quite complex, very unusual and important. The National Governors' Conference, recognizing the acute and difficult nature of the problems of managing the environments and resources of the coastal zone, has twice urged the development of a suitable national coastal zone management program. The Nation's Governors are behind the effort.

Most coastal States, realizing the growing problems of the coastal zone, are developing programs for better planning and management, some in anticipation of development of an umbrella national program such as will be provided by S. 582.

The Governors have sanctioned and authorized the development and operations of the Coastal States Organization.

We could repeat for emphasis these points. Suffice it to say that we are dealing with a complex problem and the complexity of the problem will require development of a complex strategy. The coastal zone is a complicated and variable regime or set of systems. Its

natural, social, economic, and political complexities have been itemized and annotated above.

It is sound strategy to focus special attention on areas and problems such as this.

A complex management strategy will be required to bring the coastal zone under proper planning or management. Such a complicated and variable system cannot be approached with the simplistic "control model" approach. A complex management strategy is required. All techniques must be used. All leverage points must be exercised. These include zoning, acquisition by purchase, acquisition by special lease arrangements and any other technique that is available to national, State or local governments. A mixture of management techniques with all utilized as required or available in unison or in concert will be needed. Because of this requirement for a complex management strategy special legislative attention in the form of a national coastal zone management program is justified and required.

Land planning and management is important to maintenance of essential environments and resources as well as simple availability. Options must be utilized and options for the future use must be preserved. This demands the spectrum of zoning, easements, public acquisition by legislation, and all legitimate techniques, tax relief, etc. Further, States must institute and refine and utilize the full range of user permits, leases, licensing powers, and possibilities for manage developments in shorelines and shallows, dredging and filling. Renewables such as fishery resources and nonrenewables such as minerals must be brought under control. Water-use and discharge permits in compliance with a full range of quality standards and locality and quantity controls are also essential components of our management mix as are public health and ecological control techniques.

Solutions worked out in the coastal zone can serve as prototypes or models for solutions of broader problems of upland land-use planning and management.

What can we do now? Clearly, an effective national coastal zone management system must recognize the above enumerated features and requirements. It must also be constitutionally sound and recognize where prerogatives and responsibilities of States begin, where Federal responsibilities begin, and where they do—and must—blend.

Governor Sargent, of Massachusetts, addressed himself to this problem at a recent meeting and urged development of the national program. Sound strategy demands Federal, State and local involvement with principal contacts between Federal and States and leaving the States to specify internal details and deal with or delegate to local, regional and interstate entities those prerogatives or responsibilities that are necessary to handle the problem.

We have some suggestions as far as organization is concerned. One is that a Federal lead agency and coordinator must be designated with all pertinent departments, agencies, bureaus, commissions and councils available and involved.

A State lead agency for planning and/or management should be designated by gubernatorial authority. Both elements must be involved, but both need not necessarily be in the same agency.

Many difficulties will be experienced in developing this national coastal zone program. Many can be foreseen, but we must not let them frighten us into inaction. Problems are urgent and worsening. Government at all levels must move on this acute problem area in an effective, coordinated fashion.

Any arrangement to accomplish coastal zone management and incorporate planning of necessity will be complicated. We must not bog down or lose impetus in reorganizational activities whose purposes and promises are unclear save for neat tables of organization.

We need action as quickly as possible. The States must work with Federal executive and legislative bodies to continue development of an acceptable coastal zone management act. A coastal zone research act should also be brought along with this. Research and management should merge after passage into an effective unit.

The Coastal States Organization plans to make every effort to accomplish these objectives. We are highly interested in these vital programs and are willing to assist in their development in any reasonable way. We commend the interest, concern and past activities of this committee and wish to urge you in this activity.

The Coastal States Organization wishes to urge enactment of S. 582 or a bill or modification as near thereto as possible, such as S. 638, which offers also great flexibility for State action.

The Coastal States Organization and I, personally, wish to thank you for this opportunity to appear and to stress again our willingness to assist the committee in any reasonable way to develop what we consider to be an essential national program.

Senator STEVENS. Thank you. Mr. Sudduth and Mr. Conrad, I have specific questions here for Dr. Hargis, if you will permit me to go into them.

Dr. Hargis, Senator Spong would like to have your views as to how far inland the coastal zone management area should extend.

Dr. HARGIS. I would suggest that the inland borders have to be left somewhat flexible. There have been various proposals made in several of the legislative actions that have already been taken by the States. For example, the Potomac River Basin Compact, which has recently been ratified by Maryland, having formerly been ratified by Virginia, had 1,000 feet from the shoreline, I believe. Other actions have contemplated just the coastal tier of counties, and others have contemplated something less or more than 1,000 feet.

I think this is one point that has to be left up to the State to encompass and I believe that the definition that is provided in S. 582 represents the best advice that this organization can give the committee at this time.

Senator STEVENS. Thank you very much.

Senator Chiles made quite a point when he said that 53 percent of the population lives within 50 miles of the coastline. I would hope that eventually it would be a lot further than 1,000 yards, but we had one suggestion of 50 yards.

Dr. HARGIS. Yes. At the present time, in Virginia, we are wrestling with this program, and the most probable datum right now is the coastal tier of counties, but I would not be surprised if the zone is

not moved closer to the actual shoreline than the most distant border of the coastal county.

Senator STEVENS. Senator Spong poses another question for you. He would appreciate if you would tell us your opinion as to whether the State or the local governments should have primary jurisdiction over the coastal zone management plan? Should there be State control over the zoning or local control over the zoning with State veto power?

Dr. HARGIS. It is my personal opinion, as well as the Coastal States Organization's position—that the States have primary responsibility over management and they should serve a similar function as we envision the Federal Government serving, and that is to provide guidelines, to provide incentives, and to provide the approach.

Senator STEVENS. What if the States do not accept this responsibility? Should this bill provide that the authority would flow through to the highest level of local government, which will accept the responsibility for planning?

Dr. HARGIS. I think that the Coastal States Organization does not have a clear position on that particular question. I would think that there would have to be some provision, but I doubt very seriously if you are going to find any of the coastal States that would not accept the responsibility.

As a matter of fact, most of them, to my knowledge, at the present time are moving rather vigorously. There are a number of State legislative actions underway and there are more that have been tried and failed and will try again.

Senator STEVENS. That last question was not one of Senator Spong's, but leads into this next question. S. 582 is contingent upon action by the coastal States to develop and adopt the State/national plan. How many States now have such a coastal zone management program?

Dr. HARGIS. I do not know of any State that has a comprehensive coastal zone management program—that is one that I would regard as a comprehensive coastal zone management program. There are a number of coastal zone programs that are in various stages of development, planning, legislation, or actually in being, and I think that the chief value of the National Coastal Zone management program that we are now urging will be that it would provide further impetus and guidelines along with State efforts or within which the State efforts can be better coordinated.

There are several States which are attempting at the present time to bring around or bring about broader programs, but none have entirely succeeded at the present time.

Senator STEVENS. Do you believe that this bill would give sufficient incentive to these States to proceed; and a corollary to that, would they proceed without it?

Dr. HARGIS. I think the bill will provide considerable impetus, support and encouragement for them to proceed, and I think they will—I am sure they will proceed. The question as to whether they will proceed without a national program is less easy to answer.

It is clear that a great deal of the action that has come about in State governments at the present time along these lines is due

to the anticipation of the national coastal zone program. However, I think that there would be some greater level of management brought about by the States with or without this bill, but the level will be considerably improved and the speed with which the proper enactments are brought about will be improved by the bill.

Furthermore, there is a significant element of importance in coastal zone management to the Federal Government. What I am attempting to say—and not too well—is that we need the program that is envisioned in Senate 582 and several of the other similar bills, but I think management—at least a better level of management than now exists, would come about without them.

Senator STEVENS. You refer to the problem of control techniques. Do you think section 306(h) of this bill S. 582 is sufficient to permit the use of the control techniques, particularly the zoning techniques to which you refer?

Dr. HARGIS. Yes, I think so. That section should be numbered 305 I believe, but yes, I think so.

Senator STEVENS. Let me ask you one other question which deals with the difference between these two bills. Is there a necessity to permit the flexibility as to State law on zoning? For instance, Texas, as I understand, has no zoning. Do you believe that the bill should permit the States to use whatever techniques for control that they feel are sufficient?

Dr. HARGIS. No. I think the law should require zoning. I think the bill should require zoning by the State government with guidelines established, and threat to assume responsibility if localities to whom the zoning responsibilities have been designated—many have delegated this in many States—if they do not act properly.

Senator STEVENS. This is biting off quite a big chunk in Texas. I have been in some of the zoning fights.

You have already stated your position to leave it up to the State to determine how broad that coastal zone is.

Dr. HARGIS. Yes, I would.

Senator STEVENS. The zoning within the coastal zone would be sufficient under your approach to this bill; is that right?

Dr. HARGIS. Yes, I think so.

Senator STEVENS. I certainly thank you very much.

Mr. Sudduth, do you have a comment?

Mr. SUDDUTH. I want to support Chairman Hargis in supporting S. 582 in my capacity as secretary of the Coastal States Organization. The Coastal States Organization, through its delegates, has affirmed that the highest priority should be given to help construct the political framework to manage the coastal zone. We believe that is what S. 582 is doing.

Point No. 2. We believe that the proper channel for the planning and management of the coastal zone should be from the Federal Government to the States via a lead State agency, which S. 582 requires, that the States designate, and thence, to the area and local planning groups.

We believe that the management of the coastal zone really will take place at the local level and we believe that the only way one can achieve and interact to improve the Federal Government in the local planning groups is by a lead State agency.

We are not too concerned with the penalty provisions of the coastal zone management bill—this is my third point—because most of our States are in the process of establishing some form of coastal management program prior to enactment of this Federal legislation.

I would like to say this is definitely being brought about down in my State by anticipation of the coastal zone management bill. We have established a coastal marshalling and protection agency, and it is in operation, but it is only a segment of managing the coastal zone.

Senator STEVENS. I might say that in my State the people have raised the question of the time limit, whether there ought to be a time limit placed on the State to come up with a plan. They seem to think some States are going to have greater problems than others. Is there in the complex of your organization a flexibility of time also?

Mr. SUDDUTH. I think flexibility should remain on timing, Mr. Chairman, because some States are much more complex in the problems that they have than others.

Senator STEVENS. Thank you very much.

Mr. SUDDUTH. While we believe that the integral part of coastal zone management is land use planning, we feel at this time it is imperative to get on with the management of the coastal zone, for some 60 percent of this country's population lives there which is principally urban in nature. Therefore, Mr. Chairman, we hope the coastal zone management will not be delayed while a master land use management bill is being structured.

I would like to add that at the subcommittee on oceanography last year our executive committee, led by Chairman Hargis, made recommendations which have resulted in the perfection of this S. 582. I would hope that your committee would refer S. 582 out in the Senate.

Senator STEVENS. Thank you. I assume that you would agree that whatever process we set up in the coastal zone should be consistent with the possibility of expansion for a total national land use program.

Dr. HARGIS. I would, indeed. I do believe in the first priority in line with Senator Chiles, the impetus is growing now and I do agree that what is done in the coastal zone should be definitely useful to the master land use plan.

Senator STEVENS. I think Dr. Hargis made a very fine point about the precedent value of the development of the coastal zone concept. I am one who believes that if we could get that going, the rest of the States would see how advantageous it would be and then we would not raise the opposition we now have.

Mr. Conrad, you are from an organization with which I have had a great deal of contact in the past, and I therefore, would welcome any comments you have to make. It is a wonderful organization and as a past State legislator, I assure you that those of us from the provinces appreciate everything you have done to help us.

Mr. CONRAD. Thank you, Mr. Chairman. In addition to my duties as special consultant to the Coastal States Organization, I serve

63-902 O—71——18

as secretary to the National Governors' Conference Environmental Committee, and I would just express the gut feelings of the Governors who are members of that committee and, indeed, the entire Governors' Conference, in regard to the coastal zone.

Senator STEVENS. What priority did they place on this program?

Mr. CONRAD. This received, according to a statement from all the Governors which they prepared in conjunction with our work on the committee, priority second only to a concern for water pollution control programs, and these are very closely related to that.

Part of the reason for that is their understanding of the critical nature of the ecosystems in the coastal area and the broad ramifications upon the major portion of the population that resides in that area. They looked not only to assistance from the Federal Government, but also to enactment of legislation among all the States that border the coastal areas, and do urge their own members in the several States to move in that direction with or without Federal assistance; but they clearly understand and express the need for support in the area where it is extremely difficult politically to establish priorities that are not easily recognized by the public.

In this case, however, I would say, as I have indicated earlier to this committee, that their reading of the interest of their constituency in programs which would preserve coastal zone areas is that the public very highly favors government action to save coastal areas and, correspondingly, the attention they have given to them in the national forums has been extremely high. They have devoted fully one-third of all debate at a recent national conference to the problem of the coastal zone area.

Senator STEVENS. That is fine. I am a member of the Interior Committee also, which has the larger bill before it. I recall very well the statement that Governor Love made on behalf of the Governors' Conference in regard to the total land use management problem. I am sure this committee also welcomes this statement regarding the priorities placed on the coastal zone management concept, and I assume they are going to try and do something about it. I hope so.

If you gentlemen have any other comments, we would be very pleased to have them. I have one question I will ask of Dr. Hargis about the flow-through comment that came from Alaska.

We have only one agency that has total planning authority and that is our largest borough, which is equivalent to a county. A request was made to provide that if the State did not accept the planning program, that the assistance available through this bill would flow to the highest level of local government which did.

Would you have any objection to that, if we did that?

Mr. CONRAD. Mr. Chairman, we do have precedent for that kind of arrangement in other legislation, and I think that it can work very well.

Senator STEVENS. Fine. We certainly thank you very much, gentlemen. You have all been very patient. I hope you realize the importance of creating a record to substantiate what we are going to do, nothwithstanding the fact that my colleagues are still up where I was yesterday. I think I am safer down here today.

Dr. HARGIS. Mr. Chairman, I would say that all of us in the Coastal States Organization are, of course, gubernatorial appointees, and we cannot conceive of a situation where the States would not accept such a noble responsibility.

Senator STEVENS. Thank you very much.

(The statement follows:)

STATEMENT OF WILLIAM J. HARGIS, JR., PH.D., DIRECTOR, VIRGINIA INSTITUTE OF MARINE SCIENCE AND CHAIRMAN, COASTAL STATES ORGANIZATION

THE NEED FOR A SEPARATE NATIONAL COASTAL ZONE MANAGEMENT PROGRAM!

I. PREFATORY REMARKS

A. Personal credentials

1. Biological Oceanographer by training and experience
2. Marine Resource Specialist by experience
3. Director, Virginia's Coastal Zone Laboratory—Virginia Institute of Marine Science, Marine Science Advisor, Commonwealth of Virginia (See Attachments 1 and 2)
4. Chairman, Coastal States Organization

B. The Coastal States Organization

1. Group of Gubernatorially appointed delegates from 26 of the 33–35 coastal and Great Lakes States, Commonwealths and Territories.
2. Goals of organization

a. Communications between states on matters of mutual interest to member states.

b. Joint consideration of certain problems or projects of mutual interest.

c. Development of representative positions

d. Interjection of state interests and positions into national legislative activities of mutual concern, such as National Oceanographic Program, National Coastal Zone Management Program, National Coastal Zone Research Program, and similar programs.

e. Interjection of state interests into activities of federal agencies with responsibilities and programs in oceans, estuaries, and the Coastal Zone.

3. Activities to date.

a. Helping develop legislation relating to National Coastal Zone Management and National Coastal Zone Laboratory programs. (We have worked with the Subcommittee on Oceanography of the Senate Commerce Committee in development of many details of S. 2802.) [S. 2802 was the predecessor in the 91st Congress of S. 582.]

II. IMPORTANCE OF AND RATIONALE FOR DEVELOPMENT OF A SEPARATE COASTAL ZONE MANAGEMENT AND RESEARCH PROGRAM

A. Environmental management

In the broad context, general princi[illegible]s of environmental and resource management can be applied to essential coastal and oceanic areas. Furthermore, it is clear that environmental and resource systems of Earth, physical, chemical, geological and biological or terrestrial, aquatic and atmospheric, are a continuum. But *divisions are necessary to comprehension and manageability.* There are ample reasons to separate "upland" terrestrial and atmospheric entities from coastal zone, or vice versa, in development of a truly "National" (state-federal-local) Coastal Zone Management system. These are:

1. Different Regime *Naturally*

The differences can be expressed in many ways, e.g. ecologists, geologists or geographers terms, but the coastal zone is markedly different from adjacent terrestrial and oceanic areas. It is the interface between deep ocean regimes, inshore ocean[illegible] regimes, and terrestrial regimes—a highly dynamic and variable system. Invo[illegible] are (broadly):

a. Wetlands [illegible] eline borders of the "dry" land.

b. Subaqueous la[illegible] and surface minerals.

c. Subsurface mi[illegible]ls and sedimentary materials ~~and resources~~.

d. Waters, fresh, brackish and salt.

e. Biological organisms and communities are closely integrated and dependent upon water and subaqueous "lands." Many are of great economic and aesthetic importance.

All these elements of the coastal zone are closely situated temporally and spatially and closely interdependent. They are a unit. Management can and must be approached as unit.

We are all much concerned over the environments and resources of the world's oceans. The coastal zone is the "key" or gate to the oceans! Effective management in the coastal zone almost automatically assures control over quality of ocean environments and quantity of resources.

2. Different Regime *Socially*

Coastal Zone is region of heaviest impingement between (a) man, (b) the terrestrial environment, and (c) the Sea.

a. Most people of the United States live in coastal zone. Upward gains in long-term as well as short-term population continue.

b. Heavy public interest in environment and resources of coastal zone. That is ownership of environments and resources is divided between public and private owners with the predominance public. It is in coastal zone that greatest contests between public and private interests and rights will take place.

c. Multiple demands and uses for environments, qualities and resources of coastal zone add extra dimension to social complexity and conflict.

3. Different *Industrial and Commercial Regime*

a. Generally coastal zone is site of greatest commercial and industrial development due to global transport patterns and to location of population.

b. Upward trend continues as world shrinks, population levels climb and as industrial demand for water (in vast quantities available only in estuaries and along coastlines).

4. *Politically Complex Regime*

Because of these characteristics enumerated above, the coastal zone(s) of the United States (and world) are extremely complex politically. A further dimension of complexity is added when the interests of Nations meet and contend at the borders of territorial and resource sovereignty and big and multinational management must be considered.

5. *Socially and Politically Important*

a. The National Governor's Conference, recognizing the acute and difficult nature of the problems of managing the environments and resources of the Coastal Zone, has twice urged the development of a suitable National Coastal Zone Management Program.

b. Most coastal states, realizing the growing problems, are developing programs for better planning and management, some in anticipation of development of an umbrella National program.

c. The Governors have sanctioned and authorized the development and operations of the Coastal States Organization.

6. Principal Control Point for Ocean (Repeat for Emphasis)

Much concern is expressed, justifiably, over the condition and future of the world's oceans. Strategically, the coastal zones are the key to preservation (and use) of ocean environments and resources.

a. Most effluvia and rejecta of man reach oceans via coastal zone. The major estuaries are vast hypodermic syringes injecting wastes and naturally derived materials from land masses into oceans.

B. Requirements for strategic management program development

1. The Coastal Zone is a complicated and variable regime or set of systems. Its natural, social, economic, and political complexities have been itemized and annotated above.

It is sound strategy to focus special attention on areas and problems such as this.

2. Complex Management Strategy Required

Furthermore, such a complicated and variable system cannot be approached with a simplistic "control model" approach—a complex management strategy

is required. All techniques must be used—all leverage points must be exercised. Thus, a mixture of management techniques with all utilized as required or available in unison or in concert.

Land planning and management is important to maintenance of essential environments and resources as well as of simple availability. Options must be utilized and options for future uses must be preserved. This demands the spectrum of zoning, easements and public acquisition by all legitimate techniques, tax relief, etc. Further, states must institute or refine and utilize the full range of user permit, lease and licensing powers and possibilities to manage developments in shorelines and shallows, dredging and filling. Renewables such as fishery resources and non-renewables such as minerals. Water-use and discharge permits in compliance with a full-range of quality standards and locality and quantity controls are also essential components of our management mix as are public health and ecological control techniques. Solutions worked out in the Coastal Zone can serve as prototypes or models for solution of the broader problems of upland land-use planning and management.

III. WHAT NOW!

A. Characteristics of an effective "national" coastal zone management system

Clearly, an effective National Coastal Management System *must recognize the above enumerated features and requirements.* It must also be constitutionally sound and recognize where prerogatives and responsibilities of states begin, where federal responsibilities begin, and where they do—and must—blend.

As Governor Sargent (of Massachusetts) has said, states are primary managers of the coastal zone, but joint state, federal—and local—efforts are involved with the full range of "carrot and stick" guidelines and incentives involved at national and state levels.

1. Sound strategy demands federal-state-local involvement with principal contacts between federal and states and leaving the states to specify internal details and deal with or delegate to local, regional and interstate entities.

2. Organization

a. A federal lead agency and coordinator must be designed with all pertinent departments, agencies, bureaus, commissions and councils available and involved.

b. A state lead agency for planning and/or management. (Both elements must be involved, but both needn't necessarily be in the same agency.)

3. Planning, management and scientific and technical components of a sound coastal zone management system must be present, available and coordinated. Research is an adjunct to planning and management and must operate as such with appropriate strictures—of course.

4. Difficulties

a. Many difficulties will be experienced. Many can, indeed, be foreseen, but we mustn't let them frighten us into inaction. Problems are urgent and worsening. Government at all levels must move on this acute problem area in an effective, coordinated fashion.

b. Organization—Reorganization. Any arrangement to accomplish coastal zone management (with planning) of necessity will be complicated. We must not bog down or lose impetus in reorganizational activities whose purposes and promises are unclear save for neat tables or organization.

c. Action ASAP

The states must work with federal executive and legislative bodies to continue development of an acceptable Coastal Zone Management Act. A Coastal Zone Research Act should also be brought along. They should merge after passage into an effective unit.

2. Coastal States Organization plans to make every effort to accomplish these objectives. We are highly interested in these vital programs and are willing to assist in their development in any reasonable way. We commend the interest, concern and past activities of this Committee and wish to urge you in this activity.

Senator STEVENS. Our next witness is Mr. Ela of the Sierra Club of San Francisco.

STATEMENT OF JONATHAN ELA, ASSISTANT TO THE CONSERVATION DIRECTOR OF THE SIERRA CLUB

Mr. ELA. My name is Jonathan Ela. I am assistant to the conservation director of the Sierra Club, and am appearing today on behalf of that organization.

I have a prepared statement but I presume in the interest of time you would prefer that I summarize it and hit the high points.

Senator STEVENS. Your statement will appear in the record completely, and we very much would like to have you highlight it.

Mr. ELA. There are really two general themes that require our comment today. First is the whole question of coastal zoning as a separate concept from general land use planning. The subcommittee solicited comment on this.

We believe that the Administration's position—or what we gather to be the administration's position—that coastal zone planning is an obsolete concept is extremely incorrect. We think that priority should be given to the coastal zone and that the coastal zone could not be given adequate attention simply through S. 992, the administration bill, or S. 632, Senator Jackson's bill. There are a number of reasons for this.

First of all, we believe that the magnitude and urgency of the coastal zone problem is such that a separate and specific institutional arrangement is called for. Further, we believe——

Senator STEVENS. Do you mind if I interrupt as we go along and get a little dialog which might save time? Are you indicating that you think that even if we arrive at a national land use policy concept, that the coastal zone should forever remain separate from that and that the problems of the coastal zone are so different that we should maintain a separate regime for the coastal zone, even if we go to the total concept of the administration's bill or Senator Jackson's bill?

Mr. ELA. I think it is conceivable at some point in the future that the two programs could be integrated. I think, for a number of reasons, it would be very premature to do so now.

First of all, as has been pointed out by several witnesses, there is an impetus in coastal planning. The critical problems that are facing the coastal zone now require a program that is complete in and of itself rather than a tag end on a larger concept. I think the whole question of statewide zoning and national land use policy is so massive in scale that it is going to be years before the bugs are shaken out, even if we get a bill passed this session of Congress.

Senator STEVENS. You recognize, again, of course, the corollary of that is that if we take the area where the heat is greatest, the coastal zone, and pass it, although I want you to understand I am in favor of that the national land use planning concept is going to be further away in terms of realization. This is due to the fact that one of the best ways to get a bill national in scope is to make certain that you do not let the hot spots go first. I think you would agree with that, too, would you not?

Mr. ELA. We certainly are in favor of the concept of a national land use policy. We would hope that separate action by Congress on coastal zone management would not preclude future action, or perhaps

even simultaneous action, on a national land use policy. It is just that we do not believe that the coastal zone would receive proper attention at this time in the context of a national land use policy as proposed by either the administration or by Senator Jackson.

I do not wish to imply in any way that we would favor postponing action on the national land use policy once we get coastal legislation, but rather, at this time, it is essential that the two concepts be kept separate.

Two further reasons that I think this is necessary is that the approaches to planning are rather different in the coastal zone and the uplands area. Because of the interface nature of the coastal zone, a great deal more types of talent would be required in the planning effort, hydrologists and marine biologists and fishery biologists and so forth.

I think if separate legislation were not implemented and were simply a tag end of a national land use policy, a much more standardized effort would be carried on and it would not give the proper attention to the many, many facets of the coastal zone requirements.

Senator STEVENS. I want you to know that I agree with you again. But, on the other hand, I think you have to fairly appraise what we are saying which is that we will offer this Federal assistance only for the financing of what might be 50 yards or 1,000 yards. Virginia really is a good example of where they are thinking of a county concept, and the contiguous counties to the oceans.

I wonder if we are not leaving too much discretion to the States to determine the area in which what we both seek will happen.

Mr. ELA. In definition of the coastal zone, you mean?

Senator STEVENS. Yes.

Mr. ELA. I think that perhaps language could be firmer than is presently in S. 582, but, of course, everybody gets hung up as to what that language should be. We have a very easy situation in California where we define two coastal zones, a primary coastal zone of 1,000 yards which will have permit authority for actual implementation of the plan; and a secondary coastal zone, which will have certain planning elements, to extend to the top of the nearest mountain range. That is much easier to do in California than any place else in the country that I am aware of.

On the east coast, where you have deep estuarine areas and sloughs, and so forth, I could not provide a proper definition; but if anyone on your staff could, I think it would be a very good idea.

Senator STEVENS. A thousand yards might be all right in San Franciscs, but when you get down around San Onofre, 1,000 yards does not get you off the beach even in the State of California.

Mr. ELA. That is right.

Senator STEVENS. I am one that believes we ought to find some definition, a minimum definition, if we are going to give this advantage to the States for their basic problems, which is coastal zone management, and that we ought to require that they assume that responsibility in at least a minimum distance from the shoreline.

Mr. ELA. Right. I am quite in agreement.

Senator STEVENS. I hope we will find that minimum distance and we will both go to lunch.

Mr. ELA. It is a fine idea. I am not surprised that you have had testimony that 50 yards is an appropriate distance because we have hard much the same thing in California, first in relation to the Bay Conservation and Development Commission effort of several years ago and now, more recently, in the coastal zone problem.

Well, if we accept that coastal zone legislation is necessary—and if we cannot convince this subcommittee of that, I guess we cannot convince anyone—we still have the problem of what such a bill should look like.

We have read all the legislation that has been introduced in Congress the last several years and are focusing our attention at this point on S. 582. We have not considered S. 638 in any great detail. It seems to be largely duplicative and weaker in a number of points where there seems to be very little justification for its being weaker—less funding in particular.

Senator STEVENS. What about the penalty provisions?

Mr. ELA. I do not recall what they are in S. 638.

Senator STEVENS. I got them mixed up. I am sorry. The penalty provisions that Dr. Hargis testified to, he sad they would not object to the penalty provisions in terms of this matter. He said they would not object if they they were put in. Pardon me, I misunderstood.

Mr. ELA. Well, good; because I am about to suggest that.

Senator STEVENS. I misunderstood him. I thought they were in this.

Mr. ELA. We think that the general framework and approach used by S. 582 is very proper. The concept of a federally administered program that relies on the States for the actual principal planning certainly seems appropriate. The sequential program of development grants followed by ongoing administrative grants appears to be extremely sound.

We do have some problems, however, when we consider the legislation in relation to actual deteriorating environmental situations on the coastal zone as they are today, and whether it would actually be able to cope with the problem in the time frame that we are really presented with considering the rate of development on the coastal zone and in estuarine areas. I would make a number of points.

The principal point at issue, I think, is the degree of direct Federal involvement in the coastal problems or program. We believe that S. 582 relies too heavily on the actions and initiatives of the individual States. Certainly, coastal and estuarine protection is a national issue not only because the areas are enjoyed by the inhabitants of the entire Nation, but also because of the biological productivity of estuaries in particular have enormous significance for the entire Nation. This point is conceded in virtually every scientific study that has been done on estuaries, and yet the bill really turns around and gives the individual States the authority to manage the program.

First of all, State participation of a program appears to be entirely optional. The bill is based on a premise—or at least it appears to us to be—that the critical limiting factor up to this point in the coastal protection legislation has been the availability of State funds. It certainly is true that State and local governments have difficulty raising money these days, but I do not think it is actually the case that a lack of money has been limiting in this program.

I think, instead, that those States that have been negligent in coastal zone management have been so because of a lack of policy commitment rather than a shortage of funds. Virtually any State could raise planning funds implied in this bill through just, for example, a very minor transfer of funds from its highway construction and maintenance program. If these States had any true appreciation of the magnitude of the coastal problem, I think they would do that.

We do not believe that the financial incentives provided in this bill are, in themselves, sufficient to involve all coastal States in this program. We believe that means must be found to, in effect, make mandatory the State participation on the Federal coastal zone management program.

There are two logical approaches. One is direct Federal planning in the event of noncompliance by the States where there is certainly a great deal of precedence in various Federal statutes, but because of the complexities of planning I would prefer, myself, to see a second approach taken; and that is the penalty approach that was mentioned earlier. That is, that certain related Federal funds would be withheld in the event of nonparticipation by a State.

Senator STEVENS. This was Mr. Sudduth. I made a mistake. It was not Dr. Hargis. But he specifically said "We expect your committee to see to it that the penalty provisions, should they be included, not be counterproducitve as they often tend to be." Would you agree with that?

Mr. ELA. I suppose I have to. I am not sure what that means.

Senator STEVENS. We got plenty of "carrot" and not much "stick." You are saying put the "stick" in too?

Mr. ELA. I think we need the "stick" too. The original administration draft of their land use bill, for example, had several programs where funds would be gradually cut off from the grants to States; as I remember the proposal, each year 7 percent would be deleted, and in the second year 14 percent, and so on, up to 35 percent. This seems like a very sound approach. It did not appear in the final administration proposal, I do not believe. It got knocked out somewhere along the review process. I do not know where.

It might also be appropriate if Corps of Engineers projects would not be available for States that did not comply with the requirements of the Federal coastal program.

Senator STEVENS. That is a good one, but a "no no" for someone from the State of Alaska.

Mr. ELA. It is probably a "no no" for more people than just people from Alaska.

Even though the States comply, it seems that the Federal handles in this program are minimal. The Secretary's right of review seems largely limited to procedural questions in section 305 and 306. At no point, except by implication in the congressional findings in section 302, is there any requirement of a level of environmental performance on the part of the States. We believe that a new section should be added that spells out specific guidelines for the State plans.

Some examples of such criteria are: In estuarine areas of high biological productivity, no new landfill should be permitted, and pollution levels should be reduced to zero where physically possible. In any

event, no public or private project should be permitted that increases pollutants, undesirable siltation, and so forth, above existing levels.

Secondly, in undeveloped areas of high scenic value, no new public or private projects should be permitted unless there is a clearly identifiable State or National need for such facilities, and no feasible alternative sites exist.

Third, no new obtrusive structures should be permitted seaward of scenic highway corridors; fourth, no publicly owned lands currently dedicated to public use and recreation should be permitted to be developed for other purposes.

I list these not as any exhaustive list or even with the suggestion that they are in proper legislative form at this time, but as an example of the sorts of criteria that I think should be in the Federal bill to control, if you will, or guide, the actions of the States as they then proceed to implement the program using Federal funds.

Senator STEVENS. Let me ask you one question. I am sorry to tell you that I have got to be in another place at 1, and you have been very patient with us, as everybody has.

In regard to the penalty concept, would you support the concept that I mentioned earlier, that if the State refuses to assume the authority and a local government area does, a penalty concept that the assistance of the Federal Government would flow through directly to the highest local level that assumes the responsibility under the bill? Would that be consistent with your point of view?

Mr. ELA. That is a tough one. I am not sure that it would. I would have to think about it in much more detail. Certainly, one of the points that we feel very strongly about is that the State role within the States should be centralized and there should be one central State authority that would have control of each State's coastal development planning process and implementation of the program.

Part of the problem now is the fragmentation of the county and city authorities, with the cities and counties competing against each other for tax base.

Senator STEVENS. We have 50 percent of our population within a radius of 30 miles of Anchorage. The Greater Anchorage Borough, which encompasses that area, has assumed very strong powers. The State has not assumed such powers because of the vast coastline and its relation to very isolated areas. Long Island points out the same problem. Long Island has assumed a very strong position.

If the State does not go ahead with it, what is wrong with saying, "OK, all of this assistance and the ability to issue tax-exempt bonds flow right directly down to the Greater Anchorage Borough?" I am getting provincial again. Why should we deny the highest level of local government which wishes to assume the responsibility the assistance if the State is unwilling to do it? I think the same thing should happen in Texas, incidentally.

Mr. ELA. I think it might work in Alaska, but I suspect that Alaska is a very unusual case where there are a relatively small number of incorporated areas and only a few that are substantially larger than all of the rest.

I do not know what you do in California if the State did not participate. I do not know what the next largest unit would be—the County of Los Angeles, I would suppose——

Senator STEVENS. We are talking again about the coastal zone, however. They would have to be involved in the coastal zone.

Mr. ELA. Within the County of Los Angeles, there are innumerable municipalities.

Senator STEVENS. Correct me if I am wrong, but I think we were told that you formed two separate organizations, one around San Francisco and one around Los Angeles, which involve multiple counties already to deal with these problems.

Mr. ELA. These are the councils of government, right, in the bay area, and so forth?

Senator STEVENS. They developed a conservation organization of some kind. They testified here earlier in regard to ocean dumping.

Mr. ELA. As I understand the councils of government, they are coordinational bodies. They do not, in themselves, have governmental authority. I am not sure whether they have any authority to receive and disburse funds from the Federal Government.

Senator STEVENS. If you have any second thoughts about that flow-through thing, we would appreciate hearing from you on it, because I intend to urge the committee to adopt that procedure, particularly where the State has not adopted a legal authority for it. It is a matter of State legislation, I am sure you realize, and some of the State legislatures are just not going to adopt the bill.

Mr. ELA. That is certainly the basic problem in a great many States.

Senator STEVENS. We certainly thank you for your patience.

This concludes our hearings. The record will stay open for 10 days. If anyone wants to submit any additional comments for the record, we will be pleased to have them.

Mr. ELA. Thank you, Senator, for this opportunity.

(The statement follows:)

STATEMENT OF JONATHAN P. ELA, ASSISTANT TO THE CONSERVATION DIRECTOR, SIERRA CLUB

My name is Jonathan Ela. I am Assistant to the Conservation Director of the Sierra Club, and am appearing today on behalf of that organization. The Sierra Club is one of the nation's foremost environmental organizations, with a membership of over 125,000 in all fifty states and a variety of foreign countries.

In September, 1969, the Sierra Club's Board of Directors resolved that the protection of the coasts and estuaries of the United States was a matter of high priority within the Club's conservation program. Sierra Club Chapters have been active throughout the country in promoting state coastal management legislation. In California, for example, we have spearheaded the effort to prepare and pass legislation that would create a California Coastal Conservation and Development Commission that would exercise planning and management authority along the entire California coastline. The push for coastal legislation in California has developed into the state's leading environmental issue, and has generated a public interest that has probably never been exceeded in California by any conservation problem.

With this background of Club involvement, and with an ever increasing public awareness and interest in coastal and estuarine problems, it is a special privilege today to speak to the need for federal coastal zone management legislation, and to offer comments on the specific proposals before this subcommittee.

COASTAL MANAGEMENT WITHIN THE CONTEXT OF GENERAL NATIONAL LAND USE POLICY

In addition to considering two bills that deal solely with coastal problems, S. 582 by Senator Hollings, and S. 638 by Senator Tower, the subcommittee has solicited comment on the coastal implications of two general land use bills,

S. 632 by Senator Jackson, and S. 992, the Administration's land use proposals. I shall not make any detailed comments on these bills, as the Sierra Club will be offering extensive testimony to the Senator Interior Committee on June 7, but I shall offer the Club's views on their adequacy in regard to coastal protection.

S. 992 contains provisions for explicit attention to the coastal zone, and S. 632 could be rather easily amended to do the same. On this basis the Administration and others have taken the position that the concept of separate coastal zone legislation is obsolete, and that the purposes of the Hollings and Tower bills could be more effectively served by a comprehensive national land use policy.

The Sierra Club disagrees with this analysis of coastal and related land use needs for a number of reasons:

We feel that the magnitude and urgency of the coastal zone problem is such that a separate and specific institutional arrangement is called for.

We believe that it will be several years before the nation enjoys the fruits of a national land use policy, even if it were to be enacted in the current session of Congress, and that decisions on coastal matters cannot be delayed for that length of time.

It is our feeling that the multi-disciplinary requirements of coastal zone management dictate an approach distinct from traditional land use planning.

We believe that much valuable work in progress would be placed in jeopardy if Congress abandons the concept of a distinct coastal management program.

It is clear that coastal zone needs are the most critical of our many land use related problems. I shall not explore that assertion in any detail, as there is a vast literature on the subject with which I am sure the subcommittee is familiar: in addition to two multi-volume studies by the federal government, the testimony assembled by this subcommittee in hearings in the 91st Congress presents dramatic evidence of the crisis that threatens our coasts and estuaries. I would summarize the special needs of the coastal zone by simply commenting that it not only contains the ecologically most sensitive areas of the country, and a scarce land resource of unparalleled value for recreation and aesthetic appreciation, but it is subject to the heaviest developmental pressures of any of America's endangered environments. This combination of extraordinary value and intense pressure dictates a strong and immediate coastal zone protection system.

The mandate given coastal protection in S. 992 is unclear. The coastal zone is only one of a number of designated priorities, and the job is left to the Secretary of the Interior and the Governors of the states to balance competing demands in distributing meager planning funds and drawing up state land use programs. It is conceivable that a state planning effort would devote disproportionate attention to the location of freeway interchanges, which are "key facilities" under the terms of the Administration bill, at the expense of coastal land management. When the Secretary receives the state's completed land use program and an application for a program management grant he will find it difficult to withhold funds, and thereby order an upgrading of the coastal element, if in balance the land use program appears to be a significant improvement over the status quo in regard to interchange siting and other aspects. A separate federal coastal program, on the other hand, would enable sharper scrutiny of state programs, and far better determination of their adequacy.

We must also recognize that any comprehensive national land use planning measure that is enacted in this Congress is likely to have a prolonged and tentative shart-up period. Complete statewide master planning is a highly ambitious goal, and it is certain that the process of implementation will be filled with unforseen and complex obstacles. It is likely that even with the best of intentions it will be several years before concrete results would emerge from the institutional arrangements established by S. 992. The coastal zone cannot afford the uncertainty entailed by a gigantic process of trial and error: unnecessary delay will doom a substantial portion of the resource we are attempting to save and manage.

A further argument for separate consideration of coastal matters lies in the interdisciplinary approach that must be used in any satisfactory scheme of coastal and estuarine management. The unique relationship of land and water requires skills not ordinarily found in planning teams: the importance of hydrologists, marine and fisheries biologists, pollution technicians, and a host of other specialists cannot be underrated when considering coastal zone management. It is unlikely that the statewide planning utilized in S. 992 would provide an adequate scope of analytical and planning methods.

Finally, the adoption of only the general statewide planning approach, and the conseuent abondonment of proposals for a federal coastal management program, would needlessly call into the question a tremendous amount of work that has already been undertaken. Coastal zone management has been considered as a distinct problem from general land use planning for many years, and many basic management concepts have emerged. The report of the Bureau of Sport Fisheries and Wildlife, for example, proposes some interesting planning techniques. Many states have on their own made tentative efforts at coastal protection legislation, based on the assumption that there are special values in the coastal zone that demand attention above and beyond whatever other zoning or land use functions the state possesses. These state approaches should be encouraged and strengthened through a federal coastal zone management program, rather than diluted or dismantled by encouraging the states to approach the program through an entirely new direction.

If coastal zone management is not to be lost in the shuffle—and it would be a tragedy were that to happen—it is essential that a separate system be established in this field, regardless of what occurs in the general area of national land use planning. If this is not done, one can expect with some assurance that the finding expressed in Section 302(g) of S. 582, "That in light of competing demands and the urgent need to protect our coastal and estuarine zone, the institutional framework responsible is currently difuse in focus, neglected in importance, and inadequate in regulatory authority," will continue to hold true.

Although I have addressed these remarks to S. 992, the same arguments pertain to S. 632, even if it were amended to include specific reference to the coastal zone.

None of these remarks should be interpreted as casting any doubt upon the need for state wide planning, or the desirability of federal legislation that would oversee such a national program. However, these considerations do indicate to us the urgent necessity for a coordinated separate coastal program, which might at some future date be integrated in a satisfactory fashion with a national land use policy.

I would point out, in conclusion of this portion of our testimony, that there is ample precedent for taking immediate and special steps to protect unusual resources at the same time as more general concepts are being evolved and tested. Two examples come immediately to mind.

The first is the establishment of the San Francisco Bay Conservation and Development Commission. The BCDC was formed to cope with the continuing crisis of development pressure on San Francisco Bay at the same time that elements inside and outside of the state government were giving consideration to three more general alternative programs: statewide planning in general, coastal and estuarine protection for the entire state, and a mechanism for dealing in an integrated fashion with all of the Bay Area's environmental problems. The state legislature decided that the Bay could not wait for the development of other effective programs, and took action, first in 1965 and then in 1969, to afford the Bay a measure of protection. The wisdom of this decision is illustrated by BCDC's acknowledged effectiveness, and by the fact that none of the general alternative approaches has yet been implemented.

Another example is the Lake Tahoe Bi-State Compact and the Bi-State Agency that was created through the initiative of the states of California and Nevada, and with the consent of Congress. Here again it was recognized that a precious resource was gravely threatened, and that special action would be necessary.

COMMENTS ON SPECIFIC COASTAL LEGISLATION PROPOSALS

If the subcommittee accepts the argument that a separate coastal zone management system is required, it is still faced with the question of the nature of the program. I will address the comments that follow to S. 582. S. 638 appears to be weaker in a number of regards, for example there is less money authorized and the federal proportion is smaller. None of these weakened provisions seem to us to be the least bit justified: we would hope that at a minimum the subcommittee will tolerate no weakening of S. 582.

I would start this discussion by saying that in general we are pleased with the approach taken by S. 582. The concept of a federally administered program that relies on the states for principal planning activities strikes us as a realistic approach. The sequential program of development grants followed by ongoing administrative grants appears to be sound. When analyzing the bill, however, we

constantly asked ourselves the extent to which this legislation would actually improve the critically deteriorating environmental situation we find in the coastal zone, and we found the bill deficient in a number of respects. We believe that it provides a structure that has substantial future potential, but that it drastically needs strengthening in order to have a significant effect within the time frame available to us if we really wish to protect our coastal zone.

The most critical question at issue, of course, is the degree of direct federal involvement in the proposed program of coastal zone management. We believe that S. 582 relies too heavily on the actions and judgments of the individual states.

Coastal and estuarine protection is a national issue. Not only are these areas enjoyed by the inhabitants of non-coastal as well as coastal states, but the biological resources contained in estuaries in particular have enormous significance for the entire nation. It is illogical to concede this point, as virtually every scientfic study has, and then to turn around and vest the bulk of coastal management authority with he same political entities that have thus far failed to protect the public trust. S. 582 does exactly this in a number of critical respects.

State participation in the program is entirely optional. An assumption that appears to underlie much of this bill is that the limiting factor up to this date in coasal and estaurine management has been a lack of state funds, and that the major action needed of the federal government is to provide money. We seriously doubt that this is the case, and instead suspect that in those states that have been negligent in coastal zone management the reason lies in a lack of policy commitment rather than a shortage of funds. Any state could raise the sums of money implied in this bill through a very minor transfer of funds from its highway construction and maintenance program, for example, and if these states had a recognition of the true importance of coastal management, this would certainly be done. The financial incentives provided in this bill simply will not be sufficent to involve all coastal states to carry on the type of program that the national interest demands.

We believe that the program must be made in effect mandatory for all coastal states. Two approaches suggest themselves. The first would require direct federal planning if the states failed to act within a certain length of time. There is precedent for this approach in many federal statutes, but because of the complexities of planning the second approach might be preferable. This would be to withhold certain federal funds in the event of non-compliance. Certain proponents of federal land use programs, for example, have advocated the withholding of a proportion of monies from the Land and Water Conservation Fund, the Highway Trust Fund, and the Airport and Airways Development Fund in the case of a non-cooperating state. In this instance it might be particularly appropriate if non-cooperating states were to be made ineligible for Corps of Engineers projects until such time as they complied with the requirements of the Federal coastal zone management program.

Even for states that comply with the program as proposed in S. 582, the federal requirements are minimal. The Secretary's right of review of state actions in Sections 305 and 306 is largely limited to procedural questions. The bill at no point, except by implication through the Congressional findings in Section 302, requires any level of environmental performance from the states. We believe a new section should be added that spells out specific guidelines for the state plans. Some examples of such criteria are:

In estuarine areas of high biological productivity, no new land fill should be permitted, and pollution levels should be reduced to zero where physically possible. In any event, no public or private project should be permitted that increases pollutants, undesirable siltation, and so forth, above existing levels.

In undeveloped areas of high scenic value, no new public or private projects should be permitted unless there is a clearly identifiable statewide or regional need for the facility, and no prudent or feasible alternative site exists.

No new obstrusive structures should be permitted seaward of scenic highway corridors.

No publicly owned lands currently dedicated to public use and recreation should be permitted to be developed for other purposes.

This list is by no means exhaustive, nor is it intended that each suggestion is in a form that can be immediately implemented in this legislation. They are examples of the type of federal restrictions that must be in any significant fed-

eral coastal zone management bill, in order for that bill to have the effectiveness that our nationwide coastal crisis warrants.

In order for a national system of coastal zone protection to function properly, it is necessary for authority to be consolidated within each state. We are dubious, therefore, at the apparent role permitted local governments in Sections 306(g) and 306(h). It is probable that each state will rely heavily on the advice of local governments, and we have no objection to substantial local input in an advisory role. Indeed we believe that consultation with local experts and agencies is important, but we do believe that, by and large, with some significant and gratifying exceptions, local governments have failed to control coastal and estuarine development in any rational way. Rather than to continue the current jurisdictional fragmentation, we believe that ultimate state responsibility for developing and administering state coastal zone porgrams should lie with a single state body. In some states it might be a standard executive agency, such as Washington's Department of Ecology, and in others it might be a special coastal commission, as has been proposed in California. We urge that Section 306 be modified in this respect.

We strongly urge that an additional regulatory concept be added to the bill, the concept of interim permit authority. We fear that during the two or more years that state management programs will be under development, an enormous amount of unplanned and uncontrolled construction will be commenced. Until such date as a statewide program is adopted, and future development decisions can be made on the basis of the program, every developer should be required to apply to whatever state authority has coastal planning jurisdiction for a construction permit, before he is allowed to commence his operations. The authority would grant or deny permits on the basis of criteria previously promulgated, in conformity with the federal statutory and regulatory guidelines that should be enacted in this measure. This permit concept was highly successful in the case of the San Francisco Bay Commission, and is an integral part of the coastal legislation pending before the California legislature. We advocate that it be included in the legislation you are considering today.

In short, we believe that S. 582 could become a potent and constructive instrument of planning and environmental control, but only if these changes are included:

Mandatory state participation in the program,

An enhanced federal role through substantive environmental performance requirements,

A centralized state authority for coastal planning and management, and

Interim permit power to be administered by that central state authority.

Without these changes the Sierra Club, and I suspect most environmentalists, must regard S. 582 as a skeleton with intriguing potential, but sadly lacking in flesh.

I would like to conclude with a brief comment on the concept of estuarine sanctuaries as proposed in S. 582. Section 312 provides a minimal sanctuary proposal, but the Sierra Club feels that far more is required. Marine sanctuaries, other than those in estuarine areas, should be established, for example coral reefs and kelp beds. Sanctuaries should be established for reasons other than research, for example as underwater and wetland natural preserves, and for protection of individual species. A federally administered program should be established, in addition to the grants to states authorized in S. 582. Finally, even for the limited sanctuary program envisioned in this bill, the federal funding ceiling of $2,000,000 per unit may be unnecessarily restrictive.

I thank the subcommittee for this opportunity of testifying. We would be pleased to work further with the subcommittee and its staff in developing the suggestions we have put forward today.

MAY 21, 1971.

HON. TED STEVENS,
U.S. Senate,
Senate Office Building, Washington, D.C.

DEAR SENATOR STEVENS: I enjoyed having the privilege of testifying last week before the Senate Subcommittee on Oceans and Atmosphere, and I greatly appreciated the enthusiasm you exhibited for coastal zone legislation. I was particularly pleased that you agreed with a major point that I brought forward, as did a number of their witnesses, namely that penalty provisions for non-com-

plying states would be included in the version of S. 582 reported out by the Subcommittee. I would like to take this opportunity to expand further on this problem.

The suggestion was made that an arrangement should be established whereby federal funds would flow directly to local governments in the event a state government does not initiate a coastal zone management program that conforms with federal law. You mentioned that this concept would work well in Alaska, where the city of Anchorage, as I understand it, would use funds more conscientiously and effectively than the state itself. I have a number of reservations about this approach.

I suspect this arrangement would prove to be unworkable for a number of reasons. First, in many states, and I suspect California is one, there would be ambiguity as to which local government would maintain the program. In southern California, for example, the money might be distributed through Los Angeles County, the constituent municipalities within Los Angeles County or the larger association of local governments, Southern California Association of Governments. The local competition for federal funds, and perhaps even more to the point for control over coastal planning, would be acute and unhealthy.

Secondly, the fragmentation of local administration of planning funds and functions would make the federal role of overseer extremely difficult. The Secretary would receive a jumbled accumulation of programs, and would have an impossible task to fit them together to see which portions fulfill the intent of Congress and thus qualify for further funding.

Finally, the most basic reason that this penalty concept is unworkable is that the result would defeat one of the basic purposes of the Act, in that decisions would still be made in a fragmentary fashion in relation to small portions of coastline, without any consideration to the broader interest in the coastal zone. We would end up with a situation identical to the status quo, with development pressures on local governments inexorably leading to the destruction of natural values.

I would also like to point out that the inclusion of such a provision would probable decrease rather than increase the chances of state compliance. The establishment of a statewide coastal zone management program requires a commitment on the part of the state governments. There is precious little incentive for a state government to make that commitment in S. 582 as it is currently drafted, but the incentive would be completely eliminated if the state realizes that the same amounts of money would be made available for expenditures within the state whether or not any action is taken. Indeed, the existence of this provision would make inaction very tempting, as political controversy would be avoided while an appearance of progress through federal funding is maintained.

Although I feel that this particular approach to the penalty clause would be a very serious mistake, I would reiterate that some provision is necessary. There are two obvious ways of approaching the matter: direct federal planning in the absence of state action, and the withholding of related federal funds in the case of non-compliance. My intuitive impression is that direct federal planning would be extremely cumbersome, and that probably the second approach would be preferable. However, I think that both means should be given consideration by the Subcommittee, and I would urge that one route or the other be taken.

Again, I would like to thank you for your interest and courtesy during the hearing, and I would be additionally appreciative if these supplementary remarks could be included in the hearing record.

Sincerely yours,

JONATHAN P. ELA,
Assistant to the Conservation Director.

(The following memorandum was prepared pursuant to the request of Senator Stevens referred to on p. 164:)

U.S. SENATE,
COMMITTEE ON COMMERCE,
Washington, D.C.

To: Senator Stevens.
From: Henri Rush.
Subject: Principal sources of Federal assistance to States and local governments for acquisition of lands for recreational purposes.

As you requested, this memorandum reviews the principal provisions of existing law whereby Federal assistance is made available to States and/or local

government units for the acquisition of lands for recreational purposes. Those provisions are:

(1) Grants to States by the Secretary of the Interior under the Land and Water Conservation Fund Act of 1965, as amended, (16 U.S.C. 4601—4 to 11) of up to 50% of the costs of planning, acquisition, and development of needed land and water areas and facilities to assure accessibility to all citizens and future generations of a sufficient quantity of quality outdoor recreational resources. The requirements for grants under this program are more specifically set out in sections 15.400 and 15.401 of the "1971 Catalog of Federal Domestic Assistance" prepared by the Office of Management and Budget, copies of which are included within Appendix I hereto.

(2) Grants to States and local public bodies by the Secretary of Housing and Urban Development under the Housing Act of 1961 (Sections 701 through 710 as amended; 42 U.S.C. sections 1500 through 1500e) of up to 50% of the total cost of acquisition of title to, or other permanent interests in [open-space] land and the development, for open-space uses, of land acquired under the chapter. For purposes of this provision "open-space land" is defined to mean "any under-developed or predominately under-developed land in an urban area which has a value for (A) park and recreational purposes, (B) conservation of land and other natural resources, or (C) historic or scenic purposes." (42 U.S.C. section 1500e) The requirements for grants under this program are more specifically set out in section 14.303 of the OMB publication, *cit. supra*, which section is also included in Appendix I hereto.

(3) Various provisions of the Recreation and Public Purposes Act (as amended, 43 U.S.C. 869 to 869–4); the Federal Property and Administrative Services Act of 1949 (as amended, 40 U.S.C. 484); and the Surplus Property Act of 1944 (as amended, 40 U.S.C. App. 1622(g)(h) and 16 U.S.C. 677 b to d) which authorize the Secretary of the Department of the Interior and the General Services Administrator to sell, exchange, donate or lease Federal property to the States, State instrumentalities and political subdivisions including counties and municipalities for, among other purposes, public park and recreation uses. The provisions of these programs are more specifically set out in sections 15.202 and 39.002 of the OMB publication, *cit. supra.*, which are included in Appendix I hereto.

In addition, as you will note from the memorandum attached hereto as Appendix II, which was supplied by the Office of the Solicitor of the Department of the Interior, that Department acquires land under numerous statutory authorities for, among other things, recreational purposes. The most relevant of these for our purposes would appear to be the National Seashore Program, pursuant to which seven national seashore areas have been designated to date (16 U.S.C. section 459a–g).

Finally, it should be noted that in connection with the President's 1971 environmental program, as outlined in his Message on the Environment on February 8, 1971, the President is seeking to create a so-called "Legacy of Parks". That program, more specifically described at pages 224 and 225 of a publication entitled "The President's 1971 Environmental Program", compiled by the Council on Environmental Quality in March of 1971, will consist of the following:

"For the HUD program the President is requesting an appropriation of $200 million for fiscal year 1972—almost triple the 1971 funding level—taking advantage of new authorities and program options provided by the Housing and Urban Development Act of 1970. Approximately $115 million would be spent for development of publicly owned urban lands into parks and recreation areas regardless of how the land was acquired originally. Special emphasis would be given to developing vacant or abandoned properties in the inner city. Highest priority would be given to projects in low-income areas. Grant funds will also be used to develop swimming pools in high-density law- and moderate-income neighborhoods.

"The President's budget request for the Land and Water Conservation Fund would increase appropriations to $380 million for fiscal year 1972, of which $280 million is requested for grants. Proposed amendments to the Land and Water Conservation Fund would channel a greater share of the funds under the State grant program into populous and high-density States. These amendments would authorize up to 25 percent of any State's allocated funds for indoor recreation facilities where climate and lack of space make such an approach necessary. Expanded review powers by the Secretary of the Interior would help assure that

the States provide more natural areas and parks in greater relationship to the location of population within the State.

"Additional proposals would complement this "Legacy of Parks." In a special message, the President will soon recommend a major enlargement of our natinal wilderness preservation system. Amendments to the Federal Property and Administrative Services Act of 1949 would permit the movement of Federal Government facilities from land that could be better used for parks and recreational activities . . . Changes in the Internal Revenue Code will be proposed to encourage charitable donation of land by private citizens for conservation purposes.

"Another important initiative the President is taking is to declare surplus for park purposes five key Federal properties. The President intends to continue this effort to make underutilized Federal property, particularly in urban areas, available for transfer to State and local governments for park and recreation. The Property Review Board, which he established last year, is continuing its review of individual Federal properties and has now identified more than 40 such areas with high potential for park use."

Legislation to accomplish the above indicated purposes has been introduced and is presently under consideration by the appropriate Committees of Congress.

BUREAU OF OUTDOOR RECREATION

15.400 OUTDOOR RECREATION - ACQUISITION AND DEVELOPMENT
(Land and Water Conservation Fund Grants)

FEDERAL AGENCY: BUREAU OF OUTDOOR RECREATION, DEPARTMENT OF THE INTERIOR

AUTHORIZATION: 16 U.S.C. 1-4 et seq. Land and Water Conservation Fund Act of 1965; Public Law 88-578; 78 Stat. 897; as amended by Public Law 90-401 (82 Stat. 354); Public Law 91-485 (48 Stat. 1084), and Public Law 91-308 (84 Stat. 410).

OBJECTIVES: To provide financial assistance to the States and their political subdivisions for the acquisition and development of outdoor recreation areas and facilities for the general public, to meet current and future needs.

TYPES OF ASSISTANCE: Project Grants.

USES AND USE RESTRICTIONS: Acquisition and development grants may be used for a wide range of outdoor recreation projects, such as picnic areas, inner city parks, campgrounds, tennis courts, boat launching ramps, bike trails, outdoor swimming pools, and support facilities such as roads, water supply, etc. Facilities must be open to the general public and not limited to special groups. Development of basic rather than elaborate facilities is favored. Priority consideration generally is given to projects serving urban populations. Fund monies are not available for the operation and maintenance of facilities.

ELIGIBILITY REQUIREMENTS:

Applicant Eligibility: Only the State agency formally designated by the Governor or the State legislature to administer the State's Land and Water Conservation Fund Program is eligible to apply for acquisition and development grants. (Treated as States in this regard are the District of Columbia, Puerto Rico, the Virgin Islands, American Samoa, and Guam).

Beneficiary Eligibility: For acquisition and development grants, State agencies or political subdivisions, such as cities, counties, and park districts, are eligible. Additionally, Indian tribes which are organized to govern themselves and perform the function of a municipal government qualify for assistance under the program. Private individuals and organizations are not eligible.

Credentials/Documentation: The State Liaison Officer, appointed by the Governor to administer the program in the State, must furnish assurance that the project is in accord with the State Comprehensive Outdoor Recreation Plan (see 15.401) i.e., that it meets high priority recreation needs shown in the action program portion of the plan. The State's apportionment balance of Fund monies must be adequate for the project, and the sponsoring agency must permanently dedicate the project to public outdoor recreation and assume responsibility for operation and maintenance.

APPLICATION AND AWARD PROCESS:

Preapplication Coordination: Coordination with State and regional or metropolitan clearinghouses as required by Office of Management and Budget Circular No. A-95.

Application Procedure: Project proposals are submitted to the Bureau through the State liaison officer designated by the Governor. The State liaison officer has the initial prerogative of determining project eligibility, priority need, and order of fund assistance within the State.

Award Procedure: Proposals are reviewed by regional office, where final action may be taken. For grant requests of $100,000 or more, the Bureau's Washington, D.C. office takes final action. State and regional or metropolitan notification is made to the State liaison officer and appropriate clearinghouse(s) (through Standard Form 240).

Deadlines: None.

Range of Approval/Disapproval Time: Approximately 20 days for regional approval/disapproval and 30 days if Washington approval/disapproval is required.

Appeals: State may appeal to the Secretary of the Interior.

Renewals: Project agreements may be amended to change the scope, amount, or duration. Must be approved by the Bureau.

ASSISTANCE CONSIDERATIONS:

Formula and Matching Requirements: The Land and Water Conservation Fund Act specifies that not more than 50 percent of the project cost may be Federally financed. Congress, however, when appropriating money from the Fund, has always required that the Fund grant be fully matched. Under certain conditions, all or part of the project sponsor's matching share may be from certain other Federal assistance programs, such as Model Cities and the Appalachian Regional Commission. Two/fifths of the money is apportioned equally, and three/fifths is apportioned on the basis of need, figured using population, existing Federal resources and programs, and non-State resident use of recreation facilities.

Length and Time Phasing of Assistance: Available for obligation during the fiscal year in which appropriated and for 2 fiscal years thereafter. The assistance period for individual projects varies and may be extended. Complex projects may be broken down into stages, with one being initially approved and the remainder qualified for activation at a later date. Except for project preparation costs, all costs must be incurred within the project period.

POST ASSISTANCE REQUIREMENTS:

Reports: State inspection reports are submitted triennially on completed projects stating whether the properties acquired and/or developed with Fund assistance are used in accordance with the agreement.

Audits: Regular internal reviews by the Department's Office of Survey and Review. Each State is audited at least once every 2 years. States are to provide for a system of periodic internal review.

Records: Maintain records to facilitate audit, including records that fully disclose the amount and disposition of assistance; the total cost of the project; and the amount and nature of that portion of the cost supplied by other sources.

FINANCIAL INFORMATION:

Account Identification: 10-16-5005-0-2-105.

Obligations: (Grants) FY 70 $48,882,994; FY 71 est $98,500,000; and FY 72 est $148,500,000.

Range and Average of Financial Assistance: Several hundred dollars to more than a million with 66 percent being under $50,000.

PROGRAM ACCOMPLISHMENTS: By the beginning of 1971, State and local projects number over 5,600. State agencies have utilized 55 percent of the Fund monies, towns and cities 33 percent, and counties approximately 12 percent. The program has increased the Nation's outdoor recreation opportunities substantially and has improved the capability of States and localities to meet the current and future outdoor recreation needs of their residents and visitors.

REGULATIONS, GUIDELINES, AND LITERATURE: Outdoor Recreation Grants-in-Aid Manual (available on a subscription basis from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402, at a cost of $4. "A Guide to More Effective Preparation and Submission of Project Applications," no charge; "The Land and Water Conservation Fund Act of 1965, as Amended," no charge; "Federal Assistance in Outdoor Recreation," $0.50 from Government Printing Office; "Private Assistance in Outdoor Recreation," $0.45 from Government Printing Office; and "Coordination of Federal Outdoor Recreation Assistance Programs," $0.30 from Government Printing Office.

INFORMATION CONTACTS:

Regional or Local Office: See appendix for addresses.

Headquarters Office: Bureau of Outdoor Recreation, Department of the Interior, Washington, D.C. 20240. Telephone: (202) 343-5723.

RELATED PROGRAMS: 15.401, Outdoor Recreation State Planning - Financial Assistance; 15.402, Outdoor Recreation Technical Assistance/Research & Education Assistance; 15.202, Public Land for Recreation, Public Purposes, and Historic Monuments; 14.303, Open Space Land Programs; 39.002, Disposal of Federal Surplus Real Property.

15.401 OUTDOOR RECREATION STATE PLANNING - FINANCIAL ASSISTANCE
(Land and Water Conservation Fund State Plan Program)

FEDERAL AGENCY: BUREAU OF OUTDOOR RECREATION, DEPARTMENT OF THE INTERIOR

AUTHORIZATION: Land and Water Conservation Fund Act of 1965, Public Law 88-578; as amended 16 U.S.C. 460 1-4 et seq.

OBJECTIVES: To provide financial assistance to States and territories in preparing and maintaining statewide outdoor recreation plans which are required for State participation in the land and water conservation fund grant program. Such plans are directed to the needs of the people of the State for satisfying outdoor recreation opportunities and provide a framework to guide public and private actions designed to meet this objective.

TYPES OF ASSISTANCE: Project Grants.

USES AND USE RESTRICTIONS: Grants may be made to States for revising and updating existing State outdoor recreation plans, preparation of new plans, and for surveys, technical studies, data collection and analysis, and for other purposes which are clearly related to the refinement and improvement of the State outdoor recreation plan.

ELIGIBILITY REQUIREMENTS:

Applicant Eligibility: Only the State agency formally designated by the Governor as responsible for the preparation and maintenance of the plan is eligible.

Beneficiary Eligibility: Same as applicant eligibility.

Credentials/Documentation: Citation of State's legal authority to participate in the land and water conservation fund program.

APPLICATION AND AWARD PROCESS:

Preapplication Coordination: All projects must be coordinated with State and regional or metropolitan clearinghouses prior to submission to the Bureau as required by Office of Management and Budget Circular No. A-95.

Application Procedure: Application is made in the form of the following documents accompanied by the required attachments: Project Proposal-Planning, form BOR 8-89; Project Agreement, form BOR 8-92. Submit to the appropriate regional office listed in the appendix.

Award Procedure: Planning project proposals submitted to the Bureau of Outdoor Recreation are reviewed by the appropriate regional office and forwarded to the Bureau's Washington, D.C. office for final action. Awards are made to the State officials authorized to receive Federal grants. Notification of grant approval is made to the State Central Information Reception Agency on SF 240.

Deadlines: None.

Range of Approval/Disapproval Time: Approximately 60 days.

Appeals: Not applicable.

Renewals: Project agreements may be amended to change the scope, amount, or duration of a project. Such amendments must be approved by the Bureau.

ASSISTANCE CONSIDERATIONS:

Formula and Matching Requirements: Grants are made on a 50-50 matching basis for approved projects.

Length and Time Phasing of Assistance: There are no time limits on the assistance, nor specified phasing.

POST ASSISTANCE REQUIREMENTS:

Reports: End products as specified in the application for assistance, quarterly progress reports, and a final report are required.

Audits: Regular internal reviews of all projects are made by the Department's Office of Survey and Review. Each State is audited at least once every 20 years. In addition, States are expected to provide a system of periodic internal review.

Records: The Land and Water Conservation Fund Act requires each recipient of assistance to maintain such records as will facilitate an effective audit, including records that fully disclose the amount and disposition of assistance.

FINANCIAL INFORMATION:

Account Identification: 10-16-5005-0-2-405.

Obligations: (Grants) FY 70 $601,182; FY 71 est $1,500,000; and FY 72 est $1,500,000.

Range and Average of Financial Assistance: $2,000 to $503,586; $54,804.

PROGRAM ACCOMPLISHMENTS: The program has provided 112 grants for outdoor recreation planning since 1965 for a total of $5,976,891. All States now have statewide outdoor recreation plans and are now improving and updating those plans. In fiscal year 1970, 13 projects and 25 amendments to current State planning projects were approved. Also 38 States and Territories had active planning projects.

REGULATIONS, GUIDELINES, AND LITERATURE: "Federal Focal Point in Outdoor Recreation," $0.50; "Coordination of Federal Outdoor Recreation Assistance Programs," $0.30; "Outdoor Recreation Grants in Aid Manual," $4. ($5.50 if foreign). All available from Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

INFORMATION CONTACTS:

Regional or Local Office: Additional information may be obtained from the Regional Director, Bureau of Outdoor Recreation. See the appendix for a list of the addresses of the regional offices.

Headquarters Office: Bureau of Outdoor Recreation, Department of the Interior, Washington, D.C. 20240. Telephone: (202) 343-8061.

RELATED PROGRAMS: 15.400, Outdoor Recreation - Acquisition and Development; 15.402, Outdoor Recreation Technical Assistance/Research and Education Assistance; 15.803, Topographic Surveys and Mapping; 14.203, Comprehensive Planning Assistance.

14.303 OPEN SPACE PROGRAMS

(Open Space Land Program)

FEDERAL AGENCY: COMMUNITY DEVELOPMENT, DEPARTMENT OF HOUSING & URBAN DEVELOPMENT

AUTHORIZATION: Title VII of the HUD Act of 1970.

OBJECTIVES: To help communities meet the rapidly growing recreation needs of urban areas by assisting these communities acquire and develop land to be used as permanent open space.

TYPES OF ASSISTANCE: Project Grants.

USES AND USE RESTRICTIONS: Eligible acquisition costs include those for acquiring land or interests in land and certain structures, demolition of inappropriate structures where developed land is being acquired, and real estate services. Eligible improvement costs include basic facilities such as roadways, signs, landscaping, and swimming pools, etc. Acquisition and development of the open space land must be in accord with a unified and officially coordinated program for development of open space land as part of local and areawide comprehensive planning. Major construction such as marinas, etc., is not eligible under this program.

ELIGIBILITY REQUIREMENTS:

Applicant Eligibility: State and local public bodies with authority to acquire and preserve open space land and to contract for Federal funds.

Beneficiary Eligibility: Same as applicant eligibility.

Credentials/Documentation: Grants can only be made to local communities meeting Areawide Comprehensive Planning Requirements.

APPLICATION AND AWARD PROCESS:

Preapplication Coordination: Intent to file application must be coordinated in accordance with OMB Circular A-95 (see HUD Circular 1300.8).

Application Procedure: Application is made to the HUD Area Office serving the area in which the open space land is located.

Award Procedure: The Area Office Director (if not yet established, the Regional Administrator) makes final decisions on applications, and will so inform the interested parties. Notification of award must be made to the designated State Central Information Reception Agency (SF 240).

Deadlines: None.

Range of Approval/Disapproval Time: Average time between application and approval or disapproval 120 days.

Appeals: Application can be resubmitted if activities have not been carried out, resubmissions are considered as new applicants.

Renewals: Not applicable.

ASSISTANCE CONSIDERATIONS:

Formula and Matching Requirements: At least 50 percent of total cost of acquisition and development.

Length and Time Phasing of Assistance: Length of assistance period for approved projects, 12 to 18 months from date of contract execution to complete activity. Payments are made on reimbursement basis only. Partial payments may be made where 25, 50 and 75 percent completed.

POST ASSISTANCE REQUIREMENTS:

Reports: Progress report required every 6 months.

Audits: All project activities under the Open Space contract are subject to audit by a representative of HUD or the Comptroller General of the U.S. If an audit is to be made at least 10 percent of the total grant amount will be withheld until completion of audit.

Records: Records must be retained for 3 years after final payment is received. (See Accounting Procedure Handbook 1970.8).

FINANCIAL INFORMATION:

Account Identification: 25-12-0117-0-1-552.

Obligations: (Grants) FY 70 $75,147,000; FY 71 est $75,130,000; and FY 72 est $200,000,000.

Range and Average of Financial Assistance: $4,900 to $2,500,000 (however, there are no administratively set limitations). Average grant in 1970 $130,700.

PROGRAM ACCOMPLISHMENTS: Fiscal year 1970, Grants awarded, 577.

REGULATIONS, GUIDELINES, AND LITERATURE: Grants for Open Space Land - Information for Applicants 6240.3, Open Space Applications Submission Requirements 6240.4; Areawide Planning Certification Requirements 6415.1A; Areawide Planning Requirements - Open Space 6415.3; EEO Requirements 1312.1.

INFORMATION CONTACTS:

Regional or Local Office: Area Office Director, HUD Area Office.

Headquarters Office: Community Development, Department of Housing and Urban Development, Washington, D.C. 20410.

RELATED PROGRAMS: 14.300, Model Cities Supplementary Grants; 14.302, Neighborhood Facilities Grants; 14.305, Housing Rehabilitation Loans and Grants; 14.306, Neighborhood Development; 14.307, Urban Renewal Projects; 14.607, Public Housing - Modernization of Projects; 15.202, Public Land for Recreation Public Purposes & Historic Monuments; 15.400, Outdoor Recreation - Acquisition and Development; 15.401, Outdoor Recreation State Planning - Financial Assistance; 15.402, Outdoor Recreation Technical Assistance.

15.202 PUBLIC LAND FOR RECREATION, PUBLIC PURPOSES AND HISTORIC MONUMENTS

FEDERAL AGENCY: BUREAU OF LAND MANAGEMENT, DEPARTMENT OF THE INTERIOR

AUTHORIZATION: Recreation and Public Purposes Act of June 14, 1926, as amended; 43 U.S.C. 869; 869-4.

OBJECTIVES: To permit qualified applicants to lease or acquire available public land for historical monuments, recreation, and public purposes.

TYPES OF ASSISTANCE: Sale, Exchange, or Donation of Property and Goods.

USES AND USE RESTRICTIONS: Available public lands may be used for health, educational, public recreation, historical monuments, and other recreational and public purposes.

Applicant cannot secure lands under this act for any use authorized under any other public land law except the act of June 1, 1938. Acreage applied for in any one application cannot exceed 640 acres except applications for State park purposes may contain as much as 6,400 acres or where provided by law 12,800 acres. If applicant attempts to change use of land to other than that for which land conveyed or transfer title without consent of the Secretary of the Interior, title of land will revert to United States.

ELIGIBILITY REQUIREMENTS:

Applicant Eligibility: States, Federal and State instrumentalities and political subdivisions, including counties and municipalities; and nonprofit associations and nonprofit corporations.

Beneficiary Eligibility: Same as applicant eligibility.

Credentials/Documentation: None.

APPLICATION AND AWARD PROCESS:

Preapplication Coordination: Notice of proposal classification is sent to authorized users, licensees, lessees, and permittees, or their selected representatives, the head of the governing body of the political subdivision of the State, if any, having jurisdiction over zoning in the geographic area in which the lands involved are located, the governor of that State, the BLM multiple use advisory board in that State, and the District advisory board and to any other parties indicating interest in this classification.

Application Procedure: Application in triplicate on form 2232-1 together with 3 copies of a statement describing the proposed use, showing that application involves an established or definitely proposed project and giving a plan of development and improvement all accompanied by a $10 filing fee.

Award Procedure: Land office processes application. District office makes necessary field investigations for proper use and appraisal. Land office collects purchase money or rent and issues patent or lease.

Deadlines: None.

Range of Approval/Disapproval Time: 90 to 270 days.

Appeals: Appeals from adverse actions may be made to the Secretary of the Interior.

Renewals: Renewals available on leases, otherwise not applicable.

ASSISTANCE CONSIDERATIONS:

Formula and Matching Requirements: For historic monument purposes, no monetary consideration. For public recreation, public health, public education, Federal aid in wildlife restoration projects, "wildland" fire protection and penal and correctional institutions to States and their subdivisions and instrumentalities a price of $2.50 per acre with a minimum of $50 per transaction, lease at $0.25 per acre per year with minimum payment of $10 per lease. To nonprofit associations and nonprofit corporations, fair market value with price reductions based on the public benefits involved. Prices and rents not less than those for States and their subdivisions.

Length and Time Phasing of Assistance: Not applicable.

POST ASSISTANCE REQUIREMENTS:

Reports: None.

Audits: Periodic compliance checks by Bureau of Land Management usually at 5-year intervals.

Records: None.

FINANCIAL INFORMATION:

Account Identification: 10-04-1109-0-1-402.

Obligations: Not separately identifiable.

Range and Average of Financial Assistance: Not available.

PROGRAM ACCOMPLISHMENTS: In fiscal year 1970, 56 patents for 19,626 acres and 438 leases were in force for 117,573 acres.

REGULATIONS, GUIDELINES, AND LITERATURE: Title 43, Code of Federal Regulations, subparts 2740 and 2912; "Federal Assistance in Outdoor Recreation," publication No. 1 N.A.C. "Community Recreation and the Public Domain," May 1963, U.S.D. 1.

INFORMATION CONTACTS:

Regional or Local Office: See appendix.

Headquarters Office: Chief, Division of Lands and Realty, Bureau of Land Management, U.S. Department of the Interior, Washington, D.C. 20240. Telephone: (202) 343-3811.

RELATED PROGRAMS: 15.201, Leases, Permits, and Easements for Public Works; 15.203, Public Land for Rights-of-Way.

39.002 DISPOSAL OF FEDERAL SURPLUS REAL PROPERTY

FEDERAL AGENCY: GENERAL SERVICES ADMINISTRATION

AUTHORIZATION: Federal Property and Administrative Services Act of 1949, as amended; Public Law 81-152; 63 Stat. 385; 40 U.S.C. 484. Surplus Property Act of 1944, as amended; 50 U.S.C. app. 1622 (g) and (h); Public Law 80-537; 16 U.S.C. 677 b-d; Public Law 91-152; 83 Stat. 400 as amended by Public Law 91-609; 84 Stat. 1770; Public Law 91-485; 84 Stat. 1084; Section 218; Public Law 91-646; 84 Stat. 1894.

OBJECTIVES: To dispose of surplus real property for public purposes.

TYPES OF ASSISTANCE: Sale, Exchange or Donation of Property and Goods.

USES AND USE RESTRICTIONS: Surplus real property may be conveyed for: public park or recreation use and public health or educational purposes at discounts up to 100 percent; public airport purposes, wildlife conservation, replacement housing and for historic monument purposes without monetary considerations; and for general public purposes without restrictions at a price equal to the estimated fair market value of the property. Surplus real property may also be transferred to the Secretary of Housing and Urban Development at his request for sale or lease by him at its fair value for use in the provision of housing for families of individuals of low or moderate income and for related public facilities and for related commercial and industrial facilities approved by the Secretary.

Restrictions: Surplus real property conveyed for public park or recreation use, historic monument, public airport use, and wildlife conservation use must be used for the purposes so conveyed in perpetuity and property conveyed for public health or educational purposes must be used for those purposes for a period of 30 years. Property conveyed to other than a public body for low or moderate income housing and related facilities must be used for this purpose for a period of not less than 40 years. Surplus real property which is not donated to public bodies is offered for sale to the public on a competitive bid basis.

ELIGIBILITY REQUIREMENTS:

Applicant Eligibility: States and local government agencies are eligible to apply for surplus real property for park, recreation, historic monument, public airport, health, educational, replacement housing, and general public purposes. Eligibility for property for wildlife conservation use is limited to the States. Tax-supported and nonprofit medical and educational institutions which have been held exempt from taxation under 501(c) (3) of the Internal Revenue Code are also eligible to apply for property for health and educational use. Public bodies of private individuals are eligible to apply for property for use in the provision of housing for families or individuals of low or moderate income, and for related public, commercial, and industrial facilities.

Beneficiary Eligibility: The general public and persons admitted to the health and educational institutions.

Credentials/Documentation: The applicant must submit a proposed program of use of the property and evidence of its ability to finance the program.

APPLICATION AND AWARD PROCESS:

Preapplication Coordination: Applicants for property coordinate with other Federal agencies as follows: Health or education use - Department of Health, Education, and Welfare; Public airport purposes - Federal Aviation Administration; Park or recreational and historic monument use - Bureau of Outdoor Recreation, Department of the Interior; Wildlife conservation - Fish and Wildlife Service; Department of the Interior. Low and moderate income housing - Department of Housing and Urban Development.

Application Procedure: Applications for health or educational use are submitted to HEW which requests assignment of the property from GSA; applications for park and recreation use are submitted to the Bureau of Outdoor Recreation which re-requests assignment of the property from GSA. Interest in acquiring surplus property

for housing and related facilities should be expressed with the Director, Office of New Communities Development, Department of Housing and Urban Development. Applications for other uses are submitted to GSA which then obtains the recommendation of the Federal agency which sponsors the use program.

Award Procedure: When possible awards are made through the participating agency. Other awards are made to local or State units of Government by the Administrator of GSA.

Deadlines: Advice of interest must be submitted within 20 days from date notice of availability of the property was released. Reasonable time thereafter is allowed for the filing of applications.

Range of Approval/Disapproval Time: From 3 to 6 months.

Appeals: None.

Renewals: None.

ASSISTANCE CONSIDERATIONS:

Formula and Matching Requirements: Not applicable.

Length and Time Phasing of Assistance: Not applicable.

POST ASSISTANCE REQUIREMENTS:

Reports: The Federal agencies sponsoring the use programs are responsible for enforcing compliance with the restrictions.

Audits: The Federal agencies sponsoring the use program are responsible for audits.

Records: Not applicable.

FINANCIAL INFORMATION:

Account Identification: 23-30-5255-0-2-999.

Obligations: (Salaries and expenses) FY 70 $1,787,000; FY 71 est $2,382,000; and FY 72 est $2,382,000.

Range and Average of Financial Assistance: Not applicable.

PROGRAM ACCOMPLISHMENTS: In fiscal year 1970 disposal program was as follows: Donations: properties, 144; original Government acquisition cost, $125,000,000; sales, not applicable; Sales: properties, 215; original Government acquisition cost, $371,000,000; sales, $81,935,000.

REGULATIONS, GUIDELINES, AND LITERATURE: "Disposal of Surplus Real Property." (No charge.) 41 CFR 101-47 Authorization and Disposal of Real property.

INFORMATION CONTACTS:

Regional or Local Office: Regional Director, Property Management and Disposal Service, General Services Administration. Applicant's initial contact should be at the regional level. See list in catalog appendix.

Headquarters Office: Assistant Commissioner, Office of Real Property, Property Management and Disposal Service, General Services Administration, Washington, D.C. 20405. Telephone: (202) 343-4784.

RELATED PROGRAMS: 39.003, Donation of Federal Surplus Personal Property; 13.606, Surplus Property Utilization; 14.211, Surplus Land for Community Development; 15.128, Indian - Transfer of Indian School Properties; 15.200, Land Lease for Airports; 15.201, Leases, Permits, and Easements for Public Works; 15.202, Public Land for Recreation, Public Purposes, and Historic Monuments; 15.211, Sale of Isolated Public Lands; 20.102, Airport Development Aid Program.

APPENDIX II

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SOLICITOR,
Washington, D.C., March 29, 1971.

Secretary Morton has asked me to reply to your request of March 1, 1971, for a complete listing of all statutory authorities by which the Department of the Interior may acquire or dispose of interests in real property. You also requested a description of such constraints as may exist on the use of the foregoing authority.

The citations to the statutory authorities and a brief description of each appear below, grouped together according to operating agencies. The citations are to the United States Code, as most recently supplemented. If a citation to the Code is not available, the United States Statutes at Large are cited. When a Code citation is made, the same volume and section of the United States Code Annotated will incorporate the most recent supplement and will also provide references to the United States Statutes at Large, the dates of enactment and amendments, and other pertinent information.

You will find in many of the cited authorities specific conditions and restrictions on the exercise of the power to acquire or dispose of real property. In addition to these specific constraints, two general constraints should be brought to your attention. Permanent improvements to privately owned real property cannot be paid out of appropriated funds (50 U.S.C. 175); and real property must be disposed of by competitive bidding, following a screening process which gives priority to Federal and state agencies [40 U.S.C. 304a, 41 CFR 101].

BUREAU OF INDIAN AFFAIRS

25 U.S.C. 293a: Authorizing conveyance of unneeded Indian school lands and other properties to states, local governmental agencies, or local school authorities.

25 U.S.C. 190: Authorizing sale of non-reservation government tracts or plants or Indian tribal or administrative plants or reserves.

25 U.S.C. 293: Authorizing sale to highest bidder of up to 160 acres of unneeded land purchased by the United States for day school or other Indian administrative uses.

25 U.S.C. 443a: Conveyance to Indian tribes of title to federally owned buildings, improvements or facilities.

25 U.S.C. 15: Contracts for sale, etc., of government-owned utilities and utility systems.

25 U.S.C. 196, 406, 407: Sale of timber on land held by the United States for Indians or Indian tribes.

25 U.S.C. 323–328: Grant of rights-of-way across trust or restricted Indian lands and lands acquired by the United States for the use and benefit of Indians.

43 U.S.C. 946: Grant of rights-of-way through reservations for power and communication facilities.

43 U.S.C. 959: Grant of rights-of-way through reserved land for electrical plants, etc. See also 25 U.S.C. 698, 748 and 897.

43 U.S.C. 463b, 463c, 465, 501, 573, 576, 593, 608, 610: Purchase of lands, water rights, etc., for the benefit of named Indian tribes.

FISH AND WILDLIFE SERVICE

16 U.S.C. 661–666: Provides for cooperation by the Secretary of the Interior with Federal, state, and public or private agencies and organizations in connection with water resource projects; authorizes acceptance of land or funds in furtherance of the purposes of specific sections; provides that projects include the estimated cost of acquisition of wildlife land.

16 U.S.C. 715d: Authorizes the Secretary to purchase or rent, and to acquire by gift or devise, lands for use as inviolate sanctuaries for migratory birds.

16 U.S.C. 718(c): Authorizes use of Duck Stamp funds, remaining after expenses involved in named priorities, to acquire by purchase, gift, devise, lease, or exchange of, small wetland and pothole areas, interests therein, and rights-of-way to provide access thereto; to be designated "Waterfowl Production Areas."

16 U.S.C. 742f(5): Authorizes the Secretary to acquire wildlife refuge lands.

16 U.S.C. 668dd(b): Authorizes the Secretary to accept donations of funds and to use such funds to acquire lands or interests therein for conservation of fish and wildlife.

16 U.S.C. 668bb(b): Authorizes the Secretary to acquire lands and interests therein needed to carry out the purposes of the Act relating to the conservation, protection, restoration, and propagation of selected species of native fish that are threatened with extinction; encourages the use of other specified authorities for land acquisition for fish and wildlife threatened with extinction.

16 U.S.C. 668bb(d): Authorizes the Secretary to acquire any privately owned land, water, or interests therein within the boundaries of any area administered by him for the endangered species program.

16 U.S.C. 757: Provides Federal assistance to the states and other non-Federal interests through cooperative agreements for the development, conservation and enhancement of anadromous fish; may acquire lands or interests therein by purchase, lease, donation, or exchange for acquired or public lands; authorized to accept donations of funds and to use such funds to acquire or manage lands or interests therein.

BUREAU OF LAND MANAGEMENT

43 U.S.C. 1181a-g: Acquisition of access and timber rights-of-way.

69 Stat. 374: Acquisition of timber access roads.

43 U.S.C. 315g(a), 1364; 16 U.S.C. 661 : Acceptance of donations of lands.

84 Stat. 669: Appropriations for acquisition of rights-of-way.

GEOLOGICAL SURVEY

43 U.S.C. 36b: Acquisition of lands or interests therein for use in gauging streams or underground water resources.

BONNEVILLE POWER ADMINISTRATION

16 U.S.C. 832a(c): Acquisition of lands, easements, and rights-of-way.

16 U.S.C. 832a(e): Disposal of real property and interests in land acquired in connection with construction or operation of electric transmission lines or substations; approval of President required before disposal of electric tranmission lines of substations of the Bonneville Project.

INTERNATIONAL BOUNDARY AND WATER COMMISSION

22 U.S.C. 277d–17: In connection with 1963 Convention with Mexico, provides for acquisition of lands for transfer to Mexico, for new river channel, and for relocation of highways, roadways, railroads, telegraph, telephone, electric transmission lines, bridges and related facilities; and also provides for disposal of certain properties acquired by the United States.

SOUTHWESTERN POWER ADMINISTRATION

16 U.S.C. 825s: Asquisition of transmission lines and related facilities.

OFFICE OF SALINE WATER

42 U.S.C. 1953(f): Acquisition of lands and interests in land.

42 U.S.C. 1958d, 1952(b), 1958d: Disposal of test bed plants.

BUREAU OF RECLAMATION

43 U.S.C. 421: Acquisition of necessary rights or property.

49 Stat. 1463: Acquisition of real property to facilitate compliance with the 1906 Convention between the United States and Mexico providing for equitable division of waters of Rio Grande and to properly regulate water supply.

50 Stat. 850: Acquisition of real property to construct Central Valley Project, California.

16 U.S.C. 833a(c): Acquisition of real property necessary for construction of Fort Peck Dam on the Missouri River.

43 U.S.C. 389: Acquisition of suitable lands or interests in lands for relocation of highways, roadways, railroads, telegraph, telephone, or electric transmission lines.

16 U.S.C. 835c(a): Acquisition of lands or interests in lands within or adjacent to the Columbia Basin Project area for the protection, development, or improvement of the project.

43 U.S.C. 613a: Acquisition of lands, interests in lands, water rights, and other property within or adjacent to the Gila project belonging to the Gila Valley Power District or the Mohawk Municipal Water Conservation District for the protection, development, or improvement of the Gila Project.

43 U.S.C. 620g: Acquire private land and withdraw public lands from entry for public recreational facilities, for conservation of scenery and preservation of natural, historic and archeological objects, and for improvement of fish and wildlife, in connection with construction of the Colorado River Storage Project.

78 Stat. 478: Acquire approximately ten acres of land near Bully Creak Dam (Vale Project) for recreation purposes.

74 Stat. 1026: Acquire 2,500 acres of land for wildlife management purposes wtihin and adjacent to Chency Reservoir of the Wichita Project.

42 U.S.C. 615kk(c): Acquisition of interests in lands susceptible to irrigation as part of the Navajo Indian irrigation project, or which are needed for the location of the works or canals of the Navajo Indian irrigation project.

78 Stat. 156: Acquisition of lands owned by entrymen of the third division of the Riverton Federal reclamation project, Wyoming.

43 U.S.C. 600d: Acquire within the project area or in an area adjacent to Sanford Reservoir of Canadian River Project lands or interests in land necessary for present or future public recreation use.

16 U.S.C. 4601–18(a): Acquire by the expenditure of not to exceed $100,000 at any one reservoir, lands which are adjacent to any reservoir heretofore constructed pursuant to the Federal Reclamation laws or any reservoir otherwise under the control of the Secretary of the Interior for public outdoor recreation or fish and wildlife use.

79 Stat. 433: Subject to a preconstruction agreement with non-Federal public bodies to administer the portion of the Garrison Diversion Unit which is devoted to recreation or fish and wildlife enhancement and to assume not less than half the costs, the Secretary is authorized to acquire such lands as are necessary for present or future public recreation or fish and wildlife use; in the absence of such a preconstruction agreement, to acquire lands necessary to preserve the recreation of fish and wildlife enhancement potential of the Garrison Diversion Unit.

43 U.S.C. 616ccc(a): Subject to a preconstruction agreement with non-Federal public bodies to administer the portion of the Auburn-Folson South Unit which is devoted to recreation or fish and wildlife enhancement and to assume not less than half the costs, the Secretary is authorized to acquire such lands as are necessary for present or future public recreation or fish and wildlife use. In the absence of such a preconstruction agreement, to acquire lands necessary to preserve the recreation and fish and wildlife enhancement potential of the Auburn-Folsom South Unit.

43 U.S.C. 1522(a): Acquisition of lands of the Salt River Pima-Maricopa Indian Community, Arizona, and Fort McDowell-Apache Indian Community, Arizona, including any allotted lands necessary for the construction of Orme Dam and Reservoir.

43 U.S.C. 374: Disposal of lands acquired under the Act of June 17, 1902, for irrigation works.

43 U.S.C. 375: Disposal of any public lands which have been withdrawn in connection with the construction of a reclamation project and have been improved by and at the expense of the Reclamation Fund, but are no longer needed for the purposes for which they were withdrawn and improved.

16 U.S.C. 833a(e): Disposal of real property and interests in land acquired in connection with the construction or operation of electric transmission lines or substations on Fort Peck Project.

43 U.S.C. 375a: Disposal of excess property acquired for any irrigation works appraised at not to exceed $300 and any public lands which have been withdrawn for reclamation purposes and improved by and at the expense of the Reclamation Fund appraised at not to exceed $300.

43 U.S.C. 375b-f: Disposal of any tract of withdrawn public land which in the opinion of the Secretary has less than sufficient acreage reasonably required for the support of a family and is too small to be opened to homestead entry and classed as a farm unit under the Reclamation Act.

43 U.S.C. 376: Disposal of real property donated and conveyed to the United States for use in connection with a reclamation project but not utilized.

43 U.S.C. 569(d) : Disposal of lands in reclamation projects reserved for parks, playgrounds, and community centers with respect to which no contract with water users has been executed respecting maintenance and use.

43 U.S.C. 562: Disposal of lands withdrawn from public entry for townsite purposes in connection with irrigation projects.

43 U.S.C. 563: Disposal of townsites set aside by proclamation of President within the vicinity of any reclamation project.

43 U.S.C. 571: Disposal of unplatted portions of Government townsites under Act of April 16, 1906.

16 U.S.C. 835c (note) : Disposal of lands and improvements in town of Coulee Dam, Washington.

43 U.S.C. 617u (note) : Disposal of dwelling houses owned by the United States within Boulder City municipal area.

72 Stat. 1686: Dispose of land transferred to the United States from Navajo Tribe at Page, Arizona.

43 U.S.C. 387: Disposal of sand, gravel and other minerals on lands withdrawn or acquired and being administered under Federal Reclamation laws.

16 U.S.C. 835c(a) : Disposal of public lands and lands acquired in the Columbia Basin Project area.

43 U.S.C. 613b: Disposal of public and acquired land within the Gila Project.

62 Stat. 268: Disposal of Boulder City houses acquired from the Defense Homes Corporation.

63 Stat. 172: Disposal of land and water rights in the Yuma Auxiliary project.

64 Stat. 382: Disposal of minerals discovered in the course of construction of the Eklutna Project.

43 U.S.C. 620g: Disposal of acquired and withdrawn land on the Colorado River Storage Project taken for public recreation, natural, historic, archeological, and fish and wildlife purposes.

72 Stat. 963: Disposal of public and acquired lands on the Seedskadee Project.

64 Stat. 74: Authorized to negotiate sale contract with the Colorado River Commission for the sale of all or a portion of up to 15,000 acres.

75 Stat. 388: Authorized to sell blocks and lots in: Rupert (Minidoka Project), Idaho townsite; Powell (Shoshone Project), Wyoming townsite; Zillah (Yakima Project), Washington.

75 Stat. 391: Authorized to transfer a Bureau of Reclamation bridge crossing Colorado River one mile east of Needles, California to San Bernardino County, Arizona.

16 U.S.C. 835c(a), (b) : Disposal of public or acquired lands on Columbia Basin Project.

78 Stat. 156: Disposal of lands in the third division of the Riverton Reclamation Project in Wyoming.

43 U.S.C. 600d: Disposal of lands of the Canadian River Reclamation Project in Texas.

43 U.S.C. 616pp(a) : Disposal of lands of the Lower Teton Division of Teton Basin Reclamation Project, Idaho.

43 U.S.C. 616ff: Disposal of lands or facilities of the Dixie Reclamation Project, Utah.

43 U.S.C. 616uu: Disposal of lands or facilities of the Whitestone Coulee Unit of the Chief Joseph Dam Project, Washington.

79 Stat. 433: Disposal of interests in lands acquired to preserve the recreation and fish and wildlife potential of Garrison Unit.

43 U.S.C. 616ccc(e) (2) : Disposal of land and water areas for fish and wildlife for the Auburn-Folsom South Unit.

43 U.S.C. 1522(a) : Lands taken for the construction of Orme Dam and Reservoir not required for construction of Orme Reservoir shall be restored to the Pima-Maricopa Indian Community or the Fort McDowell Indian Community.

84 Stat. 861: Disposal of lands on the Riverton unit.

BUREAU OF MINES

84 Stat. 675: Accept donations of lands, buildings, equipment, and other contributions from public and private sources for purposes of mine health and safety.

30 U.S.C. 9: Accept donations of lands, buildings or other contributions from states offering to cooperate in carrying out mining experiment stations and mine safety stations.

30 U.S.C. 10: Accept donations of lands, buildings, or improvements for headquarters of mine rescue cars and construction of necessary railway sidings and housing or as site for an experimental mine and plant for studying explosives; enter into leases for periods not exceeding ten years.

30 U.S.C. 14: Acquire land and interests therein and accept donations thereof for the purpose of establishing research laboratory in the anthracite region of Pennsylvania.

50 U.S.C. 167a: Acquire and dispose of lands for the purpose of conserving, producing, buying, and selling helium.

30 U.S.C. 4: Dispose of any property, plant, or machinery purchased or acquired for experiments and investigations of lignite coals and peat.

30 U.S.C. 4c, 4d: Erect plants and construct and purchase machinery and equipment to conduct investigations, studies, and experiments with subbituminous and lignite coal.

30 U.S.C. 401–404, 411, 412: Acquire real property for mining experiment and research facilities.

30 U.S.C. 554: Accept rights or interests in lands for the purpose of conducting surveys, investigations, and research and fire control or extinguishment projects.

NOTE: The Bureau of Mines does not have express authority to acquire easements in connection with its facilities. It has to acquire the interest on a theory of implied authority, to seek special legislation, or to forego the acquisition. If general acquisition authority were provided, it would result in more efficient operations and considerable savings in time and money.

OFFICE OF COAL RESEARCH

30 U.S.C. 661–668: Develop through research new and more efficient methods of mining, preparing and utilizing coal; interpreted to authorize acquisition of land for construction of pilot and other experimental plants.

NATIONAL PARK SERVICE

16 U.S.C.

1b7: Acquire rights-of-way for roads in parks and lands adjacent to provide protection of natural features and to avoid traffic.

3: Grant privileges, leases and permits for use of land for accommodation of visitors in parks not to exceed 30 years.

5: Easements for rights-of-way, for period up to 50 years across public lands and reservations for electrical poles and lines for transmission and distribution of electrical power, radio, t.v.

6: Accept donations of patented lands, rights-of-way over patented lands or other lands, buildings or property.

7(b): Acquire lands for airports in or near national parks or monuments.

8(b): Construct and improve national-park approach roads which lead largely across government land to connect highway with park.

8(e): Convey by quitclaim deed to state or local government all United States interest in road leading to areas of the National Park System.

17 j–2: Acquisition of rights-of-way for water supply line outside of Mesa Verde.

32: Lease to 20 years 20-acre tracts to people authorized to transact business in Yellowstone.

37: Acquire lands in private or State of Montana ownership as means of providing winter ranges and feed facilities for elk, antelope, etc.

38: Exchange lands held in private or State of Montana ownership within townships described in § 37 and in exchange patent national forest land in Montana of equal value.

39: Owners of lands conveyed to United States under 37, 40 may reserve trailer, minerals or easements.

43: Lease 5-acre parcels in Sequoia to others for building visitor accommodations.

45 a–1: Accept donations of lands near entrance of Sequoia subject to existing highway and utility easements within described tracts.

45 a–2: Exchange tracts of equal value for lands conveyed to United States under 45 a–1.

47–1(b): Acquire 1200 acres of non-Federal land for administration site in El Portal area.

47–1(e): Grant privileges, leases and permits for use of land in the area.

47(d): Acquire by exchange title in fee of all lands in described section to protect deer in Yosemite.

47e: Acquire by purchase or condemnation certain lands in California which when acquired are added to Yosemite.

81: Obtain title to any patented lands within Park boundaries by exchange of timber or timber and lands within Yosemite National Park and Sierra and Stanislaus National Forests to eliminate private holdings.

55: Lease 20 acres to companies in Yosemite for buildings for visitors.

79: Grant rights-of-way through Yosemite and Sequoia for public utilities.

81a–n: Acquire certain lands and easements for Colonial National Historical Park.

92: Lease parcels of land in Mt. Ranier Park for erection of buildings for accommodation of visitors.

93: Exchange of nonmineral public lands to Northern Pacific for its lands in Ranier Park.

111(b): Acquire by exchange certain lands for Mesa Verde.

115: Grant leases for use of land in Mesa Verde.

119: Acquisition of lands for Petrified Forest National Monument.

145: Settler or owner of unperfected bonafide claim or patent may exchange such for land outside Wind Cave National Park in accordance with law relating to relinquishment of lands in national forests in South Dakota.

151: Indians to convey to United States up to 640 acres selected by Secretary for Platt National Park.

156: Acquire by donation lands within area described for Big Bend Park.

157: Accept title to lands donated to United States under 156.

157a: Acquire lands suitable for Big Bend Park.

159a: Accept donations of land or money to buy land within boundaries of Saratoga National Historical Park.

161c: Acquire certain lands in Montana in connection with Glacier Park, to be used for a fish hatchery.

161e: Acquire from State of Montana State lands within boundaries of Glacier National Park.

162: Lease 10-acre parcel for buildings, etc., for visitors and parcels up to one acre for summer homes in Glacier National Park.

164: Exchange timber or property of equal value for private land within Glacier National Park.

167(a): Exchange property of equal value for privately held land within Glacier National Park.

179: Accept donations of patented lands or rights-of-way over patented lands in Glacier National Park.

192b–1: Accept title to tract of land to become part of Rocky Mountain National Park.

192b–3: Acquire lands by donation, with donated funds, or by purchase with Federal funds for development of an eastern approach to Rocky Mountain National Park.

192b–4: Acquire by purchase or otherwise properties within exterior boundaries of Rocky Mountain Park for connecting eastern approach road with existing roads.

195: Accept donations of patented lands or rights-of-way over patented lands in Rocky Mountain Park.

202: Lease plots for visitor accommodation in Lassen Volcanic Park.

206–7: Exchange land or timber at equal value within exterior of Lassen Volcanic National Park for title to any land within exterior boundary of Lassen Park.

221c: Exchange of lands in Grand Canyon Park.

225: Grant easements or rights-of-way for railroads upon or across Grand Canyon National Park.

231b: Acquire through donation or by purchase or by condemnation lands in Chalmette National Park; payment for acquisitions to be made with donated funds only.

241b–4: Acquire by exchange or donation or purchase or condemnation non-Federal lands for Theodore Roosevelt Memorial Park.

251b: Exchange 6,608.96 acres of Federal land for non-Federal land of equal value within Olympic National Park.

263: Accept donations of land and property in Cumberland Gap National Historical Park; acquire out of donated funds, by purchase or condemnation, lands within park necessary for its completion.

342a: Accept lands and easements in certain area donated for extension of Acadia National Park.

343: Accept dotions of lands on Mount Desert Island for Acadia National Park.

346: Exchange alienated lands in Zion National Park for unappropriated and unreserved public lands of equal value and area in Utah outside of Park.

353: Lease parcels of ground up to 20 acres for erection of visitor accommodations.

361(a-f): Accept donation of and exchange certain lands in Hot Springs National Park.

367: Sell certain Government lots in Hot Springs National Park.

394–396: Lease 20-acre tracts for visitor accommodations for Hawaii National Park; accept donations of certain lands; lease land for homesites to native Hawaiians.

397b: Acquire by donation or purchase lands and interest in lands which may be needed for the City of Refuge National Historical Park.

402: Exchange alienated lands in Bryce Canyon National Park for unappropriated public lands of equal value and area outside park.

403a: Acceptance of donation for purchase of certain lands for Shenandoah National Park.

403d-j: Lease lands within Shenandoah National Park and Great Smoky Mountains National Park for up to two years to persons or institutions who occupied or claimed land prior to establishment of park; lease to persons and institutions previously occupying lands; exchange lands; acquire lands needed to complete park.

404a-e: Accept donation of and purchase certain lands for Mammoth Cave National Park.

406d-2: Grant rights-of-way, continuation of leases, permits and licenses and grazing privileges in Grand Teton National Park.

407M-2: Acquire by donation or purchase with donated funds certain lands for Independence National Historical Park.

408–408c: Acquire by public or private donation only certain lands for Isle Royale National Park; lease certain lands to others.

409: acquire lands for Morristown National Historical Park by public or private donation only.

410–410x: acquire lands for Everglades National Park by public or private donation; by purchase or otherwise.

423k: acquire by donation or out of donated funds certain tracts of land for Richmond National Battlefield Park.

423n: acquire by donation or out of donated funds certain tracts for Eutaw Springs Battlefield Site.

425a: Acquire lands for inclusion in Fredericksburg and Spotsylvania Battlefield Memorials.

426d: Acquire by purchase or condemnation lands recommended by commission for Stones River National Military Park.

427: Acquire by condemnation or otherwise certain lands for site of battle with Sioux Indians.

428d: Acquire by purchase or condemnation lands recommended by commission for national military park.

428d–2. Accept donations of money and lands to acquire additional lands for Fort Donelson National Military Park:

429b: Exchange park land of Manassas National Battlefield Park for State owned lands within park.

430a–430a–2: Acquire lands for Kings Mountain National Military Park.

430–1: Exchange certain lands for certain non-Federal lands to consolidate Federal holdings at Gettysburg.

430h–2: Exchange with state, city, county lands for consolidating Vicksburg National Military Park.

430k: Condemn lands within Monocacy National Military Park.

430l: Enter into leases with owners of land in Monocacy National Military Park.

430u,x: Acquire lands within Kennesaw Mountain National Battlefield Park.

433c: Acquire by purchase out of donated funds or by condemnation lands within Perry's Victory National Monument.

433h: Acquire lands within Fort Frederica National Monument.

433k, k–1: Acquire by gift and purchase a particular site for Whitman National Monument.

441i: Exchange patented lands of equal value for non-Federal land within Badlands National Monument.

444: Exchange certain lands for privately owned lands within Petrified Forest National Monument.

445d: Acquire by purchase or condemnation certain tracts of land for addition to Pipestone National Monument.

447a–b: Acquare land for Ocmulgee National Monument with public or private donations.

449: Accept donations of land and acquire out of donated funds by purchase or condemnation land within Pioneer National Monument.

450d, d–1: Accept donations of land and funds for or purchase of lands within Appomattox Court House National Historical Park; exchange for non-Federal lands.

450m: Accept donations and acquire by purchase or condemnation lands within Fort Stanwix National Monument.

450p: Acquire by purchase or condemnation land within the Andrew Johnson Homestead National Monument.

450y–4: Accept donation of land for Coronado National Monument.

450aa: Acquire by gift or purchase or otherwise certain land within George Washington Carver National Monument.

450bb: Accept donations of land and money and purchase lands for Harpers Ferry National Monument.

450ff: Accept surplus lands transferred from General Services Administration and Army for Fort Vancouver National Monument.

450hh, hh–1: Acquire lands for Saint Croix Island National Monument.

450jj: Grant easements within Jefferson National Expansion Memorial.

450ll: Acquire land for Booker T. Washington National Memorial.

450mm–2: Acquire land for Fort Clatsop National Monument.

450oo–2: Acquire lands within Grand Portage National Memorial.

452a: Consolidate Federal land ownership within boundaries of any national park, using donated funds whenever an equal amount of money is appropriated.

455c: No purchase of land for military park unless reports are made through President to Congress.

459–459a8: Purchase of certain islands for Cape Hatteras Seashore with public or private donations only; transfer of surplus land.

459t: Convey and lease for park, recreational, and conservation purposes certain lands within recreational demonstration projects.

459u: Exchange of recreational demonstration project lands.

460: Accept donations of land and easements from Mississippi, Alabama and Tennessee for Natchez Trace Parkway; issue revocable licenses and permits for rights-of-way across Parkway.

460a–1–460a-4: Accept lands conveyed for Blue Ridge Parkway; issue revocable licenses and permits for rights-of-way across Parkway; transfer certain parkway lands to Secretary of Agriculture.

462(d): Acquire property by gift, purchase or otherwise for historic sites, buildings, objects, antiquities.

1246(d): Acquire lands for National Trails System.

1248(a): Grant easements and rights-of-way over national trails system in accordance with laws applicable to the national park system.

1249: Appropriation authorized for Appalachian and Pacific Crest National Scenic Trails.

1277(a): Acquire lands under Wild and Scenic Rivers Act.

1284(g): Grant easements and rights-of-way over any component of national wild and scenic rivers system in accordance with the laws applicable to national park system.

1287: Appropriation authorized for acquisition of lands under Wild and Scenic Rivers Act.

79c(a): Acquire certain lands within and outside boundaries of Redwood National Park and administrative site, as screen of trees for highway, and for certain conservation purposes.

81d: Appropriation for land acquisition for Colonial National Historical Park.
90b: Acquire land for North Cascade National Park.
110a: Acquire land for a park headquarters for Mount Rainier National Park.
111d–o: Purchase certain lands within Mesa Verde National Park, with appropriations therefor.
265: Acquire additional lands for Cumberland Gap National Historical Park.
271a. 271c(b): Acquire certain lands for Canyon Lands National Park.
281b, f: Acquire lands for Nez Perce National Historical Park.
282: Acquire land for San Juan National Historical Park.
283a: Acquire lands for Guadalupe Mountains National Park.
284: Acquire lands for Wolf Trap Farm Park.
291: Accept donation of land for George Rogers Clark National Historical Park.
343c–1–4: Exchange lands for Acadia National Park.
346a–2, 3: Acquire private lands for Zion National Park.
398d: Acquire lands, waters, and interests within the boundaries of Virgin Islands National Park.
403–2: Exchange certain land within Shenandoah National Park.
403h–12: Accept donations of land for entrance road to Cataloockee section of Shenandoah National Park.
407f(a): Exchange lands to acquire certain State-owned and privately owned lands in Carlsbad Caverns National Park.
407g: Convey to State of New Mexico a right-of-way for park-type road.
407m–3, 7: Acquire additional land for Independence National Historical Park.
423h–2: Acquire lands for Petersburg National Battlefield.
426k: Acquire additional lands for Stones River National Military Park.
428l: Acquire lands for Fort Donelson National Battlefield.
429a–1: Acquire additional lands for Tupelo National Battlefield.
430h–3(a): Dispose of certain lands and roads in Vicksburg National Military Park.
430h–3(b): Acquire lands for addition to Vicksburg National Military Park.
430kk: Acquire lands for Wilson's Creek Battlefield National Park.
430nn: Acquire lands for Antietam Battlefield Site.
430oo: Acquire lands for preservation of Antietam Battlefield Site.
430pp–qq: Acquire land for preservation of Fort Necessity National Battlefield.
441k(a), 441l, n, o: Acquire land for Badlands National Monument.
450y–6: Acquire land within Coronado National Memorial.
450bb–3–4: Acquire certain sites for addition to Harpers Ferry National Historical Park.
450dd: Acquire up to 30 acres for DeSoto National Memorial.
450ff–4: Acquire non-Federal lands within Fort Vancouver National Historical Site.
450pp: Acquire land for development of Roger Williams National Memorial.
450qq–1(a)–4: Acquire lands for Biscayne National Monument.
459a–9: Convey to village of Matteras, Dare County, North Carolina, 1.5 acres for providing thereon a public health facility.
459b–1(a)–8: Acquire lands for Cape Cod National Seashore.
459c–2:459c–7: Acquire lands for Point Reyes National Seashore; concurrence of State required for State owned land.
459d–1–1(a): Acquire lands for Padre Island National Seashore.
459e–1(a): Acquire lands for Fire Island National Seashore.
459e–10–12: Accept donation of Floyd estate for Fire Island National Seashore.
459f–1(a)–2(b): Acquire land for Assateague Island National Seashore.
460a–5: Acquire lands contiguous to Blue Ridge and Natchez Trace Parkway.
460k–1: Acquire lands for recreational development adjacent to National Conservation Recreational Areas.
460l–10b: Acquire options to lands and waters within boundaries of any area the acquisition of which is authorized for inclusion in National Park System.
4601–22(a), (b): Convey or exchange freehold leasehold interest subject to appropriate conditions in lands acquired within a unit of National Park System or miscellaneous areas.
460m–1,2: Acquire lands for Ozark National Scenic Riverways.
460n–1: Acquire certain lands within exterior boundaries of Lake Mead National Recreation Area.
4640o-2b: Acquire lands to adjust boundaries of proposed Tocks Island National Recreational Area.

63–902 O—71——20

460q–1(a),(h) : Acquire lands for Whiskeytown-Shasta-Trinity National Recreation Area.

460s–7(a)–12: Acquire lands within Pictured Rocks National Lakeshore.

460t–1(a) : Acquire lands within Bighorn Canyon National Recreation Area.

460u–1–4(d) : Acquire lands for Indiana Sand Dunes.

84 Stat. 1978–80: Acquire lands for the Chesapeake and Ohio Canal National Historical Park.

84 Stat. 1970–73 : Acquire lands for Voyageurs National Park.

84 Stat. 1970–73 : Acquire lands for Voyageurs National Park.

84 Stat. 1075–81 : Acquire lands for Sleeping Bear Dunes National Lakeshore.

84 Stat. 1067–71 : Acquire lands for King Range National Conservation Area.

84 Stat. 989–90 : Acquire lands for the establishment of Andersonville National Historic Site.

84 Stat. 970 : Accept transfer of land from Secretary of the Army for establishment of Fort Point National Historic Site.

84 Stat. 885 : Acquire additional lands for Everglades National Park.

84 Stat. 880–81 : Acquire lands within Apostle Islands National Lakeshore.

84 Stat. 863 : Acquire lands in or near Homestead National Monument of America.

84 Stat. 322 : Acquire property adjacent to Fords Theatre.

833 Stat. 274 : Acquire lands for L.B.J. National Historic Site.

83 Stat. 2733 : Acquire certain property for William Howard Taft National Historic Site.

83 Stat. 134 : Acquire lands to fix boundary of Everglades National Park.

83 Stat. 101–02 : Acquire certain lands for Florissant Fossil Beds National Monument.

83 Stat. 100 : Convey certain lands to State of Tennessee.

Sincerely yours,

MITCHELL MELICH, *Solicitor.*

(Whereupon, at 1 p.m., the committee was adjourned.)

ADDITIONAL ARTICLES, LETTERS, AND STATEMENTS

STATEMENT OF MRS. DONALD E. CLUSEN, CHAIRMAN, COMMITTEE ON ENVIRONMENTAL PROGRAM AND PROJECTS, LEAGUE OF WOMEN VOTERS OF THE UNITED STATES

From the League's point of view, the legislative proposals under consideration in S. 582 (Hollings, D., S.C. and 26 cosponsors) are an improvement over the three coastal zone management bills on which this Subcommittee held hearings last spring. We are pleased to see in S. 582:

Greater recognition given to the unique ecologically fragile natural systems of the estuarine and coastal zone, and their protection and restoration made a congressional policy;

Balance between development and environmental protection along estuaries and coasts recognized as a necessity by Congress;

All levels of government encouraged to participate in developing the needed management plans and programs for estuarine and coastal lands, and federal agencies whose programs affect these areas assigned the duty and responsibility of cooperating in the bill's purposes; and

Responsibility for coastal zone planning and management assigned to the states, with the federal government in a supportive role supplying technical and financial assistance.

VEST STATE WITH PRIMARY RESPONSIBILITY

In our testimony to this Subcommittee last year, the League objected to creation of "Coastal Zone Authorities" and expressed a strong preference for assigning primary jurisdiction over planning and management of these critical areas to the states.

Clear lines of authority and responsibility are needed to avoid unrelated, conflicting decisions by independent jurisdictions and agencies, often more intent on competing than cooperating, but we think states can develop the necessary coordinated management through normal state agencies and operating divisions of state government.

Situations where coastal state administrators lack laws adequate to protect the coastal zone or have adequate laws but insufficient ability and support to enforce them should be rectified by the requirement in S. 582 that to receive federal aid for administering the state's management plan and program, a coastal state must be organized to implement the plan, have a single agency designated by the Governor to receive and administer grants for carrying out the program, and have the regulatory authorities necessary for management of coastal and estuarine zone in accordance with the approved plan.

STRENGTHEN STATE POWERS TO CONTROL USES

Since rational management of a limited and fragile resource requires power to control use, we welcome the provision in S. 582 that, for the state's coastal and estuarine zone management plan to receive federal approval, necessary for federal financial aid, coastal state powers must include authority—

to administer land and water use regulations, control public and private development, resolve conflicts among competing uses, and acquire property—both land and water—through condemnation and other means

to review all development plans, projects, or land and water use regulations, including exceptions and variances, proposed by any state or local authority or private developer and to reject any that fails to comply with the principles and standards of the state management plan and program.

PROVIDE FINANCIAL ASSISTANCE FOR PLANNING AND MANAGEMENT

Federal legislation that encourages states to establish stronger authority and responsibility for estuarine and coastal zone management will be of little value without federal funding of part of the cost of planning and administering these state-level programs.

The League has no opinion on the adequacy of the authorizations proposed in S. 582. We favor shared financing, for a short term, of the costs of developing a management plan and program consistent with the requirements referred to earlier. The estuarine and coastal areas are relatively small parts of many states; in competition with other state needs, adequate appropriations for estuarine and coastal planning are not easy to secure from state revenues alone. Unless a state can fund administration of its plan and the programs necessary to achieve balanced use, it would be ill advised to invest in the planning exercise. Federal grants-in-aid for administration of an estuarine and coastal control program are essential.

However, we question whether maximum federal aid for planning or administration should be as high as 66⅔ percent. The League has long held that federal aid programs in the resource management field should absorb no more than 50 percent of the cost—the proportion of federal funding this bill would authorize for acquisition, development, and operation of estuarine sanctuaries, whose creation League members support. High percentages of federal aid distort choice, encouraging participation in those programs offering maximum federal assistance, though these may not be the programs best suited to meet long-term needs of state or community. While protagonists for each particular environmental improvement program may consider it of paramount importance, to us it seems unwise to make federal programs competitive with one another on the basis of percentage of federal financial aid.

When uncontrolled, shoreline use is determined by demand and price, without regard for long-term environmental values. Orderly development of estuarine areas and the coastal zone necessitates setting aside certain parts for particular uses and doing this quickly before unique, irreplaceable values are destroyed. Limitation on land use is most easily accomplished by purchase, but such acquisition requires large monetary investment by states. Therefore, the League strongly favors S. 582's provision for federal guaranties of bond issues or loans for land acquisition of land and water development and restoration projects.

REQUIRE FEDERAL AGENCIES AND INSTALLATIONS TO CONFORM TO THE APPROVED STATE PLAN

A striking gap in coordination, and one the League believes needs correction, has been discharge of wastes into estuaries by federal installations or activities while other federal and state agencies have been striving to protect estuarine values. S. 582 provisions, which would prevent such working at cross purposes, merit strong support.

In the case of state certification that applicants for a federal license or permit for activities in the coastal or estuarine zone will carry on those activities in accordance with the state's management plan and program, we suggest that public hearings be made mandatory for each application, rather than leaving the requirement for public hearings to the discretion of the state.

COORDINATE WITH OTHER PROPOSALS FOR LAND USE REGULATION

If estuarine and coastal areas were less vulnerable to manmade changes and if irreversible changes were not coming to them so swiftly, the League would advocate delaying legislation to establish a national policy and national program for management of land and water resources of coastal and estuarine zones until the special needs of these areas could be considered along with proposals for an overall national land use policy.

Because it may take a number of years before the proposals for land use controls, such as are now before the Senate Interior and Insular Affairs Committee, have been sufficiently discussed and have been reshaped into a form acceptable to the public and their elected representatives, we hesitate to hold back national support for estuarine and coastal protection while awaiting adoption of more inclusive land use programs.

Since the planning and administering level is to be the state, it should be possible to merge the estuarine and coastal management program into a more comprehensive state-administered land-use management program if and when such a program is established by federal legislation. The League suggests therefore that Congress move ahead with S. 582 as rapidly as possible.

The goal of public policy is to provide for as many of the conflicting demands, public and private, as possible and still obtain the greatest long-term social and economic benefits from the nation's land. The chief difficulty is deciding which choices are the wisest. For estuaries and the coastal zone, these decisions cannot be delayed.

STATEMENT OF SOUTHERN CALIFORNIA EDISON CO.

Southern California Edison Company (Edison) appreciates this opportunity to make known its views on S. 582 and S. 638, and on the coastal zone aspects of S. 632 and S. 992.

Edison is a California corporation engaged as a public utility in the production, transmission, and distribution of electrical power and energy in portions of central and southern California. Its service area approximates 50,000 square miles, and the population it serves is estimated to exceed 7,000,000 people.

The net peak electrical demand on the Edison system in the year 1970 was 8,274 MW. It is currently estimated that the net peak electrical demand on the Edison system will double over the next decade. It is essential, of course, for Edison to add generating resources to its system sufficient to enable it to meet the future electrical demands of its customers and to enable it to do so reliably.

However, the ability of Edison, and other electric utilities throughout this nation, to construct needed generating resources on a timely basis is becoming increasingly limited. A significant limiting factor is the current proliferation of overlapping regulatory reviews and inconsistent governmental policies pertaining to the issuance of licenses, permits, and other regulatory approvals.

It should be made clear at the outset that Edison supports the broad objectives of coastal zone management. Coastal zones are important national resources, and they have all too often been permitted to develop in haphazard and undesirable fashion.

At the same time, Edison believes that arrangements for coastal zone management, if they are to be constructive, effective, and in the total public interest. must satisfy certain basic principles.

I

AVOIDANCE OF UNNECESSARY DELAYS

Delays in construction of generating resources deprive the public of needed sources of power and energy. They decrease the margins necessary for reliable electrical system operation. They result in increased use of older equipment, and deferral of scheduled maintenance. This, in turn, leads to further decreases in system reliability. Some areas of our nation are currently experiencing significant power shortages. If new generating facilities continue to be delayed, there may be more serious power shortages and even blackouts.

Delays are also costly. A delay in getting a new generating resource on the line may cost the utility as much as $60,000 per day for the purchase of replacement power provided it is available. Indirect costs such as carrying charges on unused capital, inflation, and the like must also be taken into account. Such costs constitute an unnecessary and undesirable burden, which ultimately redounds to the detriment of the public.

Increased lead times for construction has been suggested as a solution to the problem of delay. It is, however, an undesirable solution. We must strive to bring the latest and best technological solutions to the problems facing our nation. This can be accomplished only if we minimize to the extent feasible the time period from commitment to actual installation and operation of a generating facility.

A basic question facing this committee is whether legislation can provide a workable means of managing the development of our coastal zones and at the same time permit solutions to the problems of power shortages. It can. But, it will not do so if it does not eliminate redundant and overlapping regulatory reviews that are even now delaying needed generating facilities.

II

AVOIDANCE OF TANDEM EFFECT

The so-called "tandem effect" in regulatory licensing is in truth a group of effects which may appear when it becomes necessary that a number of regulatory approvals be issued in series, with each approval in the series prerequisite to the next.

A typical example is regulatory approval of a circulating water system for a coastal generating facility. In the case of Edison, it is first necessary to obtain approval of a California Regional Water Quality Control Board. It is then necessary to obtain approval of the California State Water Resources Control Board in the form of the certification required by section 21(b) of the Water Quality Improvement Act of 1970. It is then necessary to obtain the approval of the

United States Army Corps of Engineers under the permit programs established pursuant to provisions of the Rivers and Harbors Act of 1899. Finally, it is necessary to obtain the approval of the California State Lands Commission for use of state tide and submerged lands. Each approval in the series is prerequisite to the next.

The first and most obvious effect of such a requirement is that it inevitably requires increased project lead times. This, in turn, makes it necessary that final design decisions be made at an earlier stage in a project than would otherwise be necessary. As previously indicated, this makes it impossible to take advantage of the latest and best technological developments in the planning and construction of the project.

Another effect which may appear is that a regulatory agency may refuse to even process an application for a regulatory approval until such time as prerequisite approvals have been issued. For example, the regulations of the United States Army Corps of Engineers [33 CFR § 209.131(h)(2)] provide that it will accept but will not fully process a permit application until the applicant has provided the certification required by section 21(b) of the Water Quality Improvement Act of 1970. The effect of such a requirement is to even further disrupt and extend project lead times.

The final, and potentially most dangerous, effect which may appear is that an agency which is neither charged with evaluating the total public interest nor capable of evaluating the total public interest may prevent construction of an otherwise appropriate project by delaying approval, by imposing unreasonable conditions, or by refusing approval.

We most strongly urge this committee to take appropriate steps to minimize or avoid the tandem effect in arrangements for coastal zone management.

III

BALANCED APPROACH

Protection of the environment and preservation of the resources of our nation are unquestionably important elements of the total public interest. Contrary to the belief of some, however, they do not in and of themselves represent the total public interest.

Economic considerations, energy supply considerations and considerations of national security, among others, are also important elements of the total public interest, and they too are entitled to be weighed in the balance.

Unfortunately, many recent proposals for regulation of activities which may have environmental impact have sought to limit judgment to the single consideration of whether the activity would have an adverse environmental impact. Imposition of such a limited scope of judgment is highly undesirable.

Regulatory judgments must be based upon a weighing of all competing public values and interests. In some cases the scales will weigh in favor of strict protection of the environment. In other cases the scales will weigh in favor of acceptance of some adverse environmental consequences. But, in most cases the total public interest will be served.

IV

SINGLE PROCEEDINGS

The adverse consequences to the public of overlapping and inconsistent regulation is making more and more clear the need for single proceedings at the state and federal levels for licensing of generating facilities. The public should not be subjected to the dangers and inconveniences of brownouts and blackouts. Nor should they be subjected to the costs of redundant regulation, either in the form of increased costs of goods and services, or in the form of wasteful allocations of their tax dollars.

All regulatory aspects of a generating project should be considered in single proceedings at the state and federal levels. In that way single agencies at the state and federal levels could weigh at one time all the various competing public interests and values so as to arrive at judgments best calculated to serve the overall interests of our citizens. In addition, duplication of regulatory effort would be minimized.

At the present time construction of a nuclear generating facility may require from 20 to 30 regulatory permits, licenses, or approvals. In most instances, separate applications and proceedings are required. In many instances, separate agencies consider in detail exactly the same subject matter.

Such a haphazard scheme of regulation is neither wise nor efficient. It should not be permitted to continue. It must not be permitted to proliferate.

V

RECOMMENDATIONS

The Congress of the United States is currently considering legislation which may provide single preemptive proceedings at the state and federal levels for the approval of siting and construction of electric generating facilities. [*E.g.*, H.R. 5277] Southern California Edison Company respectfully suggests that any legislation concerning coastal zone management or land use be carefully coordinated with power plant siting legislation so as to preclude overlapping or inconsistency.

In addition, Edison tenders the following specific comments and suggestions:

1. Any legislation concerning coastal zone management should make clear, both in statements of policy and in operative provisions, that consideration is to be given to all elements of the total public interest, including environmental, economic, energy supply, and the like.
2. Any provision, such as section 313(b)(3) of S. 582, which requires an applicant for a federal license or permit to provide a certification that there is reasonable assurance that a proposed activity complies and will be conducted in a manner consistent with state coastal zone management plans, should make clear that licensing agencies may, and, indeed, will be expected to fully process applications pending receipt of the requisite certification. Such a provision would tend to minimize delays and tandem effects.
3. Any provision, such as section 313(b)(3) of S. 582, which requires an applicant for a federal license or permit to provide a certification that there is reasonable assurance that a proposed activity complies and will be conducted in a manner consistent with state coastal zone management plans, should, in addition, provide that approval of a state power plant siting authority will satisfy the requirements of the section. Such a provision would be a major step in the direction of single proceedings at the state and federal levels for the approval of siting and construction of needed electric generating facilities.

VI

CONCLUSION

Again, Southern California Edison Company wishes to express its appreciation for the opportunity to present its views to this committee and its hope that arrangements for coastal zone management will be developed which will truly serve the total public interest.

Thank you.

STATE OF MICHIGAN,
DEPARTMENT OF NATURAL RESOURCES,
Lansing, Mich., May 11, 1971.

H. CRANE MILLER,
U.S. Senate Commerce Committee,
Subcommittee on Oceans and Atmosphere, Washington, D.C.

DEAR MR. MILLER: Please find enclosed a copy of Michigan's Great Lakes "Shorelands Protection and Management Act of 1970" (Act No. 245 of the Public Acts of 1970) and some supplementary information relating thereto.

Under this legislation, the State of Michigan is active pursuing a comprehensive management program to alleviate shoreland erosion and associated environmental problems. At the same time, the program will promote the overall use and development of this unique natural resource with a minimum of conflicts and incompatibility.

You may wish to review this State legislation and supplementary material for possible inclusion into the record of the public hearings on the Federal Coastal Zone Management Bills which we understand are currently underway.

If I can provide you with any further information regarding this program or can assist in any way, feel free to contact me.

Sincerely,

WATER RESOURCES COMMISSION,
RALPH W. PURDY,
Executive Secretary.

Enclosure.

Act No. 245
Public Acts of 1970
Approved by Governor
December 30, 1970

STATE OF MICHIGAN

75TH LEGISLATURE

REGULAR SESSION OF 1970

Introduced by Senators Bouwsma, Rockwell, Lodge and Dzendzel

ENROLLED SENATE BILL No. 1574

AN ACT to provide for the protection and management of shorelands; to provide for zoning and zoning ordinances; to provide certain powers and duties; to authorize certain studies; to provide for development of certain plans; to promulgate rules; and to provide for certain remedies for violations of rules.

The People of the State of Michigan enact:

Sec. 1. This act shall be known and may be cited as the "shorelands protection and management act of 1970".

Sec. 2. As used in this act:

(a) "Commission" means the water resources commission.

(b) "Connecting waterway" means the St. Marys river, Detroit river, St. Clair river, Keeweenaw waterway or Lake St. Clair.

(c) "Department" means the department of natural resources.

(d) "Environmental area" means an area of the shoreland determined by the department on the basis of studies and surveys to be necessary for the preservation and maintenance of fish and wildlife.

(e) "High risk area" means an area of the shoreland which is determined by the commission on the basis of studies and surveys to be subject to erosion.

(f) "Land to be zoned" means the land in this state which borders or is adjacent to a Great Lake or a connecting waterway situated within 1,000 feet landward from the ordinary high water mark as defined in section 2 of Act No. 247 of the Public Acts of 1955, as amended, being section 322.702 of the Compiled Laws of 1948.

(g) "Local agency" means a county, city, village or township.

(h) "Shoreland" means the land, water and land beneath the water which is in close proximity to the shoreline of a Great Lake or a connecting waterway.

(i) "Shoreline" means that area of the shorelands where land and water meet.

Sec. 3. Within 1 year after the effective date of this act, the commission shall make or cause to be made an engineering study of the shoreland to determine:

(a) The high risk areas.

(b) The areas of the shorelands which are platted or have buildings or structures and which require protection from erosion.

(c) The type of protection which is best suited for an area determined in subdivision (b).

(d) A cost estimate of the construction and maintenance for each type of protection determined in subdivision (c).

Sec. 4. Within 1 year after the effective date of this act the department shall make or cause to be made an environmental study of the shoreland to determine:

(a) The environmental areas.

(b) The areas of marshes along and adjacent to the shorelands.

(c) The marshes and fish and wildlife habitat areas which should be protected by shoreland zoning.

Sec. 5. The commission in accordance with section 3 shall determine if the use of a high risk area shall be regulated to prevent property loss or if suitable methods of protection shall be installed to prevent property loss. The commission shall notify a local agency of its determinations and recommendations relative to a high risk area which is in a local agency.

Sec. 6. The department in accordance with section 4 shall notify a local agency of the existence of any environmental area which is in a local agency and shall recommend to the commission appropriate use regulations necessary to protect an environmental area.

Sec. 7. Within 3 years after the effective date of this act a county, pursuant to rules promulgated under section 12 and Act No. 183 of the Public Acts of 1943, as amended, being sections 125.201 to 125.232 of the Compiled Laws of 1948, may zone any shoreland and land to be zoned which is in the county.

Sec. 8. Within 3 years after the effective date of this act a city or village, pursuant to rules promulgated under section 12 and Act No. 207 of the Public Acts of 1921, as amended, being sections 125.581 to 125.591 of the Compiled Laws of 1948, may zone any shoreland and land to be zoned which is in the city or village.

Sec. 9. Within 3 years after the effective date of this act a township, pursuant to rules promulgated under section 12 and Act No. 184 of the Public Acts of 1943, as amended, being sections 125.271 to 125.301 of the Compiled Laws of 1948, may zone any shoreland and land to be zoned which is in the township.

Sec. 10. An existing zoning ordinance or a zoning ordinance or a modification or amendment thereto which regulates a high risk area or an environmental area shall be submitted to the commission for approval or disapproval. The commission shall determine if the ordinance, modification or amendment adequately prevents property damage or prevents damage to an environmental area or a high risk area. If an ordinance, modification or amendment is disapproved by the commission, it shall not have force or effect until modified by the local agency and approved by the commission.

Sec. 11. (1) The commission, in order to regulate the uses and development of high risk areas and environmental areas and to implement the purposes of this act, shall promulgate rules in accordance with and subject to the provisions of Act No. 306 of the Public Acts of 1969, being sections 24.201 to 24.313 of the Compiled Laws of 1948.

(2) A circuit court upon petition and a showing by the commission that a violation of a rule promulgated under subsection (1) exists, shall issue any necessary order to the defendant to correct the violation or to restrain the defendant from further violation of the rule.

Sec. 12. (1) Within 18 months after the effective date of this act the commission shall, in compliance with the purposes of this act, prepare a plan for the use and management of shoreland. The plan shall include but not be limited to:

(a) An inventory and identification of the use and development characteristics of the shoreland; the general physical and man-influenced shoreline features; the existing and proposed municipal and industrial water intakes and sewage and industrial waste outfalls; and high risk areas and environmental areas.

(b) An inventory of existing federal, state, regional and local plans for the management of the shorelands.

(c) An identification of problems associated with shoreland use, development, conservation and protection.

(d) A provision for a continuing inventory of shoreland and estuarine resources.

(e) Provisions for further studies and research pertaining to shoreland management.

(f) Identification of the high risk and environmental areas which need protection.

(g) Recommendations which shall:

(i) Provide procedures for the resolution of conflicts arising from multiple use.

(ii) Foster the widest variety of beneficial uses.

(iii) Provide for the necessary enforcement powers to assure compliance with plans and to resolve conflicts in uses.

(iv) Provide criteria for the protection of shorelands from erosion or inundation, for aquatic recreation, for shore growth and cover, for low lying lands and for fish and game management.

(v) Provide criteria for shoreland layout for residential, industrial and commercial development, and shoreline alteration control.

(vi) Provide for building setbacks from the water.

(vii) Provide for the prevention of shoreland littering, blight harbor development and pollution.

(viii) Provide for the regulation of mineral exploration and production.

(ix) Provide the basis for necessary future legislation pertaining to efficient shoreland management.

(2) Upon completion of the plan, the commission shall hold regional public hearings on the recommendations of the plan. Copies of the plan shall be submitted with the hearing records to the governor and the legislature.

Sec. 13. The department and commission may enter into an agreement jointly or separately or to make contracts with the federal government, other state agencies, local agencies or private agencies for the purposes of making studies and plans for the efficient use, development, preservation or management of the state's shoreland resources. Any study, plan or recommendation shall be available to a local agency in this state which has shoreland. The recommendations and policies set forth in the studies or plans shall serve as a basis and guideline for establishing zoning ordinances and developing shoreland plans by local agencies and the commission.

Sec. 14. For the purposes of this act, the department and the commission may receive, obtain or accept any moneys, grants or grants-in-aid for the purpose of research, planning or management of shoreland.

Sec. 15. It is the intent of the legislature that any additional cost of the implementation of section 3 of this act shall only be financed from federal funds.

Beryl J. Kenyon
Secretary of the Senate.

Thos. Thatcher
Clerk of the House of Representatives.

Approved_____

_____
Governor.

GREAT LAKES SHORELAND MANAGEMENT AND EROSION DAMAGE CONTROL FOR MICHIGAN

Prepared at the Request of
Governor William G. Milliken

Michigan Water Resources Commission
Department of Natural Resources

February 1970

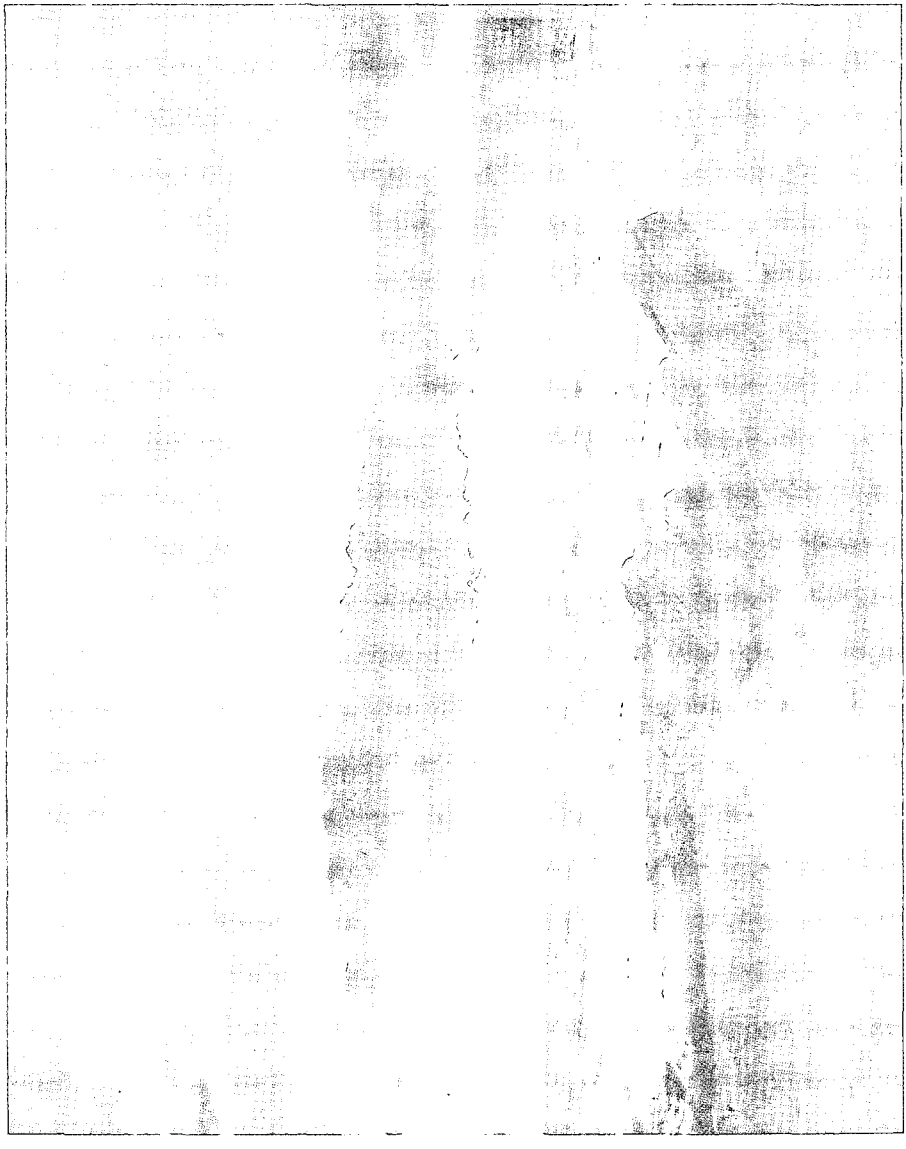
WDS-4

A Program for Michigan . . .

"Our goal must be to strive to satisfy the physical requirements of our population, while at the same time, maintaining the quality of our environment and also satisfying man's esthetic, psychological, and intangible needs."

Governor William G. Milliken
January 1970

The preparation of this document was financially aided through a Federal grant from the Water Resources Council, as authorized by Title III of the Water Resources Planning Act of 1965, P.L. 89-80 administered by the Water Resources Commission of the Michigan Department of Natural Resources.



This report concerning Michigan's shorelands is considered in two parts: the first part being erosion of the shoreline, the second part, management of the shorelands.

EROSION OF THE SHORELINE

Erosion is a natural geologic process which has been going on for thousands of years and which will continue to occur; erosion control is a part of any sound shoreland management program. However, because of the current seriousness of the problem it needs special, immediate and urgent attention.

In each of the last three decades Great Lakes shore erosion has resulted in millions of dollars of damage to Michigan property. There are indications that unless positive action is taken, such damage will continue to accelerate with each new period of high water.

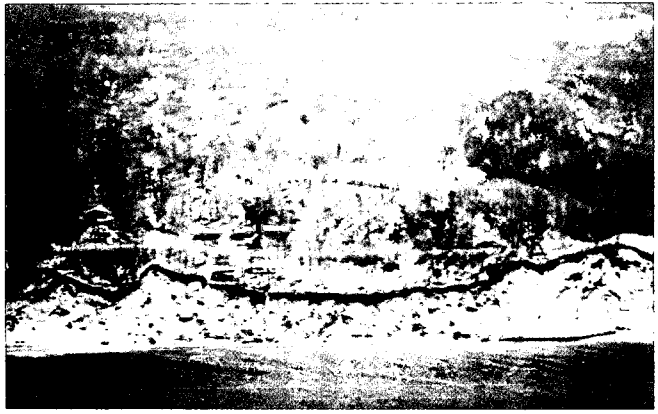
Because of the coincidence of lake level fluctuation and building patterns, erosion damage to cottages and other shoreline property was apparently not serious before the Great Armistice Day Storm of 1940. That storm followed a long low water period in which extensive building occurred. The immediate storm damage to beaches and property was intense and the beaches and bluffs were left in an unprotected state which allowed for continued erosion for many years afterward.

The $20 million of damage to Michigan properties in the early 1950's resulted in much concern by citizens and the Legislature. Statutes were enacted to permit local financing of protective works and local zoning to prevent further damage. However, lake levels fell and with them the impetus to utilize the new legislation. Consequently, thousands of homes and cottages were built in the ensuing 17 years without regard to the return of high water.

Higher than average lake levels during the fall of 1968 on Lakes Superior, Michigan, Huron and Erie and throughout 1969 (except on Lake Superior) -- have again resulted in severe shore erosion and the serious attendant loss of both private and public property.

While extremes of high or low lake levels do not occur at regular intervals on the Great Lakes, surpluses or shortages in precipitation do result in substantial raising or lowering of lake levels.

Shore erosion is a normal, natural and continuing geologic process. Testimony to this fact is the example of several areas on Lake Superior which suffered severe damage throughout 1969 while water levels were from average to only slightly above average. However, erosion can be greatly intensified during times of abnormally high water or when there is an abrupt rise in levels.



Ottawa Co. May, 1969

Great Lakes levels rise and fall because of many hydrologic factors, both natural and artificial. The variations in levels can be classified as: (1) short-period fluctuations--those lasting from a few months to several hours; (2) seasonal fluctuations--those recurring in annual cycles; and (3) long-range fluctuations--general upward or downward trends extending over several years.

The present lake level situation on the Great Lakes, with the exception of Lake Superior, is one of much higher than average levels, and a great rise within the last year. There are indications that resultant damage may be approaching that of the early 1950's. Although lake levels are still somewhat below the extremes of that period, the present trend corresponds with that of the early 50's.

At the end of 1969 all the lakes had levels below their peaks for the year due to normal seasonal fluctuations. Lake Superior is even with the average of the last 10 years. However, Lake Michigan-Huron was 21 inches above the average of the last 10 years while Lake Erie was 19 inches above that average. Peak level for Lake Erie occurred during July when the all time record high level was tied and waters were 23 inches higher than the 10 year average. Peak levels for Lakes Superior and Michigan-Huron occurred during August. The latter lake was 26 inches above the 10 year average at that time. Lake Superior, however, was 3 inches above the average of the last 10 years, down from 1968.

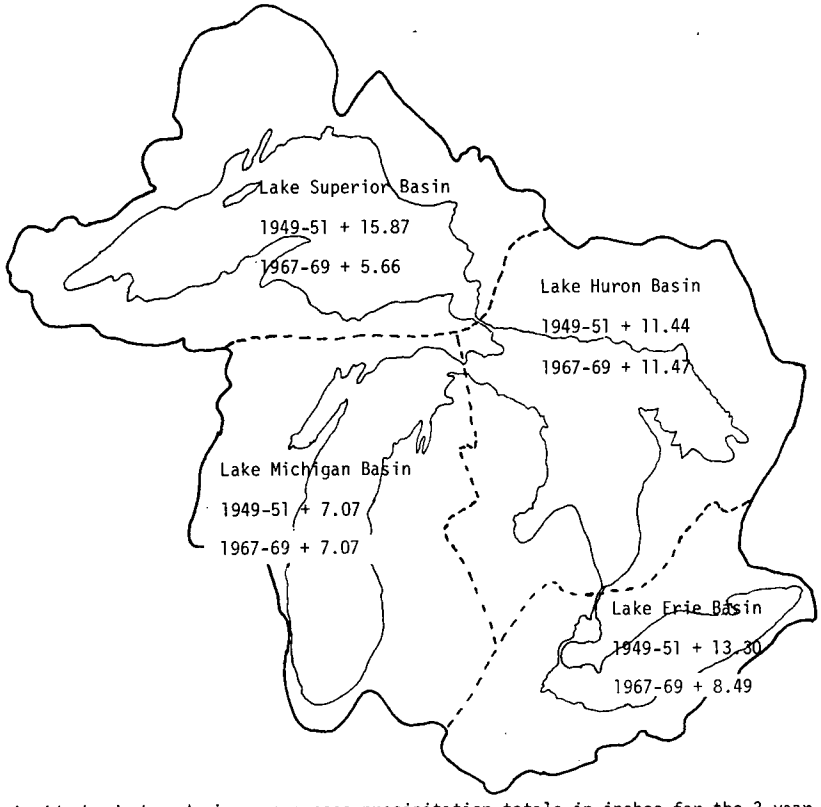
As of the end of December, 1969, Lakes Michigan-Huron and Erie appeared to be rising. Lake Superior appeared to be declining slightly, following its average levels closely.

Precipitation has been above normal for the last 2 years at all but a few U.S. Weather Bureau Stations in Michigan. The excess has, in some instances, been as great as in the 1949-51 period. Excess precipitation is that amount over the average annual precipitation for the years 1900-1968. Figure 1 shows the excess precipitation by Great Lake basin for 1949-51 and 1967-69.

This excess precipitation is directly responsible for the present high water levels. The additional quantity of water must flow out through the restricted outlets of the lakes and consequently raise the level of the lakes.

63-802 O - 71 - 21

FIGURE 1



Figures inside basin boundaries are excess precipitation totals in inches for the 3 year periods given.

Where water and land meet, erosion is a natural process. But when water levels are high as they are now (February 1970), and high wind and storm conditions occur damage can become severe. Wind is second only to water level in importance when beach erosion is considered because wind is the generating force of waves whose tremendous power tears away soil each time they touch land.

Winds on the Great Lakes accelerate the erosion process as high water levels allow wind-driven waves and littoral currents to reach higher on erodible shorelines. High velocity winds of long duration and from directions which allow the longest fetch generate the heaviest seas and strongest littoral currents causing the most severe shore erosion damage.

In addition to the damages caused by normal weather occurrences during high water, there is the threat of short but violent fluctuations from seiches, which can inundate large areas within minutes.

At Muskegon deepwater waves of 7 feet or more occur on the average of once per month and 12 foot waves occur about once per year. At Frankfort waves of 8 feet or more occur on the average of once per month. At Monroe on Lake Erie waves of 8 feet occur once in 3 years. It is important to note that deepwater waves are modified as they move into shallow water. They become shorter and may become higher also. The wave steepens and eventually breaks on shore. Little damage occurs as a result of wave action during periods of normal or below normal water level because a wide beach exists which absorbs the energy of many tons of moving water.

The effects of high water and shore erosion along the Great Lakes range from nuisance conditions to major destruction of property. The problems and damage can be grouped into primary and secondary categories.

Primary damage results from erosion of the shoreline, causing physical loss not only of land areas but also trees and structures - stairways, docks and docking facilities, and in the extreme, homes and cottages. Roads and highways are eroded away or closed by inundation. Greatly accelerated sedimentation carried by littoral currents impairs water quality, increases cost of treatment of water for domestic water supply, destroys fish and aquatic life habitat and fills river mouths. Sedimentation damages are most significant

Houghton Co. April, 1969

MAJOR EROSION AREAS

1970

in areas where shore materials are not sandy, i.e., clays, heavier textured soils and organic soils. Lake Erie is particularly vulnerable, as is Saginaw Bay, lower Lake Huron, lower Lake Michigan, and Lake St. Clair. Also, increased potential of ice push along flat shorelines occurs, particularly in Saginaw Bay and Lake St. Clair.

Secondary effects of high water are primarily increased cost and inconvenience of use of shore and lake facilities. Flooding of docks, boathouses and marinas is a particularly costly problem primarily associated with the connecting waterways and sheltered bays of the Great Lakes. Not only do the facilities become impossible or inconvenient to use, but become increasingly subject to wave and ice damage. Navigation hazards are created by floating debris such as live and dead trees, stumps and lumber from wrecked structures. Faster currents in the connecting waterways also create increased problems to navigation. Reduction of clearance below fixed bridges, overhead pipe lines and transmission lines impairs the use of tributary waters for recreational boating and increases the opportunity for logs and debris jamming against structures. Maintenance costs of public and private recreational facilities are higher due to accumulation of abnormal amounts of flotsam on beaches. Loss of established wildlife nests and burrows may occur in some areas.

Mason Co. May, 1969

Beach erosion is a destructive phenomenon; it creates an environment which is disquieting - to see a long-remembered beach destroyed, or covered with unexpected tangles of logs and stumps, or to find a favorite tree toppled are experiences that will lessen the pleasure of many of Michigan's citizens this year.

Of Michigan's 2270 miles of shoreline (not including islands) 1300 miles are classified as erodible. Over 280 miles of the erodible portion have suffered primary type damage. About 20 percent (55 miles) of this is major damage -- homes endangered or damaged, large losses of property, trees, etc.

Protection for just the major damage areas could cost over $100,000,000 plus annual maintenance, which would in the long run greatly exceed first costs.

Protection of the shoreline is not a small matter; careful planning is required for a successful erosion control project, regardless of its scope, in order to provide the maximum protection per dollar invested. A structure must withstand great forces and widely varying conditions throughout the year. Water levels vary, storm waves vary in direction, size and velocity. An essential aspect of a successful project is proper orientation with respect to the direction of the most intense storms. Another critical decision is the type of protective device used. Groins, revetments, gabions, sea walls and breakwaters all are effective but not in all situations. There is also a wide variety of material with which these structures may be built.

So then, the private property owner does have some weapons at his disposal for combating the threat of erosion damage. Unfortunately, cost limits the choice available to him and further, most control structures require installation by experienced marine contractors. Only a few contractors engage in the business of building erosion control devices and these are primarily geared toward large scale projects.

A very important protection factor and one which many riparian owners are unaware of is that any control measures must be carried out on a reach (headland to headland) basis. An individual cannot protect 100 feet or so and not cause the erosion process to accelerate on his neighbor's property.

Several considerations must be taken into account when comparing Great Lakes levels and accompanying damages of the early 50's with the present situation. Briefly these are:

There have been no major storms with high sustained winds on the Great Lakes during the last two years.

U.S. Lake Survey projections indicate lake levels in 1970 will approach those in 1969. With continued excess precipitation lake levels will exceed 1969 peaks.

Total value of property loss and damage could be many times higher than the figures for the early 50's due to tremendous increases in shoreline property values.

- Thousands of seasonal and permanent homes have been built since the high water of the early 50's on Great Lakes frontage.
- Many structures were added to the shoreline during ensuing years of exceptionally low water levels.
- More industries have located adjacent to the Great Lakes and are utilizing large segments of frontage.
- Many recreational facilities have been developed along the lakes in recent years.

Poor resource management practices by developers, such as scalping of bluffs and clear cutting of trees continue to contribute to erosion by runoff.

Areas which were damaged in the early 50's are well documented. Because of lack of adequate local controls developers are still being permitted to build in those areas and other areas susceptible to erosion damage. Now that Great Lakes levels are at a critical stage there may not be time to rescue the unwise development of the past 17 years.

Regardless of the magnitude of the erosion problems, erosion control is only one facet of shoreland management. Michigan's shorelands are a unique natural resource offering tremendous potential for outdoor recreation and other services. As the State's population increases and its economy expands, shoreland use pressures will intensify and problems and conflicts will be magnified. A few potential conflicts are listed:

Industrial	-	Recreational
Fish and wildlife habitat	-	Marina development
Private ownership	-	Public access
Developed high risk areas requiring protection	-	Undeveloped high risk areas requiring no protection

Any program designed to alleviate erosion damage should, therefore, be initiated within a framework broad enough to include adequate consideration of the total potential of the shorelands.

Typical of the loss sustained along 230 miles of minor damage.

Allegan Co. December, 1969

Allegan Co. December, 1969

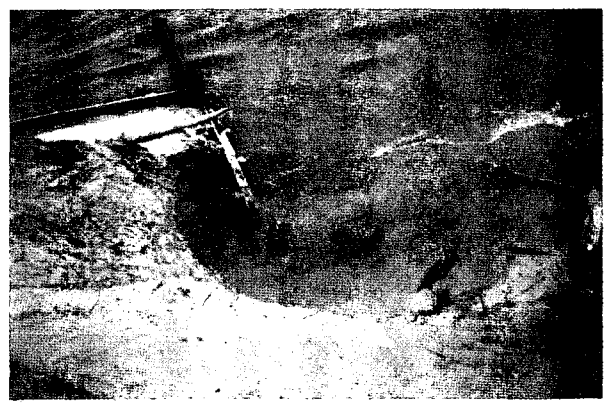
Van Buren Co. December, 1969

Berrien Co. December, 1969

Van Buren Co. December, 1969

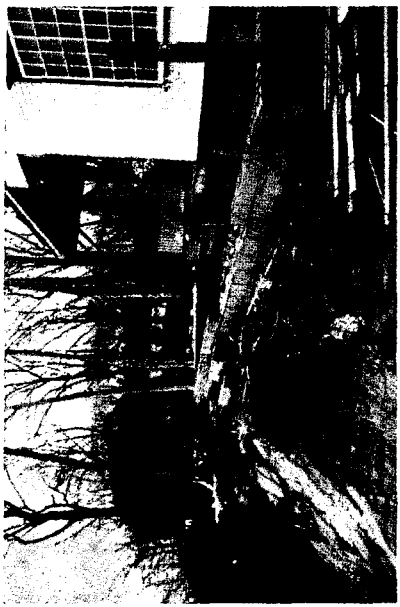
Allegan Co. December, 1969

Ottawa Co. December, 1969



Note increased cutting effect of improper protection. December, 1969

Ottawa Co. December, 1969



Allegan Co. December, 1969

Ottawa Co. December, 1969

Allegan Co. December, 1969

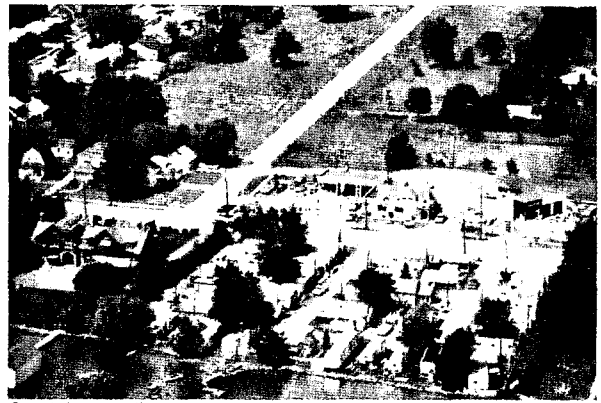
MANAGEMENT OF THE SHORELANDS

Should a unique natural resource be managed under a program designed specifically for such a resource? The Michigan Natural Resources Commission, Water Resources Commission, Governor's Office and the Great Lakes States of Wisconsin and Minnesota concur that the Great Lakes shorelands are unique indeed. Consequently, a program which would treat the shorelands as an unparalleled resource has been developed and introduced to the Michigan Legislature.

Basically the purpose of the program is to provide for the protection, effective management and maintenance of the quality of the Great Lakes shorelands of the State of Michigan; to require the zoning of such shorelands; to establish the responsibilities of the Department of Natural Resources and the Water Resources Commission; to authorize engineering and special studies of the shorelands; and the development of a comprehensive plan for the use of the shorelands.

Although the primary responsibility for many management programs rests with the State, traditionally in Michigan such responsibilities have been shared with local communities. Of the several courses of action possible to control beach erosion the one most compatible with the Michigan government process is a partnership; a control program between State and local government. At least two Federal programs which deal with shoreland and estuarine resources are now underway and could contribute to and benefit from a shoreland management program.

Such a program should give first priority to assuring that new or added development along the Great Lakes will not be subject to the destruction of erosion. In most cases there is little recourse for the individual property owner to either prevent damage or to recover financial loss. Erosion occurs to some degree along all non-rock coastlines, but the extent of major damage areas is limited. Consequently, the control program must be tailored to the specific physical situation.



Crowded, unappealing . . . August, 1969

A good shoreline use? August, 1969

Enjoyment of the Shorelands

POPULATION AND SEASONAL HOUSING IN SHORELAND COUNTIES

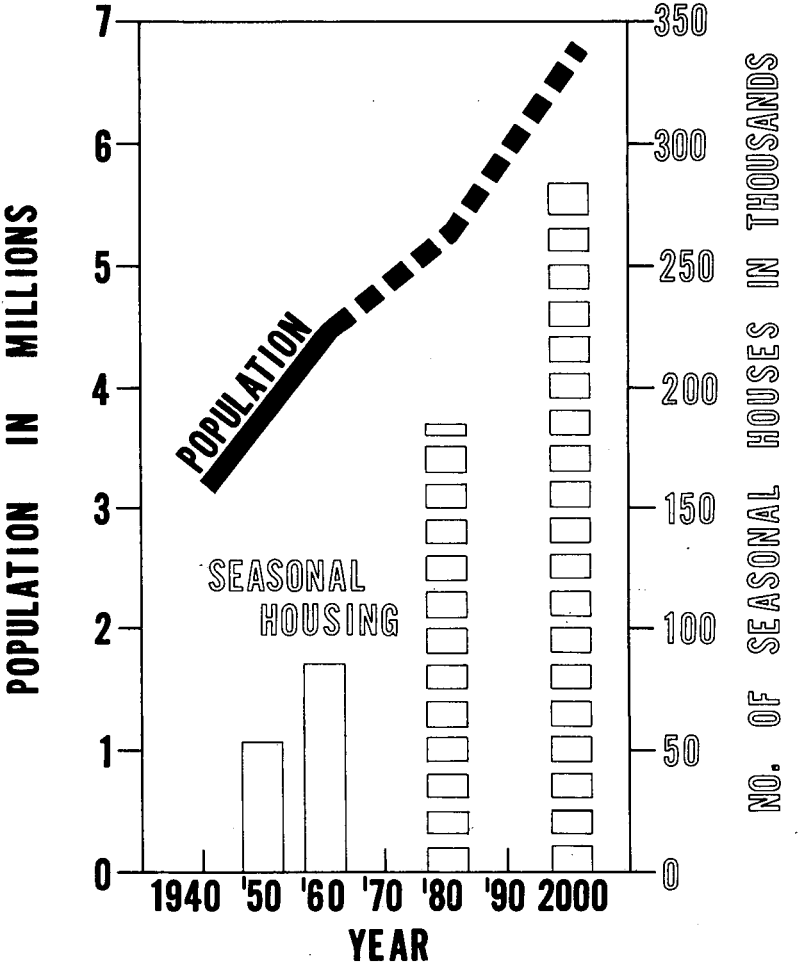


FIGURE 2

Given this situation, land use regulation (zoning) offers the most suitable method of control. Such zoning must be based upon sound engineering data of the areas subject to erosion with data available to all.

Further, our shorelands are valuable to our State in many ways. Figure 2, for example, shows the tremendous increase in seasonal homes as against increases in total population. This increase is almost certain to continue. Thousands of permanent and vacation homes already dot the shorelands. Unfortunately much of this development was completely unregulated and looks like it. Can we any longer afford crowded and unappealing development?

Slightly over half of our shorelands are forested or in agricultural or undeveloped uses. But hidden in this total is the fact that the shorelands of some of our southern counties are over 80 percent developed.

Millions of Michigan citizens now enjoy our shorelands and millions more are going to want to enjoy them. We have the immediate decision before us as to whether parking lots, storage areas, solid waste disposal sites or other low priority uses will be allowed to preempt the use of shorelands.

Michigan must keep pace with Great Lakes transportation and this means wider and deeper waterways to handle the supercarriers which are scheduled to be on the Lakes in 1970. Waterway improvement results in a vast amount of dredge spoil which is annually deposited on or near our shorelands. We must turn spoil from an unwanted pollutant to a needed resource.

Does it not seem evident then, that legislation designating the Great Lakes shorelands as a distinct natural resource management entity, and establishing the State's responsibilities for shoreland management would be beneficial to Michigan's citizens? Comprehensive legislation would include:

A. Requirement of shoreland zoning by local units of government to control erosion damage subject to established minimum restrictions with provisions for State assumption of the responsibility if it is not exercised at the local level.

B. Provisions for comprehensive engineering studies to evaluate erosion factors.

C. The development of a comprehensive shoreland plan for Michigan.

Michigan should continue to lead the way in the protection of the nation's resources and the shoreland management program is an obligation Michigan has to her citizens.

# # #

"I cannot say that I am in the slighest degree impressed by your bigness or your material resources as such. Size is not grandeur, and territory does not make a nation. The great issue . . . is, what are you going to do with these things?"
--Thomas Huxley

". . .all Americans--of present and future generations--have a right to enjoy the shoreline experience." --
REPORT OF THE PRESIDENT'S COMMISSION ON RECREATION AND NATURAL BEAUTY, "FROM SEA TO SHINING SEA"

TACOMA, WASH., *May 4, 1971.*

Senator WARREN G. MAGNUSON,
U.S. Senate, Committee on Commerce,
Washington, D.C.

DEAR SENATOR MAGNUSON: Thank you for sending me last month a copy of S. 582, the coastal zone management bill. The legislation appears to be very constructive. Our League of Women Voters Committee particularly appreciated the attention to protection of estuarine zones in order to preserve their unique features for future generations, and the provisions for establishment of estuarine sanctuaries for scientific and educational purposes.

It is important that the Federal Government provide some financial assistance to states to develop and implement comprehensive planning for coastal areas. Otherwise, the great need for maximizing the tax revenue potential of every area, particularly in coastal estuaries, precludes the possibility of holding any of them in a state of protection.

We feel, of course, that the Nisqually River estuary is admirably suited to be designated as an estuarine sanctuary, should such legislation ever go into effect.

I have heard that hearings are being conducted by your committee this week on this and other similar legislation. I would be interested to learn the results of these hearings, and hope for the progress of this legislation.

Sincerely yours,

ANNE JACOBSON,
Chairman, Nisqually Committee, Tacoma-Pierce County and Thurston County Leagues of Women Voters.

SACRAMENTO, CALIF.,
December 5, 1970.

REPORT OF COASTAL ZONE COMMITTEE REGARDING PROPOSED FEDERAL COASTAL ZONE MANAGEMENT LEGISLATION

Whereas, the coastal zone management legislation that has to date been proposed in the United States Congress limits funds for planning assistance and the implementation of coastal zone plans to a coastal zone consisting of lands underlying the territorial sea; and

Whereas, such coastal zone would not support the State of California in the planning and implementation of planning of the many areas between the Channel Islands and the mainland which have a functional interrelationship to them, such as the Santa Barbara Channel and San Pedro Bay; and

Whereas, the Marine Resources Conservation and Development Act of 1967 requires that the Comprehensive Ocean Area Plan ("COAP") encompass such areas and CMC has recommended that the COAP "be pushed to completion with all possible speed, and that those parts dealing with the Santa Barbara Channel, Channel coastline, Channel Islands, and the sea bed between those islands and the coast be completed first": Now therefore, be it

Resolved, That CMC recommends that any such federal coastal zone management legislation should authorize the inclusion in the defined coastal zone of any lands under federal jurisdiction and control where the administering federal agency determines them to have a functional interrelationship from an economic, social or geographic standpoint with lands within the territorial sea. Any such inclusion, however, should not convey, release or diminish any rights reserved or possessed by the Federal Government under the Submerged Lands Act or the Outer Continental Shelf Lands Act and should be subject to reasonable conditions imposed to protect the national interest in defense and national security.

STATEMENT OF THE AMERICAN ASSOCIATION OF PORT AUTHORITIES

The American Association of Port Authorities appreciates this opportunity to submit its views on the Coastal Zone and Land Use Management Bills now before the Subcommittee on Oceans and Atmosphere of the Senate Committee on Commerce.

The American Association of Port Authorities is a corporate body whose membership includes all of the principal public port agencies, numbering more than 75, and many marine terminal operators, civic and other groups concerned with the planning, development, operation and maintenance of the seaports along the

coasts, bays and rivers of the United States, its insular possessions and the Great Lakes. The Association's member ports handle all of the oceanborne foreign trade of our Nation as well as all of the deep water domestic trade along all our coasts. In their efforts to accommodate this flow of commerce, which included 459 million tons in foreign trade in 1970, valued at almost $50 billion, the ports have invested more than $2 billion in terminal and cargo handling facilities since the end of World War II.

This flow of ocean commerce is basic to the areas in which the ports are located. A study by the Maritime Administration released a few years ago reported that 2.5 million workers were employed in export related industries in States having port facilities. This is over 80% of the total number of American workers reported employed in export industries. The study further estimated that almost one million additional workers were employed in activities related to United States imports.

In presenting these comments, we should like to note that they are directed specifically to the potential impact that the bills now before the Subcommittee will have on port planning and development and on the activities of the public agencies now responsible for the planning, development and administration of all our seaports. For this reason, our comments are directed specifically to S. 582 and S. 638, the former introduced by Senator Hollings and 25 other Senators, and the latter by Senator Towers.

Both these bills are concerned with encouraging the development of a systematic approach to coastal zone planning and utilization. Both bills would designate the Secretary of Commerce to administer the Federal Government's responsibilities in the management of the coastal zone; provide that the Secretary would be empowered to make grants to coastal zone authorities which would be created by the various coastal States to develop master plans for the planning, development and utilization of the coastal zone within their individual geographic areas of jurisdiction, and to guarantee bonds issued by these State authorities; spell out certain requirements that the State agencies would be required to meet in order to become eligible for the grants and loan guarantees, including the requirement that they must be empowered to determine land use and zoning regulations, acquire and develop land and facilities and issue bonds to implement their programs.

In each instance the State coastal zone authorities would be empowered to review all proposed developments within their area of jurisdiction, whether proposed by private entrepreneurs or by local, regional, State or Federal agencies, for consistency with the master plans which the State coastal zone authorities would develop. And finally—but by no means of least importance—both bills provide that the Secretary of Commerce would be empowered to approve or to disapprove the long range master plans developed by the State coastal zone authorities.

There are also, of course, a number of significant differences in the two bills. These include differences in the amount of funds which would be appropriated to administer the proposed programs, differences in the coverage proportions of grants in aid to the States, differences in the definition of what constitutes the coastal zone, and differences in the manner in which the State master plans may be developed. In addition, S. 582 provides for the establishment of estuarine sanctuaries, whereas S. 638 does not.

We are concerned primarily that the procedures and requirements for the development and approval of State comprehensive plans and for administering Federal policies and responsibilities would seriously affect the local and regional public agencies now responsible for the planning, development and operations of the ports of our Nation in the efficient and economical performance of their functions.

Historically, the ports of the Nation have developed their resources and provided the facilities to service the ever-increasing volumes of both our foreign and domestic commerce on the basis of local and regional initiative and enterprise, both public and private. The responsibility of the Federal government in this vital sphere of activity has until now been limited to the development and maintenance of navigable waterways and channels and to the provision of various safety aids to navigation. We submit that it would be ill-advised and a mistake to change these respective areas of responsibility, that no real purpose would be served if they were changed, and that, in effect, the provision of adequate and efficient and economical port and terminal facilities and services might well be hindered, if the present relationships should be altered.

63-902 O—71——22

In their present forms, both S. 582 and S. 638 provide that the Secretary of Commerce would have authority to approve or disapprove the comprehensive plans which the State agencies would draft as a condition to receiving program development and operating grants. We respectfully recommend that these provisions be amended to insure that port and harbor areas already under the jurisdiction of established public agencies should be given separate and special consideration which would recognize the continuing right of these public agencies to control their own development. This policy position of the American Association of Port Authorities was unanimously endorsed by the United States members at the Annual Meeting in October, 1970. (A copy of this resolution is attached hereto.)

(NO. E-11)

REGARDING CONTINUING INDEPENDENCE FROM GOVERNMENT CONTROL OF PORT AND TERMINAL USE AND DEVELOPMENT

Whereas, various Federal agencies have indicated, through studies and study proposals, a Federal interest in the direction and possibly the control of port and terminal development at the nation's ports (including their land transportation facilities) which have been historically and successfully accomplished by non-Federal interests; and

Whereas, there is now pending legislation in the Congress of the United States regarding so-called "Coastal Zone Management" which, by authorizing Federal grants to States which establish an agency and adopt coastal development plans approved by the Federal government, would provide indirect Federal control over development in established ports now under local control; and

Whereas, as sound business enterprises, ports fluorish best in a completitive business atmosphere; and

Whereas, the ports have demonstrated that they are fully capable of determining and meeting the commercial and military shipping needs of the nation by providing, without Federal grants, the necessary facilities for their respective areas: Now, therefore, be it

Resolved. That The American Association of Port Authorities opposes any effort on the part of the Federal government to control or tend to contrl, directly or indirectly, through regulations, grants-in-aid or otherwise, port and terminal planning and development at the nation's ports (including their land transportation facilities) or to allocate or mandate port activity as to type, classification, scope or location; and be it further

Resolved. That The American Association of Port Authorities insists on its right to and the need for its full participation in any Federal examination or study of the ports of this nation and authorizes its Committee on United States Transportation Policy to be responsible for such participation before the Executive and Legislative branches of the Government; and be it further

Resolved. That The American Association of Port Authorities strongly supports the right of the public ports of the United States to self-development in a climate of free competition and oppose Federal legislation, which requires or permits Federal control of development; and be it further

Resolved. That the United States members of the Executive Committee be and they hereby are authorized and directed to formulate, on behalf of the Association, recommendations as to the proper respective responsibilities of the Federal Government, on the one hand, and the State and local port agencies of the United States on the other, in the planning and development of the nation's ports (including their land transportation facilities) and upon formulation thereof, to communicate such recommendations to the Committee on United States National Transportation policy for its use as well as that of the United States members of the Executive Committee in their participation before the Executive and Legislative branches of the Federal Government.

(Unanimously passed, U.S. Members Only Voting, October 1970.)

COLLEGE OF WILLIAM AND MARY,
DEPARTMENT OF BIOLOGY,
Williamsburg, Va., April 12, 1971.

SUBCOMMITTEE ON COASTAL LAND USE,
Committee on Commerce, U.S. Senate,
Washington, D.C.

DEAR MR. CHAIRMAN: I understand that hearings are being held on S. 582 pertaining to coastal land-use. I attended your first public hearing in Williamsburg, March, 1970. One purpose of these hearings is to serve as a barometer of what local governments along the coast conceive land-use planning to be.

The Code of Virginia requires that those counties having land-use maps must revise them every five years. Public hearings are required before revision. On April 6, 1971 the Planning Commission of James City County, Virginia, the county of Jamestown, established 1607, held hearings prior to revising its land-use map. Of interest to you may be the response of the commissioners to questions pertaining to their conception of what land-use planning is and its purposes.

Mr. D. C. Renick, Chairman of the Planning Commission, in answering a battery of questions clearly made it understood that he and his Commission felt that a land-use map was a representation of their best estimates as to what the County would be used for at the end of the next five years. He made it abundantly clear that the Commission was not specifically recommending such land-use; it is merely a prediction or "guesstimate" of the future. These opinions severely disturbed quite a number of the County residents who attended the meeting who apparently felt that guessing is not planning.

I hope that the activities of this County, one of the oldest in the Nation (but nonetheless only having adopted zoning in 1969 for the first time), are not indicative of most jurisdictions in the coastal zones of the United States.

Respectfully yours,

DR. CARL W. VERMEULEN,
Campus Environment Committee.

(The Campus Environment Committee has several responsibilities under the Office of the College President—one of which is to act as liaison between the environmentally interested departments, courses, and extra-curricular groups on the campus with relevant community organizations.)

THE AMERICAN INSTITUTE OF ARCHITECTS,
Washington, D.C., May 21, 1971.

Hon. ERNEST F. HOLLINGS,
Chairman, Subcommittee on Oceans and Atmosphere, Committee on Commerce, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: The American Institute of Architects wishes to take this opportunity to express our views on S. 582 and S. 638, legislation to establish a coastal zone management program, and S. 632 and S. 992, legislation to establish a national land use program.

For many years, both the private and the public sectors of our nation have been negligent in failing to preserve and protect our country's priceless environmental resources along our coastlines and estuaries. Also, the few remaining areas which still have significance for public recreation are being acquired by private interests whose fortunes and circumstances permit, thus radically reducing or perhaps eliminating altogether the public's right to enjoy these national treasures. In view of these factors, The Institute is in firm support of intensive coastal zone planning and management.

Many of our individual members and a number of our local chapters are involved in interdisciplinary coastal zone planning and development programs. The Southwest Florida Chapter of The AIA, located in Ft. Myers, is working with the Department of Architecture of the University of Florida at Gainesville,

in a study of a five-county coastal region along the Gulf of Mexico. The University has assembled a special study team, including architects, environmental engineers, botanists, geographers and industrial systems engineers, to develop a proposed program for the planning, development and management of the state's Southwest Coastal Zone. I am enclosing a summary of this project along with a more detailed National Science Foundation proposal, which outlines this unique program and hope they can be printed in the record of the Subcommittee's hearings, along with this letter.

We strongly urge that the protection of coastal zones be undertaken within the context of national and statewide land use planninng. The most serious threats to the quality of coastal environments, such as freeways, extractive industries, solid and liquid waste disposal, uncontrolled urban sprawl, airports, and timber harvesting, can only be controlled at the state level.

The states, with a maximum opportunity for participation by local governmental units, have the key role to play and the main responsibility in shaping their growth patterns to meet the needs of their citizens for recreation, employment, transportation, housing, commerce and health. Therefore, we strongly support restrictions on the flow of federal funds to states which do not prepare acceptible state land-use plans, and programs for their implementation, within a specified period of time, or fail to carry out the plan and program effectively. The national government should provide incentives by way of grant money to support state land use planning and management, including coastal zone programs, as well as provide the appropriate penalties to insure that the states create the control mechanisms to implement such plans. Therefore, we favor a 90% matching ratio (S. 632) for planning and management grants over the 50% (S. 638) or 66⅔% (S. 582).

In terms of penalties, we favor a provision which is included in H.R. 2449, a land use bill sponsored by Congressman Aspinall and was included in the initial draft of the Administration's "National Land Use Policy Act of 1971" but which was deleted before the bill's introduction. This provision provides that states which do not produce satisfactory methods for planning and controlling development would lose highway construction funds at 1% per year, starting in 1975, and by 7% in succeeding years, up to a maximum of 35%. We believe that this kind of muscle is necessary to influence the hard political decisions which will have to be made at the state level to establish effective mechanisms to control growth. It is vital that a penalty procedure of this nature be included in any land use-coastal zone management legislation in order to insure positive initial action and continuing compliance.

Among the potential mechanism to guide growth and contribute to effective coastal zone management are state-chartered urban development corporations, with the power to acquire raw coastal properties using "eminent domain" if necessary, the power to supercede local zoning and building codes, and the power of public financing. In recreational development, such a corporation could assemble land, provide the necessary public facilities, roads, and utilities, and serve as a financing medium so that private or public developers could carry out a specified development plan. The development corporation device could be one way the states could exercise positive controls over growth of key coastal zone areas.

State capital investment programming is another tool which has always been available, but seldom used for shaping state growth along coastal regions and elsewhere. No state has effectively coordinated its public investment program so that public improvements are built where the state has determined development should be encouraged. Much of the damage already done to coastal areas could have been averted if states had realized that state highway programs often caused undesirable growth in these ecologically fragile areas. States spend considerable amounts of state and federal money on highways, hospitals, public office buildings, recreational areas, universities, which could be used as positive tools for controlling growth.

A third mechanism is the state-created metropolitan government. Nowhere in the United States has a mechanism been established to deal with the proper development of the periphery of metropolitan areas. In this Nation more than 700 square miles is urbanized each year with little or no development guidance. That is more than 10 times the amount of square mileage in the District of Columbia. At this fastastic urbanization rate and a population approaching 300 million by the year 2000, we must have thoughful and careful planning for our new towns, our highways, or natural resources. We must recognize that metropolitan areas are functioning units in regard to employment, housing, transportation, major utilities, and recreation facilities. About 52% of the nations population live within 50 miles of the nation's coasts. This is where metropolitanization is at its strongest and where metropolitan controls on growth are most needed.

The Institute wholeheartedly supports efforts to improve state land-use planning, particularly for environmentally fragile areas. We would like to see penalty provisions added to the legislation to put pressures on the states to create plans and the mechanisms to implement the plans. Categorical grants for state and local land-use planning will all be for naught unless these monies, and others, perhaps under special revenue sharing, can be used to stimulate the creation of better development control mechanisms.

Sincerely,

ROBERT F. HASTINGS, FAIA.
President.

AMERICAN INSTITUTE OF ARCHITECTS,
FLORIDA SOUTHWEST CHAPTER,
September 28, 1970.

ARNOLD BUTT,
Director, Department of Architecture,
University of Florida, Gainesville, Fla.

DEAR SIR: Our chapter of the A.I.A. shares the concern of many citizens in our part of Florida regarding the direction of growth and development with such apparent disregard for the nature of the land, water and natural resources which are affected.

We feel the time is overdue for consideration of planning concepts which recognize the inter-relationships of all activities within an area becoming urbanized at such a rapid pace. Thought must be given to the effects on the biological environment of high density population patterns on lands which just a very few years ago were in a wild state.

Our particular geographical area, including Charlotte, Collier, Glades, Hendry and Lee Counties presents a uniquqe opportunity to provide this inter-scientific approach to total environmental planning. We have the coastal areas of bays, estuaries, islands, rivers; we have inland areas of open land, cities, lakes, drainage problems, sewer and water problems; we have real estate developments on a mammoth scale; we have one of the most rapid population growth patterns in the United States with more to come. In short, we have all the problems, but we are still in a position to satisfactorily solve them before they become unmanageable.

In order to maintain any of the qualities of life inherent in our natural blessings, some overall guide lines must be established. The type of inter-disciplinary approach to providing the accurate scientific data required to establish these guide lines can best be accomplished through the academic fraternity of a large university.

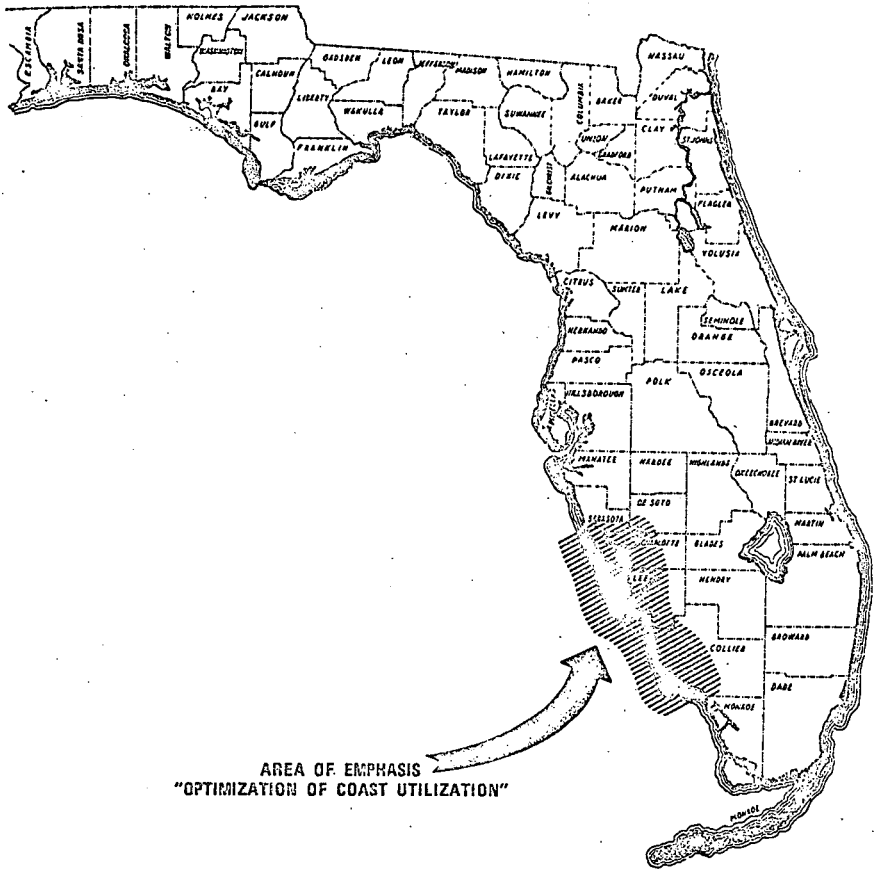
Therefore, our group has voted to solicit your help in attempting to establish a framework for growth that will take into consideration all the factors that affect the quality of human life in relation to its total environment.

Very truly yours,

MARTIN G. GUNDERSEN, *President.*

UNIVERSITY OF FLORIDA
INSTITUTIONAL SEA GRANT PROGRAM

PROTECTION, ENHANCEMENT AND UTILIZATION OF
COASTAL ZONE RESOURCES IN THE
INTEREST OF SOCIETY



UNIVERSITY OF FLORIDA COLLEGE OF ARCHITECTURE AND FINE ARTS,
DEPARTMENT OF ARCHITECTURE,
Gainesville, Fla.

RESEARCH PROJECT

TITLE

Southwest Florida Planning Team.—research into interdisplinary planning of urban systems and evaluation of alternative urban growth patterns for the coastal zone of Ft. Myers-Estero Bay.

Background

In February of 1970 the Department of Architecture was approached by the Southwest Florida Chapter of the American Institute of Architects to investigate patterns of development for the coastal area of Fort Myers and Estero Bay. The Chapter was to provide seed money on an annual basis to cover expenses for investigation. As a result, the Southwest Florida Planning Team was organized; and three trips to the area were made by both faculty and students. A study area was located; the Team began to collect base mapping and other data; and a studio-work space was established in the Department of Architecture.

Perspective

Evaluation of previous efforts toward understanding the growth of urban systems indicates that future methodologies must incorporate interdisciplinary approaches to solutions of such complex problems. Unfortunately, to date, few projects have successfully integrated the inputs from many disciplines into a cohesive and viable framework. In this search for a framework within which to approach these problems the members of the Southwest Florida Chapter of the A.I.A. in collaboration with the Department of Architecture have been involved with Environmental Engineering, Geography, Botany, and Industrial Systems Engineering in interdisciplinary projects. The benefits from these projects have been numerous for their involve opportunities to test new ideas for academic programs; cross disciplinary communication; and real community problems. These three elements—teaching, research, and community involvement—have formed the beginning for a program in urban science. The Fort Myers-Estero Bay area is currently the focus of this program.

Current status

During the past year a number of faculty and students from various disciplines have investigated alternative land use planning methodologies. A more definite direction toward planning of the area has evolved from these initial investigations. On-going work is being conducted by fifteen undergraduate and graduate students in Architecture, Geography and Industrial System Engineering. Larry Peterson, Assistant Professor of Architecture, is coordinating the student involvement and faculty participation.

The combined talents of these faculty and students have been unified through a "studio-seminar" procedure of working. This procedure utilizes the specific faculty inputs in the daily work schedule; and combines the faculty and students in a feedback seminar on a weekly basis. Both the regular work routine and the feedback session are video taped in an effort to provide a storable, conscious feedback mechanism. With this procedure, progress is evaluated and a new direction is defined in one consciously applied gesture. The studio-seminar, focusing on the real problem of Fort Myers and Estero Bay, has demonstrated an operating efficiency beyond the capabilities of isolated studies by individual disciplines. This method of working has also been valuable in indentifying discrepancies in information content, methodology and syntax inherent in interdisciplinary efforts.

The analysis of the Fort Myers-Estero Bay area has proceeded through several stages. During the first two visits to the area many charts, maps, and copies of reports were acquired from federal agencies, state, county and city offices of planning, engineering, and public health. The Team has also contacted private firms under contract with the city and county and obtained watershed studies, drainage reports, sewage feasibility studies, and many others. Complete information on present and planned power networks was compiled with Florida Power Company and Lee County Co-op; and compilation of telephone network data from Southern Bell Telephone Company and natural gas distribution in the city is in progress.

Large scale aerial photography interpretation has yielded data on types and condition of natural ecosystems in the Bay area, as well as inland agriculture. Sociological and health related data is presently being compiled from the census, in addition to disease, fire, criminal arrest, condition of housing, income and population information already compiled in a neighborhood analysis.

This data is being manually reduced to graphical display base map overlays. These large scale maps are colored transparencies on 40″ wide plastic sheets of varying lengths. Five of the twenty or more base maps for which we currently have data have been produced. These maps are color coordinated both for black and white and color reproduction.

To pursue this interdisciplinary effort in any logical manner will require additional funding for continuation of the present work in greater detail; introduction of computer techniques of mapping and simulation modeling of the various systems; evaluation of both the work procedures and development patterns produced; and publication of the results.

Preliminary Proposal for a RANN Research Project Entitled "Societal Optimization of Environmental Development of Coastal Areas"

I. Institution and principal investigator: University of Florida, Gainesville, Florida.

Orjan F. Wetterqvist, Coordinator; For all co-investigators please refer to Section X, Personnel.

II. Title: "Societal Optimization of Environmental Development in Coastal Areas."

III. Desired starting date: Fall, 1971.

IV. Time period: Fall, 1971–Fall, 1974.

V. Endorsement: Not included in preliminary proposal.

VI. Current support and pending applications: A project of a similar nature was prepared and submitted as a portion of the University of Florida Sea Grant proposal to the U.S. Department of Commerce. A decision on this proposal is not expected until May, 1971. At this time it is known that this application will, at best, result in partial funding which will support a preparatory systems analysis effort complementary to that proposed herein. This effort will be in the area of development of a dynamic macro-system simulation model, activity 5e, in Figure 2. In anticipation of this support, no funds are requested herein to cover the first year effort with respect to this activity.

VII. Description of proposed research: A. *Abstract:* The following is an interdisciplinary research proposal to develop a general Environmental Design Method for societal optimization of environmental developments in coastal areas and to test and demonstrate the method through application to specific coastal areas in the vicinity of Fort Myers, Florida.

The proposed approach to environmental design represents an application of scientific method to the problems of environmental development. The principle of creativity and error correction will be employed both in respect to conception of environmental configurations and formulation of environmental control measures. Alternative hypothetical developments will be designed and subjected to simulated function tests by means of wholistic attribute evaluation from a societal viewpoint. On the basis of the findings of these experiments, alternative hypothetical sets of environmental control measures will be formulated and subjected to testing.

This undertaking will cut horizontally across a number of traditional disciplines and integrate available but scattered and often ignored knowledge into the societal process that shapes the environment. The new method will consider the entire system of factors that figure in coastal developments, including factors not adquately covered by conventional city and regional planning. The project relies on systems analysis both in respect to simulation and attribute evaluation.

The result of this project will be both an Environmental Design Method capable of direct practical application to certain types of coastal areas and specific recommendations for the Fort Myers vicinity. Through appropriate amendments the new method will also be applicable to other types of coastal areas. It is also believed that the new method, in principle, is applicable to non-coastal areas and that its development into a more generally applicable Environmental Design Method will warrant subsequent research.

B. *Objective:* The primary objective of this interdisciplinary research project is to formulate a systematic Environmental Design Method for optimization of environmental developments in the interest of society. A secondary objective is to test and demonstrate this method through a practical application to specific coastal areas in the vicinity of Fort Myers, Florida. The method will be applicable to similar coastal locations, and through modification, can be applied to other coastal and non-coastal locations.

C. *Expected significance:* The coasts of the nation are subject to rapid exploitation which takes place with insufficient concern for certain economic, ecological, and aesthetic implications. Such exploitation results in developments of dubious environmental quality and inflicts critical and irreparable damage to natural resources such as water, marine life, and scenic assets. Indications are that within the foreseeable future virtually all of the nation's developable coasts will be consumed by such developments. Immense, complex and undesirable societal consequences may result unless new knowledge is interjected into the environmental development process. The coast of Florida exhibits dramatic examples of these problems.

Wise measures based on comprehensive understanding of the full consequences of all possible coast utilization alternatives are urgently needed at various governmental levels.

The Environmental Design Method that is proposed to be developed through this research project is intended to deal with the described problems. It will provide the knowledge on which needed legislation at all governmental levels must be based. Strategic application of the method should foster legislation capable of producing significant improvements in utilization of the nation's coastal areas. The research team will demonstrate the employment of the method through application to a costal area in the vicinity of Fort Myers, Florida.

D. *Relationship to present state of knowledge in the field:* This project does not fall within the boundaries of any one traditional knowledge field. It cuts horizontally across a number of conventional disciplines and seeks to integrate available but scattered and often ignored knowledge into the societal process which shapes the environment. The Environmental Design Method advocated herein shares its general goals with the field of city and regional planning, but differs from methods of this field in several important respects.

The proposed method takes into account a larger and more complex environmental system. Generally speaking, conventional city and regional planning has proven relatively impotent and ineffective in dealing with many developmental problems. A major reason for this state of affairs is that such efforts are confined to systems too small to include important problem sources. For example, city and regional planners working for a municipality usually do not consider changes in political jurisdictions, property tax systems, mortgage insurance rules, state and federal legislation, etc., and fail to evaluate disturbances of ecological systems outside the jurisdictions of the client municipality. They are, in general, narrowly confined by such constraints which largely dictate the developmental process. Therefore, the notion of feasibility tends to become a matter of inevitability. Contrary to conventional city and regional planning, this project will investigate a larger and less constrained system including factors such as ecological disturbances, political jurisdictions, property tax systems, mortgage insurance rules, state and federal legislation, etc.

The proposed project will also differ from conventional planning by considering a wide spectrum of alternative solutions. Conventional planning usually entertains only one or a few alternatives within the preconceived limits of "feasibility" thus, quite possibly, neglecting alternatives of significant worth. Knowledge of the extent of undesirability of certain alternative solutions is expected to prove valuable as an argument for preferable alternatives.

The proposed method will, by systematic procedures, endeavor to provide a deeper understanding of the full consequences to the various component interests of which the societal interest consists. Some of these interests transcend current political boundaries and ownership patterns.

VII. E. BIBLIOGRAPHY

City and regional planning and design

1. Alexander, C., *Notes on the Synthesis of Form*, Harvard University Press, Cambridge, Massachusetts.
2. McHarg, Ian, *Design with Nature*, Natural History Press, New York, New York, 1969.
3. Rodwin, Lloyd, *Nations and Cities*, Houghton Mifflin, Boston, Massachusetts, 1970.
4. Spreiregen, Paul D., *Urban Design: The Architecture of Towns and Cities*, AIA, American Institute of Architects, 1965.
5. Ward, Wesley, et. al., *A PL/1 Program for Architectural and Planning Space Allocation*, Monograph, School of Architecture, California State Polytechnic College, San Luis Obispo, California.
6. *Jobs, People and Land*, Special Report No. 6, Center for Real Estate and Urban Economics, Institute of Urban and Regional Development, University of California, Berkeley, California, 1968.
7. *Local Planning Administration*, Municipal Management Series, International City Managers Association.

System Analysis and Evaluation:

8. Eckenrode, "Weighting Multiple Criteria," *Management Science*, Vol. 12, No. 3, November 1965.
9. Fishburn, Peter C., "Methods of Estimating Additive Utility," *Management Science*, Vol. 13, No. 17, March 1967.
10. Forrester, Jay W., *Industrial Dynamics*, M.I.T. Press, Cambridge, Massachusetts, 1961.
11. ———, *Urban Dynamics*, M.I.T. Press, Cambridge, Massachusetts, 1969.
12. Hamilton, H. R., et. al., *A Dynamic Model of the Economy of the Susquehanna River Basin*, Battelle Memorial Institute, Columbus, Ohio, 1966.
13. Isard, W., "On the Linkage of Socio-Economic and Ecological Systems," *Papers of the Regional Science Association*, XXI, 1967.
14. Krutilla, J. V., "Efficiency Goals, Market Failure, and the Substitution of Public for Private Action."
15. Odum, H., *Environment, Power, and Society*, Wiley, 1971.

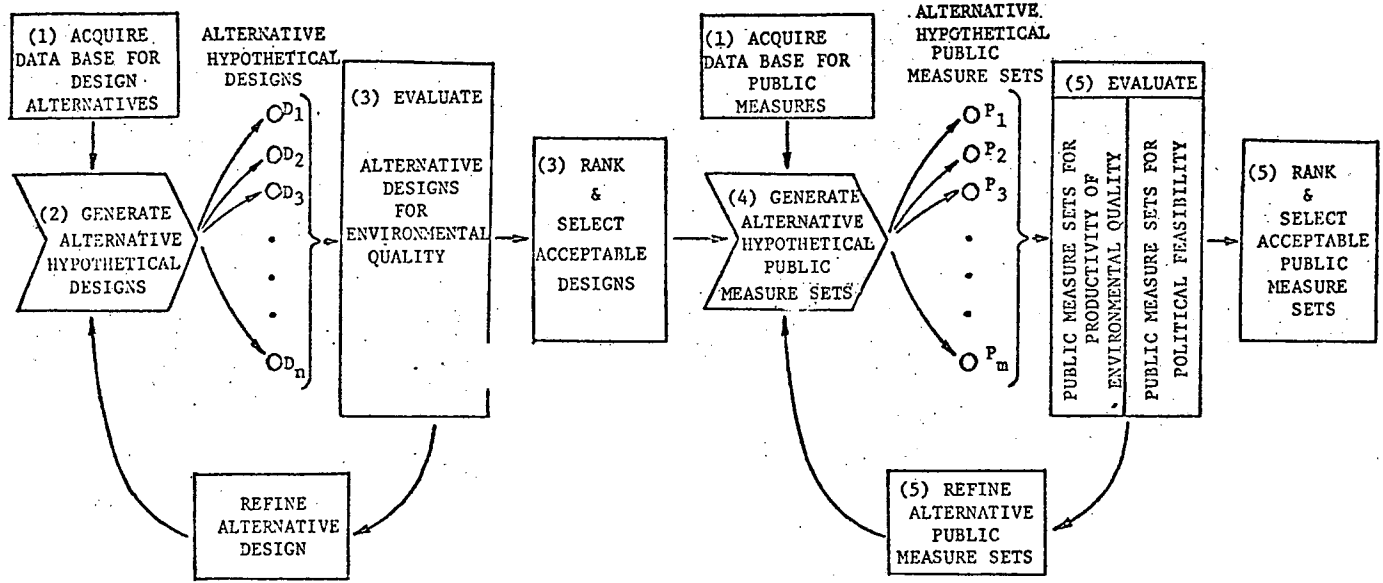
VII. F. GENERAL PLAN OF WORK

VII. F. 1. Introduction

This project intends to integrate available knowledge into a structure suitable for convenient, practical utilization. This structure is referred to as the Environmental Design Method. It encompasses normal creative processes of choice generation and attribute evaluation both in respect to conception of environmental configuration and formulation of public implementation measures.

The proposed approach to the solution of problems of environmental design appears to be warranted and feasible for several reasons. First, indications are that available knowledge generally is poorly utilized and that systematic application of this knowledge would constitute an important advance. Second, complex systems such as those to be studied are believed to be relatively insensitive to variations in many variables. The system under study will, however, be subjected to sensitivity analysis. The reliability of data for variables proving to have relatively large impact will be studied in detail. As warranted, necessary additional basic data may be pursued.

The proposed Environmental Design Method will be employed as the general plan of work for this research project. Figure 1, entitled Environmental Design Method Procedural Diagram, illustrates both the general plan of work and the proposed Environmental Design Method. The research effort will follow the proposed method with the dual purpose of providing the detailed parts of the method and of testing its validity. If warranted by findings, that may emerge during the course of the project, the proposed method will be modified in order to improve its utility.



ENVIRONMENTAL DESIGN METHOD PROCEDURAL DIAGRAM

FIGURE 1

The main applied project effort will focus on the land area inside Estero Bay in the vicinity of Fort Myers, Florida. This area has been selected because: (1) it has highly sensitive and important natural ecosystems, (2) while still relatively undeveloped, it is subject to rapid developments, and (3) the local citizenry has voiced deep concern over the environmental situation. Different aspects of the project will require study of areas of different size. The areas to be subjected to various study will be identified in the first phase of the project on the basis of appropriate regional data and necessary articulate interaction between all affected disciplines. May it suffice to say at this stage that the areas to be studied are intended to be large enough to provide the knowledge necessary for responsible governmental decisions regarding environmental control measures in the affected coastal areas.

The project will start with the design of necessary project rules and procedures It is envisaged that the necessary close collaboration between the research team members will be achieved through early agreement on such integrating management mechanisms. Experience, in these respects, from previous interdisciplinary work at various universities will be employed in the formulation of such rules and procedures.

VII. F. 2. Acquire data base for design alternatives and public measures

During the first phase of the project the research team will assemble available basic data for the Fort Myers region and compile such data in a form suitable for all investigators. The result will be a data base that comprehensively describes the physical and societal composition of the Fort Myers area. Examples are: natural and manmade physical properties of the area, flora and fauna, governmental, political and other anthropological characteristics, economic data especially in regard to real estate marketability, etc. Under the auspices of special studies courses at the University of Florida, collection of basic data has already begun.

Capability for acquiring and updating basic data will be maintained during the course of the project. Throughout the study, data obtained will be cataloged and maintained in a library available to all parties involved.

VII. F. 3. Generate alternative hypothetical designs

This stage represents generation of choices of hypothetical environmental configurations which are to be tested subsequently. For the areas to be studied, a representative sample of a full spectrum of imaginable development alternatives are to be designed. In this research project the size of this sample will be as large as necessary to develop appropriate evaluation techniques. At one end of this spectrum of development alternatives is non-development; at the other end is intensive, high density development. In between are agricultural and urban-suburban developments of various content, extent, configuration, density and technical sophistication. The development alternatives will be time staged as required for dynamic evaluation. The design generally will not be restricted by current laws or real estate trends and should represent various philosophical positions.

The design phase will afford opportunities for application of various design approaches including methods advanced by McHarg (2) and Alexander (1), as well as conventional city and regional planning and design methods. Also included will be designs propagated by the real estate industry. Additionally, new methods may be attempted. The project may subsequently afford an opportunity for an interesting evaluation of the relative merits of the various planning-design methods in certain applications.

VII. F. 4. Evaluate and rank alternative designs for environmental quality

The designs will be subject to comprehensive evaluation. An iterative procedure will be employed so as to improve the utility of each step. Thus, all designs will not be performed before evaluation takes place. Rather, the evaluation of certain early designs will be used to improve certain later designs.

The design alternatives which account for the primary physical properties of a development will be translated into a standard language which is meaningful to all affected investigators. This will be accomplished through managed interaction between the investigators. Formulation of such a universal environmental design language may itself constitute a valuable contribution.

The costs of land, development and operation as well as the costs of projected corrective measures will be estimated for all affected interests. Examples are

costs accruing to land owner, developer, occupant, tourist, municipality, state, county and federal agencies.

Secondary physical properties of the design alternatives will be computed for various points in time. Examples are pollution levels (i.e., air, fresh and salt water, noise), water flow patterns (i.e., water supply, estuarine fresh and salt water flows, salt water intrusion, flood problems, etc.), climatic characteristics, scenic atributes, state of natural resources, etc.

Tertiary physical manifestations of the design alternatives will be computed for various points in time. Examples are disturbances of natural ecosystems (i.e., fish resources, bird life, etc.), effects of pollution on human facilities, etc.

An attempt then will be made to identify so called intangible effects of the developments for various points in time. Examples: recreational opportunities, scenic and other aesthetic qualities, community aspects, historical aspects, convenience, etc.

It will be determined how all such capital and operational benefits and disbenefits of the design alternatives relate to various interests for various points in time. Examples: land owners, developers, development occupants, tourists, municipality, county, state, country, and world community, etc.

The value, (which may be positive or negative), of the alternative design configurations accruing to various interest, will be determined at various points in time. Examples: value of development to land owners, developers, occupants, tourists, municipalities, etc.

An attempt will be made to assign relative importance measures to the values for the various interests (e.g., profit to developer versus environmental consumption) and to compute societal values for each design alternative. This attempt will involve difficult philosophical problems. When they can not be resolved through this research effort it may be preferable to illustrate alternative views rather than to make philosophical decisions. With the help of knowledge of consequences of alternative philosophical positions the philosophical issues may be rendered more understandable in the political arena where the decisions must be made.

The evaluation procedures appropriate to the analysis of a complex system at this level of aggregation is expected to prove one of the most difficult tasks for two reasons. First, many of the ecological and aesthetic impacts do not lend themselves to reduction to the usual lowest common denominator, the dollar. Second, experimental results based on initial theoretical work by von Newman and Morgenstern indicates the usual method of taking net benefits as equal to total dollar benefits minus total dollar disbenefits distorts the true picture in favor of higher benefits. True benefits, on the positive side, are likely to be overstated due to the decreasing marginal utility of the benefit dollar. Correspondingly, true disbenefits, on the negative side, are likely to be understated due to the negatively increasing marginal disutility of each disbenefit dollar.

The ideal situation would be to arrive at a single formula which, when the appropriate values are introduced, would yield a *single utility measure* of the societal value of the proposed development prototype. Such a result has been sought by theoreticians and practicioners for many years. In some instances, such as recreational benefit evaluation, proxy measures have been substituted for direct measurement of common property resource evaluation. In others, measures of effectiveness have been developed to rank proposed projects against fixed criteria.

It is the intent of this research to pursue several routes toward improved procedures including applied utility theory, benefit-cost analysis and cost-effectiveness analysis. Experts from the various disciplines will be brought together to establish the complex environmental interactions resulting from community development, to establish measures of these effects and to translate them into quantitative decision mechanisms or procedures identifying the particular impact and the group or factor impacted.

Each decision mechanism will be tested for sensitivity to key parameter values and judged against the others for practical application in other situations.

Whenever feasible, computers will be employed in the evaluation stage. Future applications of the evaluation method will be rendered more economical through computer programs resulting from this effort.

On the basis of the comprehensive analysis and evaluation a relatively small number of preferable utilization prototypes will be selected and used as a basis for design of several sets of governmental implementation measures.

VII. F. 5 Generate alternative hypothetical public measure sets

In this phase hypothetical alternative sets of public measures will be generated for subsequent testing. These will be based on the findings from the preceding stages. It is presumed that the public measure sets will be based on the philosophical principles that they should positively prohibit development effects that are clearly undesirable from the societal viewpoint and foster developments with characteristics deemed clearly desirable from the societal viewpoint while providing maximum tolerable latitude for developmental choice.

The term "public measure sets" is used to denote the combination of various governmental actions required to effect appropriate control over the environmental development process. Such public measures may consist of legislation at various governmental levels. Legislation may range from jurisdictional adjustments via regulations (e.g., performance controls and zoning ordinances) to economic intervention. Other public measures are physical intervention in the form of land acquisition and construction of various improvements. Mention is also warranted for educational measures both via normal educational channels and via other media. All governmental measures will be considered at various points in time.

VII. F. 6. Evaluate and rank alternative sets of public measures

The evaluation of the hypothetical public measure sets requires two tests. First, the sets must be tested for their ability to control the environmental development process so that undesirable effects are avoided and desirable characteristics are obtained. This is proposed to be accomplished through design under realistic conditions. Several developments will be designed which strain against the controls in the interest of the developer. The resulting designs will then be evaluated through comparison with previously developed designs, and as necessary through detailed evaluation by the means already developed in the preceding stages. Their quality will give an indication whether the public measure sets have the desired effects.

Secondly, the public measure sets will be evaluated for their political feasibility. An iterative procedure will be used so that successive public measure set alternatives will be based on knowledge derived from evaluation of preceding alternatives.

VII. F. 7. Dynamic simulation

A desirable element of the study is the prediction of growth of key system factors over time. Due to the multiplicity of dependent factors in such a system, simulation appears to be the appropriate prediction technique. Because of the large-scale continuous macronature of the study, as well as the necessity to represent policies and intangible influences (e.g., employment or aesthetic attractiveness), Industrial Dynamics (10), appears to offer the greatest potential for effective representation of such a system. Forrester's study, Urban Dynamics (11), demonstrates the unique potential offered by the industrial dynamics technique in dealing with the urbanization process.

Therefore, an industrial dynamics model will be developed to serve as an overall unifying mechanism in representing the inputs of all system representation disciplines involved in the study. The model development also establishes initial data requirements. Following model validation, sensitivity analysis will provide a means of identifying additional data needs for refining sensitive factors and representations in the model. Once validated and tested for sensitivity to key factors, the industrial dynamics representation of the actual system becomes an efficient and manageable experimental base for generation of growth prediction of key system factors.

VII. F. 8. Evaluation of the proposed environmental design method and reporting

Finally, the project effort as a whole will be evaluated. The proposed Environmental Design Method will be affirmed, adjusted, or substantially altered as

necessary, and then formalized so that it may be employed economically in other situations. The new method will be reported in a publication prepared jointly by the entire research team. Representatives of various teams and disciplines will prepare supporting reports.

VII. F. 9. Dissemination of results

Knowledge resulting from this research project will be issued in several ways in addition to the normal research reporting and academic publishing and instruction. Contact has already been established with a number of concerned agencies, organizations, and individuals in the Fort Myers area. Early in the project channels of two-way communications will be established with all affected agencies and organizations so that the project may be executed under realistic circumstances and so that research results will find immediate use.

Knowledge will also be disseminated via the University of Florida Marine Advisory Program which is about to be developed within the framework of the University of Florida's Cooperative Extension Service with Sea Grant funding. The Cooperative Extension Service has headquarters on the University of Florida campus and branch offices in all of Florida's 35 coastal counties. These branch offices are already staffed with 150 academic faculty members. For further details regarding the Marine Advisory Program, please refer to the University of Florida Sea Grant application.

VII. F. G. Detailed plan of work

To be supplied in final proposal.

VIII. PROJECT ADMINISTRATION

This ambitious research project requires substantial contributions from several disciplines. Consequently the project is proposed to be performed by a sizable multidisciplinary team initially composed as outlined in Section X. Any need for additional expertise will be identified in the early stages and met as soon as possble through purchase of consultant contributions or expansion of the team.

Overall management of the project will be the responsibility of Professor Orjan F. Wetterqvist, who will be assisted by a management team.

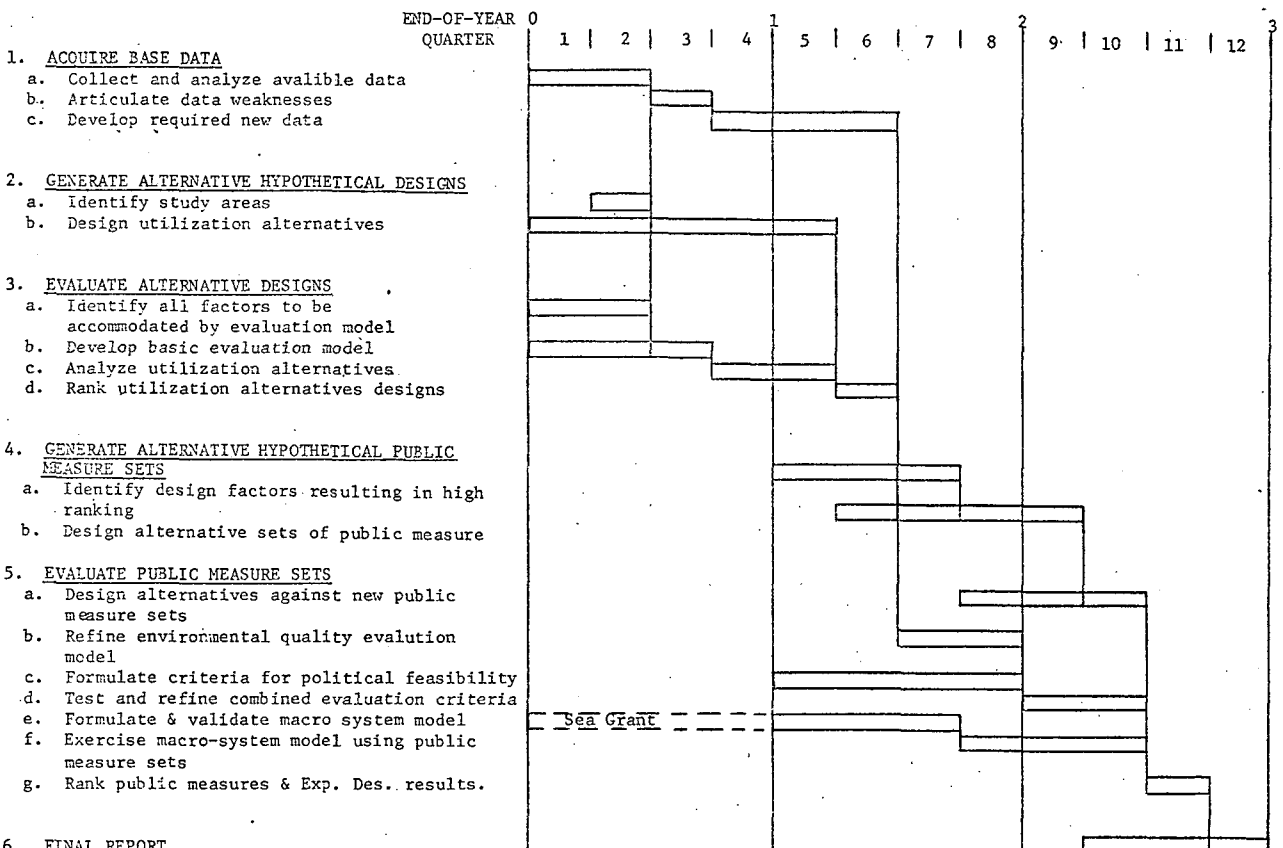
The unique character of the proposed research conducted in a University environment plus the interdisciplinary nature and size of the overall research team will necessitate a correspondingly unique approach to project management. The concept of project management envisaged at this time will rest heavily on proven management techniques such as PERT or CPM. The project management team will initially develop a management plan based on project funding which will establish a logical framework within which the total research team will work. As the project progresses this management plan will be modified as required and documented as to successes and failures.

This project will be the first of its type at the University of Florida and it is anticipated, therefore, that a valuable body of knowledge on applicable management techniques will emerge for guiding similar efforts in the future.

Figure 2 is a graphical presentation of the proposed chronological sequence of events coded to correspond with the identity numbers of Figure 1.

Figure 3 is a breakdown of the time expenditure by the principal investigators of each of the contributing departments, by department. Each department's activity is depicted by two time bars. The top bar indicates task per time period where the task code correlates with the coding of Figure 2. The second bar denotes the number of principal investigators and the full time equivalent of their committment to the project. A summarization of this data also appears on Figure 3.

Figure 4 shows the proposed management organization chart for the project. Every possible effort will be made to take advantage of interdisciplinary research management experience gained from previous projects. The research team is already informing itself of such cases.



TIME CHART OF MAJOR EVENTS

FIGURE 2

END-OF-YEAR	0				1				2				3	Total Quarter FTE Req'd.
QUARTER	1	2	3	4	5	6	7	8	9	10	11	12		
P.I. Dept. Specialty														
AGRICULTURE Tasks (See Fig.2)	1a, 3a, 3b		1b, 3b	1c			1c, 5b							
Principal Investigation - FTE	1 - ½													4
ANTHROPOLOGY	1a, 3a		1b	1c										
	2 - ½		1 - ½											4
ARCHITECTURE	2a, 2b, 3a, 3b		2b, 3b	2b, 3c	2b, 3b, 4a	3d, 4, 5b	3d, 4, 5c	5a, 5b, 5c	5a, 5b, 5d	5a, 5d, 6	5g, 6	6		
	1 - 1, 1 - ½													18
CIVIL ENGINEERING	1a, 3b		1b, 3b	1c			1c, 5b							
	3 - ½		2 - ½											9
COASTAL ENGINEERING	3a, 3b		3b				5b							
	1 - ½						1 - ½							2½
ECOLOGY	1a, 3a, 3b		1b, 3b	1c										
	2 - ½			1 - ½										4½
ECONOMICS	1a, 3a, 3b		1b, 3b	1c, 3c		1c, 3d, 4b	4b, 5b		4b, 5d	5d, 6	5g, 6	6		
	2 - ½									1 - ½				10
ENVIRONMENTAL ENGINEERING	1a, 3a, 3b		1b, 3b	1c, 3c		1c, 3d	5b		5d					
	1 - ½						1 - 1/3							4 1/3

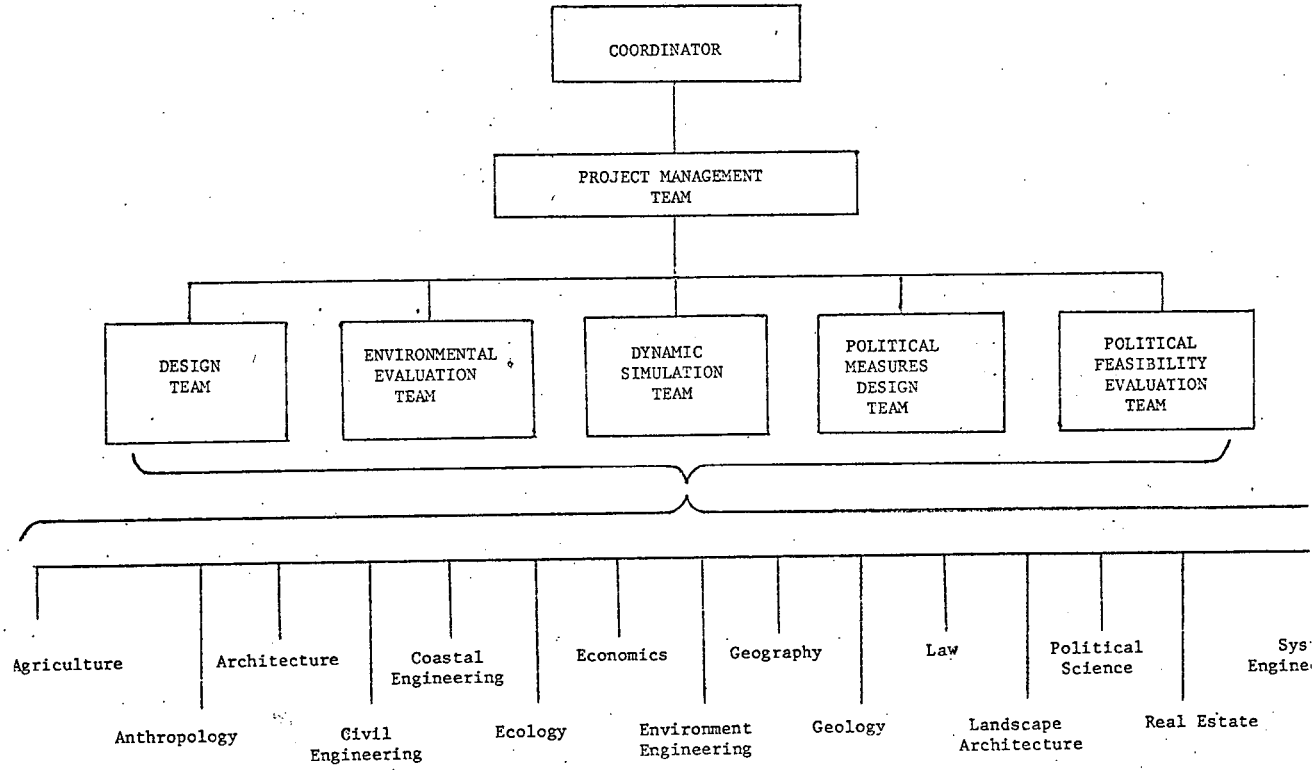
TIME CHART OF PRINCIPAL INVESTIGATOR REQUIREMENTS
FIGURE 3

83-902 O - 71 - 23

P.I. Dept. Specialty	END-OF-YEAR 0				1				2			3	Total Quarter FTE Req'd.
QUARTER	1	2	3	4	5	6	7	8	9	10	11	12	
GEOGRAPHY	1a,3a		1b	1c									2 2/3
	1 - ½				1 - 1/3								
GEOLOGY	1a		1b	1c									2
	1 - 1/3												
LAW	1a		1b		4a,5c	4a,4b,5c		4b,5c	4b,5d	5d			4
	1 - 1/3				1 - ½								
LANDSCAPE ARCHITECTURE	1a,3a,3b		1b,3b	1c			5b						3 1/6
	1 - ½			1 - 1/3									
POLITICAL SCIENCE					4a,4b,5c			4b,5c		5c	6		3 1/3
					1 - 1/3				1 - 1/3				
REAL ESTATE	1a		1b	1c	1c, 4a		4a						2 1/3
	1 - 1/3												
SYSTEMS ENGINEERING	3a,3b,(5e)		3b,(5a)	3c,(5e)		3d,5e	5b,5c,5e	5b,5c,5d,5e,5f			5f,6	6	10
	1 (2) - ½				2 - ½								
TOTAL FTE BY QUARTERS	10 (10½)	10 (10½)	9 (9½)	7 (8)	8 5/6	8 5/6	7	7 1/6	4 1/6	4 1/6	3 1/3	3 1/3	83 5/6
TOTAL PRINCIPAL INVESTIGATORS	20 (21)	20 (21)	17 (18)	15 (16)	17	18	15	14	8	8	6	6	

TIME CHART OF PRINCIPAL INVESTIGATOR REQUIREMENTS (continued)

FIGURE 2



PROJECT MANAGEMENT ORGANIZATION

FIGURE 4

IX. FACILITIES

It is anticipated that no new major facilities will be required to conduct this research. Adequate laboratory, studio, and conference room facilities are available. In order to support the interdisciplinary effort certain contiguous facilities will need to be provided. It is anticipated that these facilities will include: (1) a suite of administrative offices including project coordinator's office, secretarial office and at least two faculty offices in which individuals or small teams of principal investigators may work; (2) at least one, but not more than three design studios devoted primarily, if not exclusively, to the project; (3) a laboratory/study room for the environmental quality and political feasibility evaluation teams; and (4) a combination conference room and library in which team meetings may be held and where special reports and documentation can be conveniently stored for use by the research teams. In order to further promote close association during the conduct of this research, it is expected that a substantial proportion of the research assistants supported by the project will have their study areas within the area designated for the project.

The University owns an IBM 360-65 digital computer system which operates on both a batch mode and a time-sharing mode. While it is expected that this research will require considerable computer time, the present facility is more than adequate to handle anticipated job requirements. A limited amount of funds are budgeted for the purchase of laboratory apparatus to carry on special environmental and ecological studies.

X. PERSONNEL—PRINCIPAL INVESTIGATORS

The research team has as yet not been formally constituted. The following is a preliminary listing of investigators who have made contributions toward this proposal. All disciplines are not as yet represented. The final proposal will name all principal investigators.

Agriculture: (Principal investigator to be named).
Anthropology:
- Solon T. Kimball.
- Robert H. Heighton.

Architecture:
- Orjan F. Wetterqvist.
- Larry Peterson.

Civil engineering:
- B. A. Christensen.
- S. Petryk.
- W. C. Huber.
- Bryon E. Ruth.

Coastal engineering: (Principal investigator to be named).
Ecology:
- Samuel C. Snedaker.
- Howard T. Odum.
- Ariel Lugo.

Economics:
- Milton Z. Kafoglis.
- Dale B. Truett.
- Paul E. Roberts.

Environmental engineering:
- Edwin E. Pyatt.
- James P. Heaney.

Geography: Joshua C. Dickinson, III.
Law: (Principal investigator to be named).
Landscape architecture:
- H. H. Smith.
- J. A. Sanderson.

Political Science:
- Ernest R. Bartley.
- Frank J. Munger.

Real Estate: (Principal investigator to be named).
Systems engineering:
- Richard S. Leavenworth.
- Philip E. Hicks.

XI. BUDGET

A tentative budget has been formulated and appears herein as Figure 5. A detailed budget will be presented in the final proposal.

OCEANIC COMMISSION OF WASHINGTON,
Seattle, Wash.

OCEANOGRAPHIC NEWS FROM WASHINGTON STATE

Oceanic Associates, Inc. (OA) recently shifted its principal offices to 208 Carlson Building, Bellevue, Washington 98004. One of the country's first environmental consulting firms, OA was incorporated here in 1963. While serving almost 100 industrial and governmental clients in many countries during the past 8 years, OA also has had offices in California and Massachusetts. The California office was phased out in 1966; the Boston office remains in operation.

Richard H. vanHaagen, president and technical director of OA, said his firm concentrates "in those areas of commerce and government where money, the environment, and technology all intersect; where difficult decisions must be made based on physical facts and situations, so that people can properly accept, judge, and plan."

Typical areas of experience and expertise are instrumentation, marketing, acquisitions and mergers, planning and siting strategy, information and services, and assembling and guiding case teams from either OA's consultants or the customer's staff.

Among the many studies by vanHaagen are those on methods and plans for combating oil pollution; municipal solid waste disposal; opportunities in coastal mariculture in Asia, Europe, and North America; coastal management; and environmental impact investigations for utilities, government, and industry.

OA's philosophy about the industry-environment conflict is that both elements can co-exist.

"Forest product and petroleum plants needed 10 years to 'close the loop' in computer control of their processes," said vanHaagen, "and they have improved their efficiency and our living standards as a result. The next 10 years will see them closing the loop on their water and heat budgets. These are among the environmentalists' principal concerns."

OA relies on 30–40 environmental scientists and engineers in its consulting work. Their relationship to OA is a loose, "no strings attached" one which gives both parties maximum flexibility at minimum obligation while providing a corporate vehicle when convenient.

"OA invites inquiries not only from potential clients but also from persons with professional training and experience who are interested in the consulting business," said vanHaagen.

AMERICAN INSTITUTE OF PLANNERS,
Washington, D.C., May 28, 1971.

Hon. ERNEST F. HOLLINGS,
Chairman, Subcommittee on Oceans and Atmosphere, Committee on Commerce, U.S. Senate, Washington, D.C.

DEAR CHAIRMAN HOLLINGS: The American Institute of Planners had the opportunity to testify extensively in April of 1970 on the subject of coastal and estua-

rine zone management. Instead of presenting that testimony again, we would like to take this opportunity to submit in writing a statement for the record relative to particular aspects of this issue. I have for reference sake, however, attached a copy of our previous testimony.

Let me begin by congratulating the Subcommittee on the excellent job they have done in distilling all of last year's ideas, statements and testimony to produce the "National Coastal and Estuarine Zone Management Act of 1971", incorporated in S. 582. The American Institute of Planners strongly supports S. 582 and is pleased to note the recognition by this Committee of the importance of a continuing planning process, one that provides for procedures for plan and program modification and procedures for the regular review and updating of the management plan. This kind of language connotes an on-going process which can be reflective of changes in technology, of funding levels, and of social expectations and understanding of the changing nature of Estuarine and Coastal Zone biophysical phenomena, uses and conflicts, and institutional-management techniques.

Basically, as we see them, the differences between the two bills (S. 582 and S. 638) before this Sunbcommittee are quite simple. Section 312 of S. 582 provides for the establishment of estuarine sanctuaries. This is a very important aspect of any coastal zone legislation. Research in this area is scarce and the proposed program is modest, but I think the definition that is provided in Section 304 is quite significant. "Estuarine sanctuary is a research area, which may include waters, lands beneath such waters, an adjacent uplands, within the Coastal and Estuarine Zone, and constituting to the extent feasible a natural unit, set aside to provide scientists the opportunity to examine, over a period of time, the ecological relationships within estuaries." These sanctuaries would permit the study of *natural* ecological relationships, or ecological relationships as they have existed in the past in such sanctuaries. S. 638 does not provide for these kinds of estuarine laboratories that we feel are quite important to our complete study, planning and management of the coastal zones.

Other major differences in the two bills are their funding provisions. S. 638 provides for 50% grants, while S. 582 provides for 66⅔% grants. Again, we support S. 582 because our experiences show that local and State governments have, in programs like water and sewer grants, shopped around in search of higher grant funded programs when a program provides only 50% and very often 50% money just doesn't get used that much. On the other hand, EDA and other high priority areas of concern get 75% monies, and while we support the 66⅔% formula, we feel that a 75% formula funding provision would place this program in an appropriate funding priority.

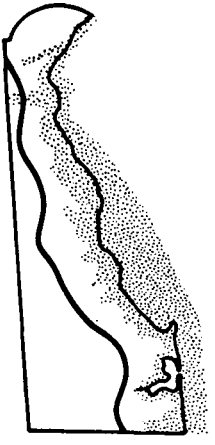
The other major differences are in Section 314 on appropriations. Here again we support the authorization levels in S. 582. The suggested authorization levels in S. 638 are not realistic for accomplishing the identical goals set out in both bills. We support provisions that will authorize $12 million for fiscal year 1972 and as necessary annually through FY 76; and $50 million from 1973 on; $3 million annually for administrative expenses; and $6 million annually for the establishment and management of the estuarine sanctuaries.

S. 582 is vital legislation that is long overdue. It provides the basis for a real and continuing planning and management process underscored with creative and achieved We urge that the Congress act positively on S. 582.

Sincerely yours,

HAROLD F. WISE,
American Institute of Planners.

COASTAL ZONE MANAGEMENT FOR DELAWARE



FEBRUARY 18, 1971

GOVERNOR'S TASK FORCE ON MARINE AND COASTAL AFFAIRS

GOVERNOR'S TASK FORCE ON
MARINE AND COASTAL AFFAIRS

18 February 1971

The Honorable Russell W. Peterson
Governor of Delaware
Dover, Delaware

Dear Governor Peterson:

I have the honor to submit to you the Preliminary Report on the Coastal Zone of Delaware prepared by your Task Force on Marine and Coastal Affairs. This report contains key recommendations concerning the future use of Delaware's Coastal Zone.

The Task Force is now in the process of preparing a Final Report on the Coastal Zone of Delaware which will be completed in four to six months. This report will contain detailed information on the present status, trends and problems relating to the resources of the Coastal Zone and will include recommendations additional to those in the Preliminary Report.

The Task Force wishes to express its sincere appreciation to you for your interest and encouragement to us throughout the past year of our work. We also wish to thank the members of your staff and the Executive Departments of the State, the faculty of the University of Delaware and the many citizens and organizations who have contributed background information on which our recommendations are based.

Sincerely,

James H. Wakelin, Jr.
Chairman

MEMBERS OF THE TASK FORCE

Special Assistant to Governor Peterson and Chairman, Task Force James H. Wakelin, Jr.	Chairman, The Oceanic Foundation, Hawaii and Washington, D. C.
Robert W. Cairns	Vice-President, Hercules, Inc. Wilmington, Delaware
Thomas B. Evans, Jr.*	Thomas B. Evans and Associates Wilmington, Delaware
Nisson A. Finkelstein	President, ILC Industries Dover, Delaware
William S. Gaither	Dean of the College of Marine Studies, University of Delaware Newark, Delaware
Edmund H. Harvey	President, Delaware Wild Lands, Inc. Wilmington, Delaware
Austin N. Heller	Secretary, Department of Natural Resources and Environmental Control Dover, Delaware
Charles H. Mason III	Lewes Beach, Delaware
Executive Secretary, Task Force Amor L. Lane	The Oceanic Foundation, Hawaii and Washington, D.C.

* Resigned from Task Force January 18, 1971

ACKNOWLEDGEMENT

In addition to the Task Force, the following members of State agencies and the University of Delaware contributed significantly to the preparation of this Preliminary Report:

Department of Natural Resources and Environmental Control:	Norman Wilder
Department of Community Affairs and Economic Development:	Richard Murchison
State Planning Office:	David Keifer, David Hugg
University of Delaware:	Joel M. Goodman, Donald Outlaw, Dennis F. Polis, and Gerald F. Vaughn

Many others have contributed in a major way in the preparation of written material which will appear in the Final Report.

FORWARD

This document is a Preliminary Report of Governor Russell W. Peterson's Task Force on Marine and Coastal Affairs and provides certain key recommendations concerning the future of Delaware's Coastal Zone. A more extensive and complete report will be issued in the next four to six months which will contain information on the present status, trends, and problem areas of the Delaware Coastal Zone together with additional recommendations not covered in this report. The more detailed report will address the major resources of Delaware including water management, fisheries and wildlife; additional aspects of recreation including parks, boating, and sportfishing; and a more extensive treatment of environmental quality including, but not limited to waste disposal, pesticides, protection of the beaches and shoreline; and the problems created by mosquitoes and other biting flies. In essence, the Final Report will be the first compilation of available information and data on Delaware's Coastal Zone.

In preparing this document, the Task Force has made use of most of the available information that will appear in the Final Report, even though that has not yet been finalized, assembled, arranged, and edited in a sufficiently well-organized form to issue at this time. In view of the urgency of certain decisions facing the State concerning the use of its Coastal Zone, the Task Force has decided to issue a Preliminary Report.

The recommendations of the Task Force are based necessarily on information found in currently available reports and through interviews, hearings, and conferences. However, many factors bearing on the use and

quality of Delaware's land and water resources in Delaware's Coastal Zone will not be well known for a number of years. Principal features and trends, however, are quite clear.

While this document, as well as the subsequent Final Report, addresses itself to assignments given the Task Force by Governor Peterson, it is a report, in a larger sense, to the members of the Legislature, and to the citizens of Delaware. The Task Force is well aware of the impact that some of its recommendations will have on the State and the well being of its citizens. In the conflicts and competition for the use of the Coastal Zone, the issues made plain to the Task Force here in Delaware are essentially the same as those now faced by the twenty-nine other Coastal Zones states of our country.

The State of Delaware is an integral part of a highly developed and still developing industrial complex. In this context, Delaware has responsibilities to fulfill as part of the Delaware Valley region. However, Delaware also has responsibilities concerning its contributions to the quality of the environment and for the conditions of living for its own citizens. Recognizing the pressures for the many diverse and often conflicting uses of Delaware's Coastal Zone, the Task Force has recommended a course of action that will enhance the quality of life and conserve and improve the natural resources of this area. This may well be the last time that such an opportunity is available to the citizens, to the Legislature, and to the Executive branch of government of Delaware.

I. INTRODUCTION

A. Goals for a Coastal Zone Plan

Early in 1970, Governor Russell W. Peterson appointed a Task Force on Marine and Coastal Affairs "to develop a master plan for our coastal and bay areas". Since its first meeting on April 28, 1970, the Task Force has been analyzing the diverse facets of Delaware's problems in the Coastal Zone. It was early recognized that many of the factors essential to a sensible master plan were either unavailable or were incompletely understood. Accordingly, the approach the Task Force took was to define as its major objective the preparation of policy guidelines and certain key recommendations for the management and conduct of marine and coastal affairs for the State of Delaware. Such guidelines must include the wise use of the water and land resources of the State's Coastal Zone for the economic and social benefits of its citizens. This plan should guide such future actions by the State as may be required to achieve a balance among the following desirable goals:

1. Preserve and improve the quality of life and the quality of the marine and coastal environment for recreation, conservation of natural resources, wildlife areas, aesthetics, and the health and social well being of the people.
2. Promote the orderly growth of commerce, industry and employment in the Coastal Zone of Delaware compatible with goal #1.
3. Increase the opportunities and facilities in Delaware for education, training, science and research in marine and coastal affairs.

B. Definition of the Coastal Zone

THE TASK FORCE RECOMMENDS THAT, FOR GOVERNMENTAL REGULATIVE PURPOSES, THE COASTAL ZONE IN DELAWARE BE DEFINED TO INCLUDE A PRIMARY AND SECONDARY COASTAL ZONE. IT FURTHER RECOMMENDS THAT THE PRIMARY COASTAL ZONE INCLUDE THAT AREA WHICH EXTENDS SEAWARD TO THE BOUNDARY OF THE STATE'S JURISDICTION; SOUTH OF REEDY POINT ON THE C AND D CANAL THE LANDWARD EXTENT SHOULD INCLUDE THE AREA BELOW AN ELEVATION OF 10 FEET ABOVE MEAN SEA LEVEL OR ONE MILE FROM THE MEAN SEA LEVEL MARK ON THE DELAWARE RIVER AND BAY OR OCEAN SHORE WHICHEVER IS THE GREATEST DISTANCE INLAND; NORTH OF REEDY POINT THE LANDWARD EXTENT SHOULD INCLUDE THE AREA BELOW AN ELEVATION OF 10 FEET ABOVE MEAN SEA LEVEL. THE ENTIRE C AND D CANAL WITHIN DELAWARE AND THE ADJACENT SHORE FOR A DISTANCE OF ONE MILE ON EACH SIDE SHOULD ALSO BE INCLUDED WITHIN THE PRIMARY COASTAL ZONE. THE SECONDARY COASTAL ZONE SHALL BE DEFINED TO EXTEND FROM THE BOUNDARY OF THE PRIMARY COASTAL ZONE LANDWARD SO AS TO INCLUDE ALL OF THAT AREA WITHIN THE ATLANTIC COAST - DELAWARE BAY COASTAL DRAINAGE SYSTEM.

Throughout the balance of this Report, unless specific reference is made to the contrary, the term Coastal Zone will refer to the "Primary" Coastal Zone. Land use activities within this Primary Zone are described and evaluated by the Task Force in much greater detail because most of the major decisions influencing land and water use occur in this portion of the Coastal Zone. The ten feet above mean sea level contour, generally the landward extent of this zone, is also an important index to major tidal floods which are projected to this elevation at a frequency of one year in a hundred.

Important environmental changes, however, also occur in the Primary Zone due to events which originate in areas further to the interior. Accordingly, the Task Force recommends that a "Secondary" Coastal Zone be included in the definition of the total Coastal Zone. This Secondary Zone extends landward to the watershed division line for all drainage to the Delaware, Rehoboth, Indian River and Little Assawoman Bays. For the purposes of this report, the Secondary Coastal Zone is sufficient to permit evaluations of the effects of all agricultural, industrial and domestic discharges from this zone into the bays and ocean.

It is recommended that when these definitions are incorporated into a legal description, the land boundary of the Primary Coastal Zone be surveyed on the ground as a series of straight lines connecting permanent monuments which approximate the landward boundary described above.

It is recognized that the Mean Sea Level mark on the shore changes from year to year, and that for the purposes of a legal description reference be made to the date of survey and the 1929 Sea Level Datum. It is recommended that boundaries be resurveyed at approximately 50 year intervals.

The Coastal Zone of a state is generally defined to include the bays, estuaries and waters within the territorial sea or the seaward boundary, whichever is the further offshore and extending inland to the "landward extent of maritime influences".

The specific definition of a Coastal Zone has been left to each of the states to determine. On the landward side there are many accepted ways to define the zone. Some states include all of that land area which provides

natural drainage to the land-sea interface to be the landward extent of their Coastal Zone. Other states have more precisely limited the landward area to that determined by the highest high tide of record in a 100-year period or by some specified distance landward from the line of the highest normal spring tide.

In considering the definition of the Coastal Zone, the Task Force recommended that the extent of the Primary Zone approximate this once in a century highest high tide of record, and that the extent of the Secondary Zone encompass such additional landward areas which lie within the Atlantic Coast - Delaware Bay coastal drainage system.

A map has been enclosed in this report showing the approximate location of the Coastal Zone in Delaware. It should be noted that the landward boundary of the Primary Coastal Zone approximates certain highways in the State which are also shown on the map. As indicated, the Coastal Zone embraces the lands along the Atlantic Coast, Delaware River and Bay, the Little Bays, portions along the Chesapeake and Delaware Canal, the wetlands, and subaqueous lands.

C. Importance of the Coastal Zone

The Coastal Zone of Delaware is an invaluable and in many respects irreplaceable resource to the State, Region and Nation. Because of the State's size and location, there is a continuous interaction of land and sea influencing nearly all of the State. Delaware has a total saltwater shoreline of approximately 160 miles in length and a total land area of 1,983 square miles. No part of the State is more than about 8 miles from tidewater.

When considered together with the general absence of other significant topographic features and the lack of traditional mineral resources, Delaware River and Bay and other coastal bays represent not just a factor in the State's geography, but a determining factor in its history, economy and way of life.

The Delaware River and Bay is the water gateway to a great industrial and commercial complex of the Delaware Valley. The coastal bays of Delaware are part of a system of shallow water estuaries which are the nursery and rearing grounds for most fin fishes important to both commercial and sport fishermen along the East Coast of the United States. In fact, about two-thirds of the fish landed by U.S. fishermen spend part of their lives in an estuary. The tidal wetlands in Delaware, encompassing about 120,000 acres, are an important link in these grounds and provide breeding areas for birds, mammals and shellfish, produce food for all of these and are part of the aesthetic quality of the shore region.

The Atlantic Ocean, Delaware Bay and the other coastal bays and their surroundings are prime attractions for persons seeking water based recreation adjacent to the East Coast megalopolis.

Many early residences, industries and other places of historical and cultural significance are closely associated with the Coastal Zone because the tidal streams and bays provided the principal transportation routes for early settlers. To this day, the prosperity of municipalities such as Wilmington, New Castle, Delaware City, Odessa, Smyrna, Dover, Milford, Milton, Lewes, Rehoboth Beach, Bethany and Fenwick Island is closely linked to one or more coastal assets such as water transportation, water-based recreation and water based industry.

63-902 O - 71 - 24

Most of the Coastal Zone contains extensive open spaces consisting essentially of salt marshes and adjoining farms and woodlands bordering the Delaware River and Bay and Rehoboth, Indian River and Assawoman Bays. The marshes not only provide habitats for fish and wildlife and provide aesthetically pleasing surroundings, as indicated above. They are also important because such areas provide resources for recreational activities which relieve man's tensions, aid in reducing air pollution, and act as buffers against flood damage.

II. ENVIRONMENTAL QUALITY

A. General

THE TASK FORCE RECOMMENDS THAT THE STATE REQUIRE AN ENVIRONMENTAL IMPACT STATEMENT WITH ASSOCIATED PUBLIC HEARINGS OF ALL MAJOR DEVELOPMENT PROJECTS WITHIN DELAWARE'S COASTAL ZONE WHICH ARE EITHER BEING PROPOSED OR ARE ALREADY UNDERWAY BUT NOT YET COMPLETED. THESE STATEMENTS SHOULD BE FURNISHED BY THOSE PROPOSING OR PERFORMING THE PROJECTS.

On January 1, 1970, a very significant Federal law was enacted, the National Environmental Policy Act of 1969 (Public Law 91-190). Section 101 (b) of the Act stated that it is the "continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may --

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive, aesthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice;

(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources."

Section 102 of the Act calls for detailed statements by pertinent Federal officials concerning the environmental impact of any proposed actions which might significantly affect the environment.

On April 30, 1970 Interim Guidelines were issued by the newly created Federal Council on Environmental Quality. These guidelines were aimed at clarifying the points to be covered in the environmental statements. The first two of these points are reproduced below:

"(i) The probably impact of the proposed action on the environment, including impact on ecological systems such as wildlife, fish and marine life. Both primary and secondary significant consequences for the environment should be included in the analysis. For example, the implications, if any, of the action for population distribution or concentration should be estimated and an assessment made of the effect of any possible change in population patterns upon the resource base, including land use, water, and public services, of the area in question.

(ii) Any probably adverse environmental effects which cannot be avoided (such as water or air pollution, damage to life systems, urban congestion, threats to health or other

consequences adverse to the environmental goals set out in section 101 (b) of Public Law 91 - 190)."

The Task Force believes that the contents of the proposed State required environmental impact statements should be similar to the Interim Guidelines issued by the Federal Council on Environmental Quality. It is anticipated that these State required environmental impact statements will be of major value to Delaware in assessing the threats to the quality of the environment, accompanying any new commercial or recreational developments, early enough to take appropriate action.

In addition, the Task Force recommends that Delaware insist on the implementation at the National level of the procedures required by the National Environmental Policy Act of 1969 with respect to all significant activities in the interstate waterways, such as the Delaware River and Bay, the C and D Canal, and the Atlantic Ocean adjacent to Delaware.

The Task Force has considered several major issues in environmental quality. These include oil spills, industrial and municipal wastes, heavy metals in particular, thermal pollution, pesticides, and the problems associated with mosquitoes and other biting flies. Specific recommendations on these subjects will be provided in the Final Report of the Task Force.

B. Accidental Oil Spills: A Contingency Plan

THE TASK FORCE RECOMMENDS THAT THE STATE DEVELOP A CONTINGENCY PLAN FOR THE PREVENTION AND CLEANUP OF MAJOR SPILLS. THE PLAN SHOULD BE COORDINATED WITH THE COAST GUARD, THE FEDERAL ENVIRONMENTAL PROTECTION AGENCY, WITH NEW JERSEY AND PENNSYLVANIA THROUGH THE DELAWARE RIVER BASIN COMMISSION, AND WITH MARYLAND.

This plan should examine all aspects of oil spills including prevention, surveillance, and cleanup where the latter refers to source control, containment, protection of the environment during the spill, pollutant recovery, restoration of the damaged resources, and disposal of the recovered pollutants. The plan should also deal with the costs of cleanup, and a clarification of liability.

In developing the plan, the State should consider such guidelines as the following:

- The State, in conjunction with the Coast Guard, should develop monitoring and control procedures over existing lightering operations in the lower bay, and the transport of oil and other hazardous material in Delaware waters.

- A "strike force" should be established consisting of personnel who shall be trained, prepared, equipped, and available to carry out the plan.

- A substantial emergency fund should be created by the State to finance cleaning up oil spills. Procedures for the recovery of costs and damage should be established. The party responsible for the spill should be liable for all costs plus the damage caused to aquatic life and property.

- A lightering inspection fee should be imposed on transferred products to create an environmental protection fund. This fund should be used to finance protective procedures against oil spills and other toxic discharges including ballest and bilge discharges.

III. INDUSTRY AND COMMERCE

A. Deep Water Port

THE TASK FORCE RECOMMENDS AGAINST APPROVAL AT THE PRESENT TIME OF ANY DEEP WATER PORT FACILITY OR OFFSHORE ISLAND IN THE LOWER DELAWARE BAY BECAUSE:

- ANY EXPECTED ECONOMIC BENEFITS TO DELAWARE OF THE PROPOSED LOCATION IN THE BAY APPEAR TO BE MORE THAN OFFSET BY THE CONSIDERABLE ADDITIONAL RISK TO THE ENVIRONMENT.
- SUCH A FACILITY WOULD ENCOURAGE THE DEVELOPMENT OF INCOMPATIBLE HEAVY INDUSTRY AND ACCOMPANYING URBANIZATION ALONG THE SHORELINE.
- SUCH A FACILITY REQUIRES MAJOR OFFSHORE STRUCTURES, DREDGING, AND FILLING OF THE BAY WHICH CONSTITUTES A FORM OF HEAVY INDUSTRY IN ITSELF.
- SUCH A FACILITY WOULD CONTRIBUTE A MAJOR RISK OF ADDITIONAL POLLUTION IN THE BAY AND ALONG THE SHORELINE WITH ACCOMPANYING DELETERIOUS EFFECT ON ESTUARINE LIFE.

MOREOVER, THE TASK FORCE BELIEVES THAT OTHER REASONABLE ALTERNATIVES HAVE NOT YET BEEN SUFFICIENTLY INVESTIGATED. THE TASK FORCE RECOMMENDS THAT BECAUSE OF THE IMPORTANCE OF SUCH A PORT TO THE ECONOMY OF THE MID ATLANTIC REGION, THE TECHNICAL AND ECONOMIC FEASIBILITY OF AN OFFSHORE FACILITY ON THE CONTINENTAL SHELF SHOULD BE EXPLORED ON A REGIONAL BASIS WITH THE FEDERAL GOVERNMENT. THE CONCEPT OF A FACILITY FOR DEEP DRAFT VESSELS, PERHAPS 25-50 MILES OFFSHORE, HAS BEEN SUBMITTED TO THE TASK FORCE. SUCH A FACILITY FOR THE TRANSFER OF OIL AND BULK CARGOES WOULD ACCOMMODATE VESSELS ABOVE 250,000 TONS, WELL BEYOND THE PRESENT LIMITS OF CAPABILITY OF ANY DEEP WATER PORT WITHIN THE DELAWARE BAY.

One of the major national issues in this country concerns the need for a deep water port to serve the East Coast of the United States. Federal agencies are now conducting studies concerning its economic and engineering feasibility. Major industries, such as petroleum, coal, and iron ore, have been examining the Lower Delaware Bay as a prime location on the East Coast for providing a naturally deep and sheltered harbor. This is also considered a desirable location due to its proximity to raw materials and markets.

The Delaware River and Bay is the largest import region in the United States. It contains, north of the Chesapeake and Delaware Canal, the largest concentration of oil refineries on the East Coast, and it is the second largest port area (taken as a region) in tonnage of commerce.

The supply of crude oil to the present seven refineries of the Delaware estuary has grown to almost 1,000,000 barrels a day. However, the continuation of growth essential to the economy will result in increased reliance on lightering operations which will be increasingly difficult to monitor and control under present procedures, thereby raising pollution risks substantially. Those supporting a deep water facility for off loading to a pipeline state that such a facility could conceivably reduce this risk and thereby enable a substantial growth in tonnage transported.

Advocates of a Lower Bay deep water port location also point out that it is impossible, ecologically and economically, to dredge a sufficiently deep channel (i.e. in the order of 80 feet) from the Lower Bay to Philadelphia to handle the anticipated large ships of the late 1970's and 1980's. They also emphasize that an offshore deep water facility for the off loading of oil in

the Lower Bay would reduce the traffic to the Philadelphia area. In addition, it would minimize the need to conduct lightering operations in the Bay. These advantages would, according to the advocates, improve the situation that already exists, and could reduce chances for an accidental spill of oil or other hazardous substances.

Two public meetings conducted by the Army Corps of Engineers in early 1970, however, produced strong protests from the public who warned of the potential for ecological disaster from accidental oil spills and of the inevitable development of incompatible heavy industry and its effect on the way of life in the region. While possible economic advantages of such a terminal were acknowledged, opponents pointed out that one major spill from a supertanker inside the Bay could be catastrophic to tidal marshes and coastal resorts in southern Delaware and New Jersey. Moreover, the additional dredging required to construct a port of this magnitude and to provide and maintain a channel with a depth of eighty feet or more extending to the mouth of the Bay could result in incalculable environmental harm.

Opponents of the deep water port in Delaware Bay have suggested that industry consider locating an offshore terminal on the Continental Shelf, at a distance of 25-50 miles from the mainland. If this concept were proven feasible, several such terminals could be located along the East Coast, with a consequent reduction of the concentration of shipping at one point and a corresponding risk of environmental damage to that portion of the coastline nearest to the terminal. Single buoy mooring systems for off-loading oil from tankers to pipelines which transfer the oil to the coastline have been

installed in over 50 locations around the world. Other concepts, such as floating terminals, have been suggested and should be considered in any feasibility study of Continental shelf bulk transfer terminals.

B. Introduction of New Industry into Delaware's Coastal Zone

THE TASK FORCE RECOMMENDS THE ENCOURAGEMENT OF NEW INDUSTRIES WHICH ARE COMPATIBLE WITH HIGH ENVIRONMENTAL STANDARDS AND WHICH WOULD EMPLOY A RELATIVELY HIGH RATIO OF EMPLOYEES IN RELATION TO THE SPACE OCCUPIED AND PUBLIC SERVICES REQUIRED.

THE TASK FORCE ALSO RECOMMENDS THAT THERE BE NO FURTHER INTRUSION OF INCOMPATIBLE HEAVY INDUSTRY INTO THE COASTAL ZONE SINCE POLLUTION AND OTHER ADVERSE ENVIRONMENTAL AND SOCIAL EFFECTS, NORMALLY ATTENDANT UPON SUCH DEVELOPMENTS, PRESENT SERIOUS THREATS TO THE COASTAL ENVIRONMENT, THE NATURAL RESOURCES OF THE BAYS, AND THE QUALITY OF LIFE IN DELAWARE.

The Task Force specifically includes as incompatible heavy industries such installations as steel mills, paper mills and oil refineries, and any other industry that traditionally introduces unacceptable quantities and types of pollutants into the air, land or water and, by its very size and nature, causes massive adverse environmental changes over a wide area.

IV. RECREATION

A. General

Outdoor recreation is recognized as an already existing major desirable activity in Delaware because of its favorable impact on the quality of life and the economy of its citizens. It is also recognized that the success of this activity is strongly contingent upon the maintenance of a satisfactory level of environmental quality.

IN VIEW OF THE CLOSE RELATIONSHIP BETWEEN RECREATION AND THE ENVIRONMENT AND BECAUSE OF THE IMPORTANCE OF RECREATION TO THE WELL-BEING OF THE PEOPLE OF DELAWARE, THE TASK FORCE RECOMMENDS THAT THE STATE DO THE FOLLOWING:

- MAKE A FULL ASSESSMENT OF THE TOTAL OUTDOOR RECREATIONAL ACTIVITIES IN THE STATE'S COASTAL ZONE, INCLUDING SWIMMING, BOATING, SPORT FISHING, TOURISM, CAMPING, AND SIGHTSEEING.
- INSURE THAT SUFFICIENT RECOGNITION IS ACCORDED TO THE NEED FOR, AND ACCESS TO, ADEQUATE RECREATIONAL FACILITIES.
- INSURE THAT CAREFUL CONSIDERATION OF THE COASTAL ZONE ENVIRONMENT BE MADE AN INTEGRAL PART IN THE PLANNING FOR SUCH ACTIVITIES AS HOUSING, INDUSTRY, TRANSPORTATION, AND WATER MANAGEMENT INCLUDING IMPOUNDING, DRAINING, DREDGING AND MOSQUITO CONTROL.
- ENCOURAGE THE PARTICIPATION OF PRIVATE ENTERPRISE IN EXPANDING THE STATE'S RECREATIONAL ACTIVITIES.

Certain aspects of recreation, such as sportfishing, were evaluated in 1956 and 1968. A major step in the appraisal of Delaware's recreation potential was the issuance of the October 1970 Comprehensive Outdoor Recreation Report. However, these studies require further extension in a number of ways particularly in terms of economic analysis. An adequate

measurement of the total recreation potential is essential for managing the Coastal Zone to the optimum extent. Knowledge of the economic aspects of outdoor recreation is essential in weighing priorities for land and water uses in future planning and regulatory decisions. However, since the degree of satisfaction of recreation to the user is frequently beyond economic measure, decisions involving such factors as the physical and mental health and well-being of the user must also rely heavily on value judgments. Knowledge of the physical facility limitations on outdoor recreation is also essential in determining the carrying capacity for recreational use of the coastal zone.

B. Resorts - Tourism

THE TASK FORCE RECOMMENDS THAT THE STATE HELP LOCAL COMMUNITIES TO DEVELOP ADDITIONAL RECREATIONAL AREAS AND TO PROVIDE ADEQUATE PUBLIC FACILITIES FOR TOURIST SERVICES.

The carrying capacity of Delaware's tourist attraction areas should be determined by detailed studies and planning to consider such factors as amount of usable water front, parking facilities, sewage, water supply, transportation, and other public facilities and their relationship to quality recreation.

Tourism should be encouraged in areas of high carrying capacity. The carrying capacity will vary with the state of development. Certain areas encompassing the Delaware Bay, Atlantic Coast, Small Bays, and several State recreational facilities currently have a level of usage which exceeds the capacity of existing facilities. Temporarily, these locations should not be

heavily promoted, but rather, the State's efforts should be concentrated on expansion of the services and facilities necessary to permit the optimum use of these areas. Efforts should also be directed toward expanding the tourist season, especially where carrying capacity is exceeded during the prime season.

V. COASTAL ZONE REGULATION AND ACQUISITION

A. Coastal Zone Legislation

THE TASK FORCE RECOMMENDS THAT, BEFORE THE MORATORIUM ON COASTAL ZONE DEVELOPMENTS IS ALLOWED TO EXPIRE, LEGISLATION FOR ADEQUATE LAND AND WATER USE CONTROLS SHOULD BE ENACTED FOR THE ENTIRE DELAWARE COASTAL ZONE.

Adequate land and water use controls should include zoning, a system of permits, strengthened subaqueous land laws, cease and desist authority, and required environmental impact statements on all major public and private construction projects.

The legislation should enunciate a strong commitment of legislative intent which reflects awareness of Coastal Zone problems and values, states a general policy of estuarine management, and a specific policy of wetlands preservation.

The planned Open Space concept for the Coastal Zone from Reedy Point to Cape Henlopen and a portion of the lands surrounding Rehoboth, Indian River and Little Assawoman Bays was advanced in the Delaware Comprehensive Outdoor Recreation Plan (October 1970). This concept proposed to conserve these areas for quality outdoor recreation in such a way as to make them highly attractive to a variety of pursuits including swimming, boating, fishing, picnicking, hunting, and sightseeing; and to preserve the role of the wetlands as a suitable habitat for wildlife and as a source of nutrients and nursery grounds for oysters and other commercial fisheries. Since these activities have not been compatible with most kinds of heavy

industry or with over-commercialization of recreational pursuits, land-use controls will be necessary to encourage high quality recreation and fisheries and to discourage the industries and commerce that adversely affect the environment.

Legislation will be necessary as indicated by the following:

1. Land and Water Use Controls Throughout the Primary Coastal Zone.

- Establish the right of the State, in consultation with the Federal Government, neighboring states, and local governments, to plan for and to determine overall development patterns, through State zoning, within the seaward (subaqueous) portion of the Primary Coastal Zone, such as the Delaware and Little Bays and Atlantic Ocean.

- Establish the right of the State, in consultation with the counties and municipalities, to set enforceable minimum standards for land use controls within the landward portion of the Primary Coastal Zone. Such action would not do away with county and municipal planning and zoning within this area. Rather, the standards would be used as a framework for county and municipal planning and zoning. The advantage of enacting this legislation is that it would permit the local governments to retain some flexibility in determining future uses in their areas, and it would give the State the power of review and approval in case of conflict between local practice and State land and water use policy.

These recommended land and water use responsibilities of the State, in the Primary Coastal Zone, should be considered as the major key to the implementation of the State's planned Open Space concept and should be strengthened as quickly as possible by wetland protection legislation and State acquisition of key areas.

2. Wetlands portion of the Primary Coastal Zone. Provide for the preservation of wetlands and establish controls over those types of alterations which would cause environmental degradation.

B. Acquisition

THE TASK FORCE RECOMMENDS THAT THE STATE FUNDING SCHEDULE PROJECTED BY THE 1970 DELAWARE COMPREHENSIVE OUTDOOR RECREATION PLAN FOR THE ACQUISITION OF PUBLIC LANDS IN THE COASTAL ZONE BE SUBSTANTIALLY ACCELERATED.

The State should stand ready to protect the character, natural potential and features of open spaces within the Coastal Zone. In order to supplement the zoning or permit tools, sufficient funds should be made available for acquisition in certain key areas to prevent environmental damage, to maintain the desired development pattern, and to protect the options for Coastal Zone use for future generations.

The Task Force also recommends the acquisition of certain key areas where it has been found essential for efficient public management and for adequate public access. The Delaware Comprehensive Outdoor Recreation Plan (page 143) has identified such areas for public acquisition.

The pressures for land development in the Delaware Coastal Zone are evident. It must also be noted that the opportunity to preserve open spaces is rapidly being lost by continued developments, by constantly rising real estate prices, and by continued commitment to long range planning and study by industrial and commercial interests and developers. The State should act quickly to acquire areas deemed essential.

Work undertaken as part of the October 1970 Delaware Comprehensive Outdoor Recreation Plan determined that public land purchases of about $10 million will be necessary during the two year period FY 1971 and FY 1972. The Recreation Plan also recommended that an additional $12 million be spent in the FY 1973-76 period (See pages 201-206 of the Plan).

The Task Force believes, however, that considerable savings will result to the State by a larger initial appropriation for land purchases to forestall further escalation of land prices which are inherent in protracted land acquisition programs.

It is important to note that this recommended level of funding for land acquisition is based on the assumption that the State will have adequate land and water use controls as recommended in this Report.

63-902 O - 71 - 25

VI. RESEARCH AND EDUCATION

A. State Supported Research Program

THE TASK FORCE RECOMMENDS A SUBSTANTIAL INCREASE IN FUNDING FOR A COASTAL ZONE RESEARCH PROGRAM TO FURNISH THE SCIENTIFIC AND TECHNICAL INFORMATION ON WHICH THE STATE WILL MAKE ITS COASTAL ZONE MANAGEMENT DECISIONS. THE STATE, IN CONSULTATION WITH THE COASTAL ZONE ADVISORY COUNCIL (See Page 7-4) AND THE COLLEGE OF MARINE STUDIES, SHOULD DETERMINE THE PRIORITIES AND RECOMMEND THE FUNDING LEVEL OF COASTAL ZONE RESEARCH NEEDED FOR EFFECTIVE COASTAL ZONE MANAGEMENT IN DELAWARE. IT IS FURTHER RECOMMENDED THAT THE COLLEGE OF MARINE STUDIES OF THE UNIVERSITY OF DELAWARE BE ASSIGNED A MAJOR ROLE IN THE CONDUCT OF THIS RESEARCH PROGRAM AND THAT IT CREATE A COASTAL ZONE TECHNICAL SERVICES DIVISION WITH BASE FUNDING FROM THE STATE TO MEET THESE NEEDS.

The Coastal Zone Research Program should include economic, social, and legal aspects, in addition to natural and physical sciences and engineering. The State should make maximum use of the existing capabilities of Delaware industry and recognize the special competence of academic institutions in the State. The State should work closely with neighboring States on problems overlapping their jurisdiction, such as the proposed baseline study of the Delaware estuary. The State

should also have an in-house research management capability to facilitate the solution of short term problems; to enhance the State's monitoring and analysis functions concerning the conditions of Delaware's marine resources for more effective regulation, enforcement, and management; and for administrative fact-finding. It is anticipated that the skilled technical services needed to accomplish these purposes can frequently be accompanied by contracting with industry and academic institutions, under the direction of the State's research management.

The State should recognize the recent efforts of the University of Delaware in expanding its capabilities in marine and coastal research. In recognition of this increasing capability, the State, in the conduct of its Coastal Zone Research Programs, should maintain close professional association with the University's College of Marine Studies. Moreover, the University should be sufficiently equipped with the necessary facilities and assured of adequate institutional funding for continuity and maintenance of both programs and facilities. The funding should be allocated for education as well as the research appropriate to the University's function. It is further expected that the College of Marine Studies will be called upon by the State for special projects, such as research elements of the Delaware Baseline Study. The creation of a Coastal Zone Technical Services Division by the College of Marine Studies will facilitate services to the State over and above those already provided by the University in its Coastal Zone student training program.

B. Marine Science Center

THE TASK FORCE AGREES THAT A MARINE SCIENCE CENTER SHOULD BE ESTABLISHED UNDER THE MANAGEMENT DIRECTION OF THE COLLEGE OF MARINE STUDIES OF THE UNIVERSITY OF DELAWARE. THE MARINE SCIENCE CENTER WOULD INCLUDE FACILITIES FOR THE COLLEGE OF MARINE STUDIES, A COASTAL ZONE RESEARCH LABORATORY, ADJACENT SPACE FOR RESEARCH ORIENTED MARINE INDUSTRIES, A PUBLIC INFORMATION CENTER, AND A SCIENTIFIC INFORMATION CENTER FOR DELAWARE BAY AND THE MID-ATLANTIC REGION.

The State of Delaware has long been dependent on many facets of the marine environment for its well being. Historically, it has had a significant role in shipbuilding, marine transportation, fisheries and, more recently, an extensive marine oriented recreational industry. In addition, the value of marine research was recognized officially by the State in the early 1950's when it established the Marine Laboratory of the University of Delaware and stated that one of its functions should be to furnish scientific and technical assistance to the State Executive Branch. Since that time an increasing emphasis has been placed on marine science by the University of Delaware. In the summer of 1970, the Board of Trustees approved the establishment of a College of Marine Studies. This unit has the potential to encourage the growth of a marine research and educational organization which could achieve a position of national and international stature by the end of the present decade. Of particular value to the State of Delaware is the

scientific strength of the College of Marine Studies and its concern for the problems of the State of Delaware and the mid-Atlantic region. Research at the University, sponsored through the Federal Sea Grant Program, is building a strong scientific base for the study of estuarine and coastal processes appropriate for the function of a Coastal Zone Research Laboratory and its attendant advisory role to the State. The establishment of a Marine Science Center would do much to assure the growth of this capability.

Components of the proposed Marine Science Center are described in greater detail in the Final Report to be submitted in four to six months.

C. Baseline Study

THE TASK FORCE RECOMMENDS THAT A COMPREHENSIVE BASELINE STUDY OF THE PRINCIPAL WATER BODIES OF DELAWARE'S COASTAL ZONE BE PERFORMED WITH THE UNIVERSITY OF DELAWARE HAVING THE MAJOR ROLE IN THE PLANNING OF THE STUDY AND THE SUBSEQUENT SCIENTIFIC RESEARCH. MOREOVER, THE BASELINE STUDY SHOULD BE PERFORMED IN COOPERATION WITH NEW JERSEY, MARYLAND, THE DELAWARE RIVER BASIN COMMISSION, AND THE FEDERAL GOVERNMENT.

IN CONJUNCTION WITH THE STUDY, A CONTINUOUS MONITORING SHOULD BE INITIATED AND MAINTAINED BY THE STATE OF SELECTED PHYSICAL PARAMETERS AND BIOLOGICAL PHENOMENA WHICH ARE PERTINENT TO THE STATE'S REGULATORY FUNCTIONS.

This program should include studies in biology, chemistry, physical oceanography, climatology, hydrology and geology. The program should be supported by appropriate studies in the surrounding tidal marshes and streams, the Atlantic Shelf Area, the Chesapeake and Delaware Canal, and the Delaware River. This study is expected to involve about five years of scientific work, with preliminary results published on the basis of the first one and two years of work. It should include among its objectives the description of the Bay's physical and biological resources, and the establishment of practical predictive models.

There is a need for information on the natural state of the Delaware Bay and its surroundings to form the basis for rational decisions on utilization. This need is recognized by most of those concerned with the conservation, regulation, or development of Delaware's Coastal Zone. It is made more acute by present and proposed projects destined to affect the system. Among these are: an ensemble of off-shore developments associated with deep-draft vessels, the Tocks Island Reservoir, the enlargement of the Chesapeake and Delaware Canal, the installation of waste treatment plants at Philadelphia and in Kent and lower Sussex Counties, and the Salem Nuclear Generating Station.

All of these projects have supporting engineering studies associated with them and some have ecological surveys as well. The difficulty is that these studies have restricted themselves in the

past to the immediate vicinity of a project and have not related to the Bay as an interdependent system. In addition, a comprehensive, integrated study of the Bay has been too costly and time consuming to charge to any one project - especially when many separately funded projects would utilize the information; nevertheless, there is a necessity to establish a scientific baseline defining the present condition of the Bay and River as an interrelated system. The study establishing this baseline should be of such a nature as to shed substantial light on the dynamics of the system and to form the basis for practical predictive models of the Delaware River-Bay complex.

The Baseline Study will provide the basis for a systematic review of all projects involving the principal water bodies of Delaware's Coastal Zone. It will not relieve individual development projects of the need for intensive local studies but will provide a context in which these local evaluations can be seen in relation to the Coastal Zone as a whole.

VII. COASTAL ZONE MANAGEMENT STRUCTURE

A. Need for a Coastal Zone Management Structure

THE TASK FORCE RECOMMENDS THAT A FOCAL POINT FOR COASTAL ZONE MANAGEMENT BE ESTABLISHED IN THE EXECUTIVE BRANCH OF THE STATE GOVERNMENT.

This report has delineated the significance of the Coastal Zone to the people of Delaware. It has also discussed its special vulnerability to rapid degradation unless proper steps are taken. Many of these steps were outlined in previous chapters of this report and include the need to recognize its importance, to define its extent for administrative purposes, to enact suitable legislation, to regulate its use for the optimum benefit of the public, and to acquire areas of special importance.

In addition, there is an urgent need to improve the present structure in the State Government for the management of Delaware's Coastal Zone.

The Federal Government, spurred by the recent Stratton Commission Report, has been increasingly recognizing the importance of the Coastal Zone and the major role which the States should play as a link between the Federal Government and the counties and municipalities. Other States are moving in the direction of strengthened State Coastal Zone management.

While Delaware is a small State, it lies along one of the most important estuaries on the East Coast for industry and contains one of

the most attractive shorelines along the Atlantic Ocean for recreation. These recreational areas are conveniently accessible to the millions of people living in the Eastern Megalopolis. Rapidly building competing pressures for the use of this Coastal Zone strongly suggest that the State must strengthen its organizational capability to resolve multiple user conflicts and to protect and enhance the value of the State's Coastal Zone.

B. Responsibilities of NREC

IN VIEW OF NREC'S EXISTING RESPONSIBILITIES IN THE MANAGEMENT OF NATURAL RESOURCES AND THE PROTECTION OF THE ENVIRONMENT, THE TASK FORCE RECOMMENDS THAT NREC BE DESIGNATED AS THE PRINCIPAL STATE AGENCY RESPONSIBLE FOR COASTAL ZONE MANAGEMENT.

It is recommended that the Coastal Zone management responsibilities of the NREC be as follows:

- Provide for the formulation and periodic updating of a master plan for the utilization of coastal and estuarine waters and lands.

- Encourage the planned development of these areas in the public interest and in accordance with the master plan. This includes the authority to provide either directly, or to encourage through another government agency or the private sector, the development of such public facilities as beaches, marinas and other recreational or waterfront developments; and to lease off-shore areas.

- Resolve Coastal Zone multiple use conflicts through such public processes as regulations, permits, zoning, and land acquisition.

- Insure the necessary expansion of research capability to adequately manage the Coastal Zone. This capability should make maximum use of existing competence in the academic, private, and governmental sectors available for this purpose.

- Represent and reconcile the interests of Delaware with other states, existing interstate organizations, and the Federal Government in the development of a master plan for Delaware's Coastal Zone and in other matters relating to the management of the Coastal Zone.

C. State Management of Transportation in the Delaware River and Bay

THE TASK FORCE RECOMMENDS THAT CONSIDERATION BE GIVEN TO RECONSTITUTING THE WILMINGTON MARINE TERMINAL UNDER STATE MANAGEMENT WITH RESPONSIBILITY AND AUTHORITY FOR ALL PORT FACILITIES IN THE STATE, INCLUDING THE LOWER BAY. THIS RECOMMENDATION IS PROPOSED BECAUSE IT IS THE SENSE OF THE TASK FORCE THAT THE ENTIRE LOWER DELAWARE BAY IS ITSELF A MAJOR PORT IN TERMS OF TRAFFIC, TRANS-SHIPMENT AND LIGHTERING OPERATIONS WITHIN DELAWARE STATE BOUNDARIES.

A revision of the charter of the Wilmington Marine Terminal would allow the revised organization to institute controls and monitoring operations on the current activity in the Delaware portion of the lower and upper part of the bay as well as any future established activity within State jurisdiction.

D. Coastal Zone Interagency Coordinating Mechanism

IN VIEW OF SEVERAL STATE AGENCIES ALREADY INVOLVED IN COASTAL ZONE ACTIVITIES AND THE NEED TO COORDINATE THE ACTIVITIES OF THESE AGENCIES, THE TASK FORCE RECOMMENDS THAT THE GOVERNOR ESTABLISH AN INTERAGENCY COORDINATING MECHANISM FOR STATE COASTAL ZONE ACTIVITIES AND THAT HE BE RESPONSIBLE FOR DESIGNATING ITS CHAIRMAN.

E. Coastal Zone Advisory Council

THE TASK FORCE RECOMMENDS THAT THE GOVERNOR ESTABLISH A COASTAL ZONE ADVISORY COUNCIL TO ADVISE THE GOVERNOR AND ALL PERTINENT STATE ORGANIZATIONS. THIS COUNCIL SHOULD PROVIDE GUIDELINES FOR THE MANAGEMENT OF THE COASTAL ZONE ON SUCH SUBJECTS AS SCIENCE, TECHNOLOGY, LAW, ECONOMICS, ENVIRONMENTAL QUALITY, RECREATION, COMMERCIAL FISHERIES, WATER SUPPLY AND QUALITY, AND MARINE TRANSPORTATION. IT SHOULD PROVIDE A CONTINUOUS MEANS FOR FURNISHING GUIDANCE FROM THE ACADEMIC, COMMERCIAL AND INDUSTRIAL SECTORS, FROM THE COUNTIES AND MUNICIPALITIES, FROM PRIVATE AGENCIES, AND THE PUBLIC.

- THE TASK FORCE RECOMMENDS THAT THE PRESENT GOVERNOR'S COUNCIL ON SCIENCE AND TECHNOLOGY COMPRISE THE NUCLEUS OF THE PROPOSED COASTAL ZONE ADVISORY COUNCIL IN ORDER TO MINIMIZE THE EXISTING NUMBER OF ADVISORY COUNCILS AND DUPLICATION OF EFFORT. THE TASK FORCE FURTHER RECOMMENDS THAT THE MISSION OF THE PRESENT GOVERNOR'S COUNCIL ON SCIENCE AND TECHNOLOGY BE REVISED TO INCLUDE THE COASTAL ZONE OBJECTIVES CITED ABOVE, THAT THE MEMBERSHIP OF THE PRESENT COUNCIL BE BROADENED TO MEET THESE NEW RESPONSIBILITIES, AND THAT THE NAME BE CHANGED TO REFLECT THIS EXPANDED SCOPE.

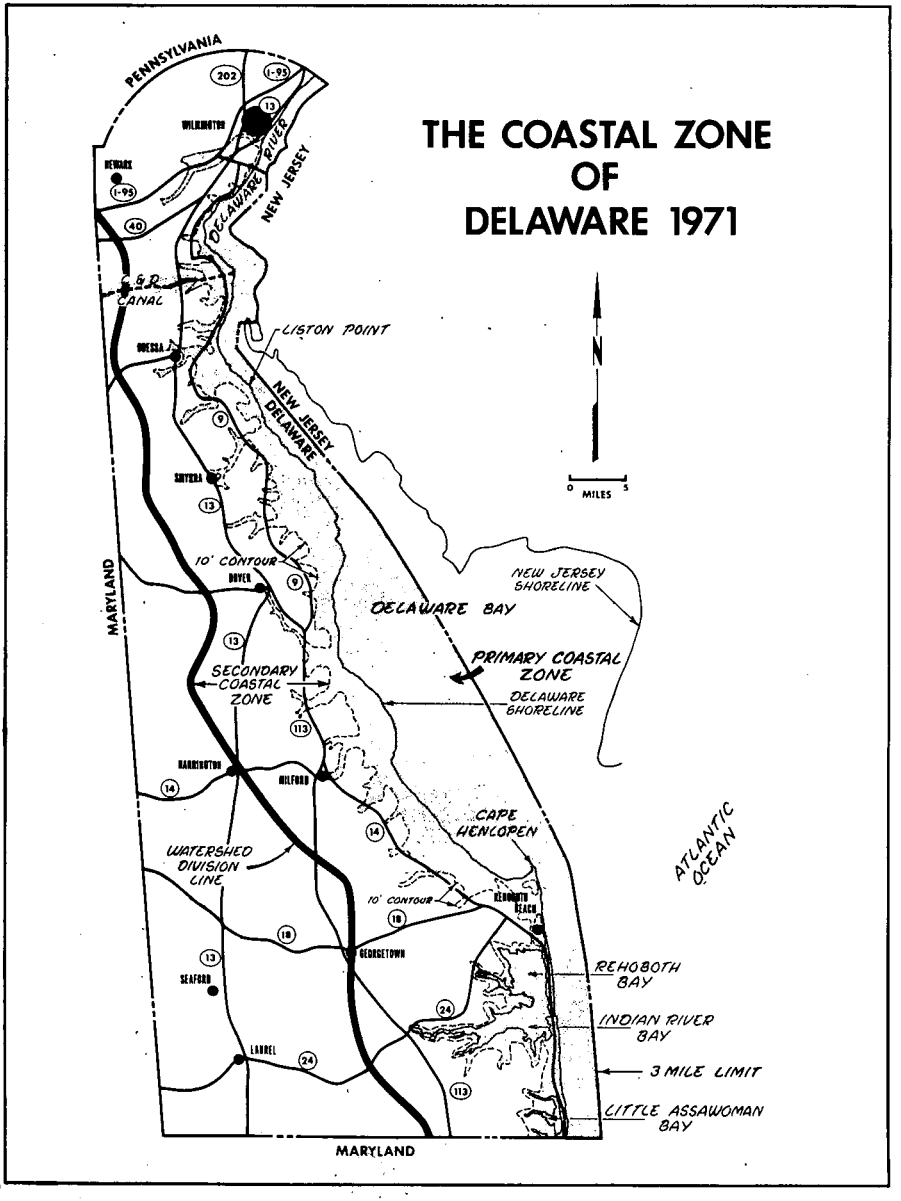
1. Function of the Advisory Council

The functions of the Coastal Zone Advisory Council would include the following:

- Review and advise on updating the long range (i.e. in the order of 10 years or more) objectives of Coastal Zone programs.
- Assess current levels of activity in terms of accomplishing the long range objectives.
- Offer guidance and recommend important new Coastal Zone programs and facilities, making effective use of the competence of both private and government organizations.

2. Membership of the Advisory Council

It is recommended that this Advisory Council consist of official members representing private enterprise, the counties and municipalities, the academic community, private agencies, and the public. The chairman should be selected from outside the Government. In addition to the official members, representatives of the State and Federal Government should be designated liaison members. This would assure that the committee was aware of the programs and problems of the Government agencies. All members should be appointed by the Governor and should serve staggered terms. This committee should be supported by an appropriate staff.


THE COASTAL ZONE
OF
DELAWARE 1971
PENNSYLVANIA
202
I-95
13
WILMINGTON
NEWARK
I-95
40
DELAWARE RIVER
NEW JERSEY
C & D CANAL
LISTON POINT
NEW JERSEY
DELAWARE
9
SMYRNA
13
10' CONTOUR
DOVER
9
MARYLAND
13
SECONDARY COASTAL ZONE
113
HARRINGTON
14
MILFORD
14
WATERSHED DIVISION LINE
10' CONTOUR
18
18
GEORGETOWN
13
SEAFORD
24
LAUREL
24
113
MARYLAND
N
0
MILES
5
NEW JERSEY SHORELINE
DELAWARE BAY
PRIMARY COASTAL ZONE
DELAWARE SHORELINE
CAPE HENLOPEN
ATLANTIC OCEAN
REHOBOTH BEACH
REHOBOTH BAY
INDIAN RIVER BAY
3 MILE LIMIT
LITTLE ASSAWOMAN BAY

HOUSE SUBSTITUTE NO. 2 FOR HOUSE BILL NO. 300 AS AMENDED BY HOUSE AMENDMENTS NO. 1, 2, 8, 11, 12, 13, 14, 15, 18, 19, 22, 23 AND 24

AN ACT creating a new chapter 70, title 7, Delaware code to establish a coastal zone in Delaware; to prohibit or limit certain uses therein; to create a State coastal zone industrial control board

Be it enacted by the General Assembly of the State of Delaware:

Section 1. Title 7, Delaware Code, is amended by creating a new Chapter 70 to read as follows:

"CHAPTER 70. COASTAL ZONE ACT

§ 7001. *Purpose*

It is hereby determined that the coastal areas of Delaware are the most critical areas for the future of the State in terms of the quality of life in the State. It is, therefore, the declared public policy of the State of Delaware to control the location, extent and type of industrial development in Delaware's coastal areas. In so doing, the State can better protect the natural environment of its bay and coastal areas and safeguard their use primarily for recreation and tourism. Specifically, this chapter seeks to prohibit entirely the construction of new heavy industry in its coastal areas, which industry is determined to be incompatible with the protection of that natural environment in those areas. While it is the declared public policy of the State to encourage the introduction of new industry into Delaware, the protection of the environment, natural beauty and recreation potential of the State is also of great concern. In order to strike the correct balance between these two policies, careful planning based on a thorough understanding of Delaware's potential and her needs is required. Therefore, control of industrial development other than that of heavy industry in the Coastal Zone of Delaware through a permit system at the State level is called for. It is further determined that off-shore bulk product transfer facilities represent a significant danger of pollution to the Coastal Zone and generate pressure for the construction of industrial plants in the Coastal Zone, which construction is declared to be against public policy. For these reasons, prohibition against bulk product transfer facilities in the Coastal Zone is deemed imperative.

§ 7002. *Definitions*

(a) 'The Coastal Zone' is defined as all that area of the State of Delaware, whether land, water or subaqueous land between the territorial limist of Delaware in the Delaware River, Delaware Bay and Atlantic Ocean, and a line formed by certain Delaware highways and roads as follows:

Beginning at the Delaware-Pennsylvania line at a place where said line intersects U.S. Route 13; thence southward along the said U.S. Route 13 until it intersects the right-of-way of U.S. Route I-495; thence along said I-495 right-of-way until the said I-495 right-of-way intersests Delaware Route 9 south of Wilmington; thence along said Delaware Route 9 to the point of its intersection with Delaware Route 273; thence along said Delaware Route 273 to U.S. 13; thence along U.S. 13 to Maintenance Road 409; thence along Maintenance Road 409 to Delaware Road 71; thence along Delaware Road 71 to its intersection with Delaware Road 54; thence along Delaware Road 54 to Delaware Road 896; thence along Delaware Road 896 to Maintenance Road 396; thence along Maintenance Road 396 to Maintenance Road 398; thence along Maintenance Road 398 to the Maryland State line; thence southward along the Maryland State Line to Maintenance Road 433; thence along Maintenance Road 433 to Maintenance Road 63; thence along Maintenance Road 63 to Maintenance Road 412; thence along Maintenance Road 412 to U.S. 13; thence along U.S. 13 to Delaware 299 at Odessa; thence along Delaware Route 299 to its intersection with Delaware Route 9; thence along Delaware Route 9 to U.S. 113; thence along U.S. Route 113 to Maintenance Road 8A; thence along Maintenance Road 8A to Maintenance Road 7 to the point of its intersection with Delaware Route 14; thence along Delaware Route 14 to Delaware Route 24; thence along Delaware Route 24 to Maintenance Road 331; thence along Maintenance Road 331 to Maintenance Road 334; thence along Maintenance Road 334 to Delaware Route 26; thence along Delaware Route 26 to Maintenance Road 365; thence along Maintenance Road 365 to Maintenance Road 84; thence along Maintenance Road 84 to

Maintenance Road 384; thence along Maintenance Road 384 to Maintenance Road 382A; thence along Maintenance Road 382A to Maintenance Road 389; thence along Maintenance Road 389 to Maintenance Road 58; thence along Maintenance Road 58 to Maintenance Road 395; thence along Maintenance Road 395 to the Maryland State Line.

(b) 'Non-conforming use' means a use, whether of land or of a structure, which does not comply with the applicable use provisions in this chapter where such use was lawfully in existence and in active use prior to the enactment of this chapter.

(c) 'Environmental Impact Statement' means a detailed description as prescribed by the State Planning Office of the effect of the proposed use on the immediate and surrounding environment and natural resources such as water quality, fisheries, wildlife and the aesthetics of the region.

(d) 'Manufacturing' means the mechanical or chemical transformation of organic or inorganic substances into new products, characteristically using power driven machines and materials handling equipment, and including establishments engaged in assembling component parts of manufactured products, provided the new product is not a structure or other fixed improvement.

(e) 'Heavy industry use' means a use characteristically involving more than twenty acres, and characteristically employing some but not necessarily all of such equipment such as, but not limited to, smoke stacks, tanks, distillation or reaction columns, chemical processing equipment scrubbing towers, pickling equipment, and waste treatment lagoons; which industry, although conceivably operable without polluting the environment, has the potential to pollute when equipment malfunctions or human error occurs. Examples of heavy industry are oil refineries, basic steel manufacturing plants, basic cellulosic pulp paper mills, and chemical plants such as petro-chemical complexes. Generic examples of uses not included in the definition of 'heavy industry' are such uses as garment factories, automobile assembly plants and jewelry and leather goods manufacturing establishments.

(f) 'Bulk product transfer facility' means any port or dock facility, whether an artificial island or attached to shore by any means, for the transfer of bulk quantities of any substance from vessel to on-shore facility or vice versa. Not included in this definition is a docking facility or pier for a single industrial or manufacturing facility for which a permit is granted or which is a non-conforming use. Likewise, docking facilities for the Port of Wilmington are not included in this definition.

(g) 'Person' shall include, but not be limited to, any individual, group of individuals, contractor, supplier, installer, user, owner, partnership, firm, company, corporation, association, joint stock company, trust, estate, political subdivision, administrative agency, public or quasi-public corporation or body, or any other legal entity, or its legal representative, agent, or assignee.

(h) 'Board' shall mean the Coastal Zone Industrial Control Board.

§ 7003. *Uses absolutely prohibited in the Coastal Zone*

Heavy industry uses of any kind not in operation on the date of enactment of this chapter are prohibited in the Coastal Zone and no permits may be issued therefor. In addition, offshore gas, liquid, or solid bulk product transfer facilities which are not in operation on the date of enactment of this chapter are prohibited in the Coastal Zone, and no permit may be issued therefor. Provided, that this section shall not apply to public sewage treatment or recycling plants.

§ 7004. *Uses allowed by permit only—Non-conforming uses*

(a) Except for heavy industry uses, as defined in section 7002 of this chapter, manufacturing uses not in existence and in active use of the date of enactment of this chapter are allowed in the Coastal Zone by permit only, as provided for under this section. Any non-conforming use in existence and in active use on the effective date of this chapter shall not be prohibited by this chapter. All expansion or extension of non-conforming manufacturing uses, as defined herein, and all expansion or extension of uses for which a permit is issued pursuant to this chapter, are likewise allowed only by permit. Provided, that no permit may be granted under this chapter unless the county or municipality having jurisdiction has first approved the use in question by zoning procedures provided by law.

(b) In passing on permit requests, the State Planner and the State Coastal Zone Industrial Control Board shall consider the following factors:

(1) Environmental impact, including but not limited to, probable air and water pollution likely to be generated by the proposed use under normal

operating conditions as well as during mechanical malfunction and human error; likely destruction of wetlands and flora and fauna; impact of site preparation on drainage of the area in question, especially as it relates to flood control; impact of site preparation and facility operations on land erosion; effect of site preparation and facility operations on the quality and quantity of surface ground and sub-surface water resources, such as the use of water for processing, cooling, effluent removal, and other purposes; in addition, but not limited to, likelihood of generation of glare, heat, poise vibration, radiation, electromagnetic interference and obnoxious odors.

(2) Economic effect, including the number of jobs created and the income which will be generated by the wages and salaries of these jobs in relation to the amount of land required, and the amount of tax revenues potentially accruing to State and local government.

(3) Aesthetic effect, such as impact on scenic beauty of the surrounding area.

(4) Number and type of supporting facilities required and the impact of such facilities on all factors listed in this subsection.

(5) Effect on neighboring land uses including, but not limited to, effect on public access to tidal waters, effect on recreational areas, and effect on adjacent residential and agricultural areas.

(6) County and municipal comprehensive plans for the development and/or conservation of their areas of jurisdiction.

§ 7005. *Administration of this chapter*

(a) The State Planning Office shall administer this chapter. All requests for permits for manufacturing land uses and for the expansion or extension of non-conforming uses as herein defined in the Coastal Zone shall be directed to the State Planner. Such requests must be in writing and must include (1) evidence of approval by the appropriate county or municipal zoning authorities, (2) a detailed description of the proposed construction and operation of the use, and (3) an Environmental Impact Statement. The State Planner shall hold a public hearing and may request further information of the applicant. The State Planner shall first determine whether the proposed use is, according to this chapter and regulations issued pursuant thereto, (1) a heavy industry use under section 7003; (2) a use allowable only by permit under section 7004; or (3) a use requiring no action under this chapter. The State Planner shall then, if he determines that section 7004 applies, reply to the request for a permit within ninety (90) days of receipt of the said request for permit, either granting the request, denying same, or granting the request but requiring modifications; he shall state the reasons for his decision.

(b) The State Planner may issue regulations including, but not limited to, regulations governing disposition of permit requests, and setting forth procedures for hearings before himself and the Board. Provided, that all such regulations shall be subject to approval by the Board.

(c) The State Planner shall develop and propose a comprehensive plan and guidelines for the State Coastal Zone Industrial Control Board concerning types of manufacturing uses deemed acceptable in the Coastal Zone and regulations for the further elaboration of the definition of 'heavy industry' in a manner consistent with the purposes and provisions of this chapter. Such plan and guidelines shall become binding regulations upon adoption by the Board after public hearing. The Board may alter said regulations at any time after a public hearing. Provided, that any such regulations shall be consistent with sections 7003 and 7004 of this chapter.

(d) The State Planning Office and all agencies of State government shall assist the State Coastal Zone Industrial Control Board in developing policies and procedures, and shall provide the Board with such information as it shall require.

§ 7006. *State Coastal Zone Industrial Control Board created. Composition. Conflict of interest. Quorum.*

There is hereby created a State Coastal Zone Industrial Control Board, which shall have ten (10) voting members. Five (5) of these shall be regular members appointed by the Governor and confirmed by the Senate. No more than two (2) of the regular members shall be affiliated with the same political party. At least one regular member shall be a resident of New Castle County, one a resident of Kent County and one a resident of Sussex County, provided that no more than two

residents of any county shall serve on the Board at the same time. The additional five (5) members shall be the Secretary of Natural Resources and Environmental Control, the Secretary of Community Affairs and Economic Development, and the Chairmen of the Planning Commissions of each county, who shall be ex-officio voting members. The term of one appointed regular member shall be for one (1) year; one for two (2) years; one for three (3) years; one for four (4) years; and the Chairman, to be designated as such by the Governor, and serve at his pleasure. Thereafter, all regular members shall be appointed for five year terms. The members shall receive no compensation except for expenses. Any member of the Board with a conflict of interest in a matter in question shall disqualify himself members shall receive no compensation except for expenses. Any member of the Board less those disqualifying themselves shall constitute a quorum. A majority of the total membership of the Board shall be necessary to make a final decision on a permit request.

§ 7007. *Appeals to State Coastal Zone Industrial Control Board*

(a) The State Coastal Zone Industrial Control Board shall have the power to hear appeals from decisions of the State Planner made under section 7005. The Board may affirm or reverse the decision of the State Planner with respect to applicability of any provision of this chapter to a proposed use; it may modify any permit granted by the State Planner, grant a permit denied by him, deny a permit, or confirm his grant of a permit. Provided, however, that the Board may grant no permit for uses prohibited in section 7003 herein.

(b) Any person aggrieved by a final decision of the State Planner under section 7005(a) may appeal same under this section. Appellants must file notice of appeal with the State Coastal Zone Industrial Control Board within fourteen (14) days following announcement by the State Planner of his decision. The State Coastal Zone Industrial Control Board must hold a hearing and render its decision in the form of a final order within sixty (60) days following receipt of the appeal notification.

(c) Whenever a decision of the State Planner concerning a permit request is appealed, the Board shall hold a public hearing at which the appellant may be represented by counsel. All proceedings in such a hearing shall be made a matter of record and a transcript or recording of all proceedings kept, and the public may attend and be heard.

(d) The Board shall publicly announce by publication in at least one newspaper of daily publication in the county in which the site designated in the request is wholly or principally located and in at least one newspaper of daily publication and general circulation throughout the State the time, location and subject of all hearings under this section at least ten (10) days prior thereto.

§ 7008. *Appeals to Superior Court*

Any person aggrieved by a final order of the State Coastal Zone Industrial Control Board under section 7007 may appeal the Board's decision to Superior Court in and for the county of the location of the land in question. Likewise, the State Planner may appeal from any modification by the Board of his ruling. The appeal shall be commenced by filing notice thereof with Superior Court not more than twenty (20) days following announcement of the Board's decision. The Court may affirm the Board's order in its entirety, modify same, or reverse said order. In either case, the appeal shall be based on the record of proceedings before the Board, the only issue being whether the Board abused its discretion in applying standards set forth by this chapter and regulations issued pursuant thereto to the facts of the particular case. The Superior Court may by rule prescribe procedure by which it will receive, hear, and make disposition of appeals under this chapter.

Provided, that no appeal under this chapter shall stay any cease and desist order or injunction issued pursuant to this chapter.

§ 7009. *Condemnation*

If Superior Court rules that a permit's denial, or restrictions imposed by a granted permit, or the operation of section 7003 or section 7004 of this chapter, is an unconstitutional taking without just compensation, the Secretary of the State Department of Natural Resources and Environmental Control may, through negotiation or condemnation proceedings under Chapter 61 of Title 10, acquire

the fee simple or any lesser interests in the land. The Secretary must use this authority within five years from the date of the Court's ruling, for after said five years have elapsed the permit must be granted as applied for if the land has not been acquired under this authority.

§ 7010. *Cease and desist orders*

The Attorney General shall have the power to issue a cease and desist order to any such person violating any provision of this chapter ordering such person to cease and desist from such violation. Provided, that any cease and desist order issued pursuant to this section shall expire (1) after thirty (30) days of its issuance, or (2) upon withdrawal of said order by the Attorney General, or (3) when the order is superseded by an injunction, whichever occurs first.

§ 7011. *Penalties*

Any person who violates any provision of this chapter shall be fined not more than $50,000 for each offense. The continuance of an activity prohibited by this chapter during any part of a day shall constitute a separate offense. Superior Court shall have exclusive original jurisdiction over offense under this chapter.

§ 7012. *Injunctions*

The Court of Chancery shall have jurisdiction to enjoin violations of this chapter.

§ 7013. *Inconsistent laws superseded. All other laws unimpaired. Certain uses*

All laws or ordinances inconsistent with any provision of this chapter are hereby superseded to the extent of the inconsistency. Provided, that present and future zoning powers of all counties and municipalities, to the extent that said powers are not inconsistent with this chapter, shall not hereby be impaired; and provided that a permit granted under this chapter shall not authorize a use in contravention of county or municipal zoning regulations.

§ 7014. *Severability and savings clause*

If any provision of this chapter, or of any rule, regulation, or order promulgated thereunder, or the application of any such provision, regulation, or order to any person or circumstances shall be held invalid, the remainder of this chapter or any regulations or order promulgated pursuant thereto or the application of such provision, regulations, or order to persons or circumstances other than those to which it is held invalid, shall not be affected thereby.

STATE OF FLORIDA,
DEPARTMENT OF NATURAL RESOURCES,
Tallahassee, May 17, 1971.

Hon. LAWTON CHILES,
U. S. Senate, Washington, D.C.

DEAR LAWTON: Attached is a copy of "Escarosa: A Preliminary Study of Coastal Zone Management Problems and Opportunities in Escambia and Santa Rosa Counties, Florida," compiled by the staff of the Coastal Coordinating Council.

This report represents an overview of the coastal management challenges in this pilot study area. It will be followed by an in depth study, now under way, which will result in definitive planning and zoning recommendations. The final study on Escarosa will set the tone of the Coastal Coordinating Council's regional coastal management plans for all of Florida's coastal zone.

Much of the basic data in the attached report has been gathered principally from other governmental agencies. In the final report, expanded data from other similar sources will be utilized, but all the diverse elements and plans will be amalgamated into one comprehensive plan to manage the resources of the coastal zone. This comprehensive plan will atteampt to balance development and conservation, while making provisions to protect those areas of irreplaceable natural resources.

Sincerely,

RANDOLPH HODGES,
Chairman, Coastal Coordinating Council.

ESCAROSA:
A Preliminary Study of
Coastal Zone Management Problems
and Opportunities in Escambia and
Santa Rosa Counties, Florida
Florida Coastal Coordinating Council
April 1971
ESCAMBIA BAY
PENSACOLA BAY
EAST BAY
BLACKWATER BAY
PENDIDO BAY
SANTA ROSA SOUND
SANTA ROSA ISLAND
PENSACOLA
Warrington
Brownsville
West Pensacola
East Pensacola Heights
Milton
Gulf Breeze
Pensacola Beach
Oriole Beach
Woodlawn Beach
Gulf Beach
Pensacola Shores
Gaberonne
Gull Point
Garcon Point
White Point
Mulat
Mulatto R
Indian R
Blackwater R
Yellow R
Blackwater River
Catfish Basin
Alabama Hollow
Tarkiln Bayou
Pleasant Grove
Garcon Swamp
Big Lagoon
FORT PICKENS STATE PARK
NAS Pensacola
NAS Pensacola Chevalier
PENSACOLA NAVAL AIR STATION
NAAS Saufley
Bellview
Ferry Park
Pace
Forty Acre Pond
Tarquis Basin
Patterson Point
Gulf City
Floridatown
Coastal Hill
Cantonment
Molino
Barrineau Park
Bratt
Enslew
Olive
Millview
Ferguson
Bayou Chico
Woodbine
Pine Forest
Coastal
Tower
Light
Beacon
Pipeline
Power
Canal
Ditch
Creek
Bridge
Dam
Levee
Marsh
Swamp
Island
Point
Cove
Bay
Lake
Pond
Reservoir
Sand
Mud
Hard
Soft
Sticky
Shells
Sand Bars
Sand Shells
Coastal Waterway
Intracoastal Waterway
Dual
4 Lanes Dual
Gulf Beach Highway
Pensacola Bay Bridge
Bayou Texar
Bayou Chico
Bayou Jesse
Bayou Grande
Big Lagoon
Fair Point
Garcon Point
Gulf Beach
Oriole Beach
Woodlawn Beach
Pensacola Beach
Santa Rosa Sound
Santa Rosa Island
Escambia Co
Santa Rosa Co
Baldwin Co
Off Spencer (Navy)
Off Santa Rosa (Navy)
Off Holley (Navy)
Off Corry Field (Navy)
Off Bronson (Navy)
Air Force No 10
Forty Acre Pond
New York
Pine Barrens
Marine Crossroads
Barrineau Park
Molino
Bratt
Enslew
Olive
Millview
Ferguson
Pine Forest
Coastal
Cantonment
Molino
Floridatown
Pace
Gulf City
Milton
Tarquis Basin
Patterson Point
Mulat
Mulatto R
Indian R
Blackwater R
Yellow R
Blackwater River
Catfish Basin
Alabama Hollow
Air Force No 10
Gull Point
Gaberonne
White Point
Garcon Point
East Pensacola Heights
Brownsville
West Pensacola
Warrington
PENSACOLA
Pensacola Shores
Gulf Breeze
Oriole Beach
Woodlawn Beach
Pensacola Beach
Tarkiln Bayou
Pleasant Grove
Garcon Swamp
Big Lagoon
FORT PICKENS STATE PARK
NAS Pensacola
NAS Pensacola Chevalier
PENSACOLA NAVAL AIR STATION
NAAS Saufley
Bellview
Ferry Park
Pensacola
Brent
Gull Point
Gaberonne
ESCAMBIA BAY
PENSACOLA BAY
EAST BAY
BLACKWATER BAY
PENDIDO BAY
SANTA ROSA SOUND
SANTA ROSA ISLAND

Florida Coastal Coordinating Council

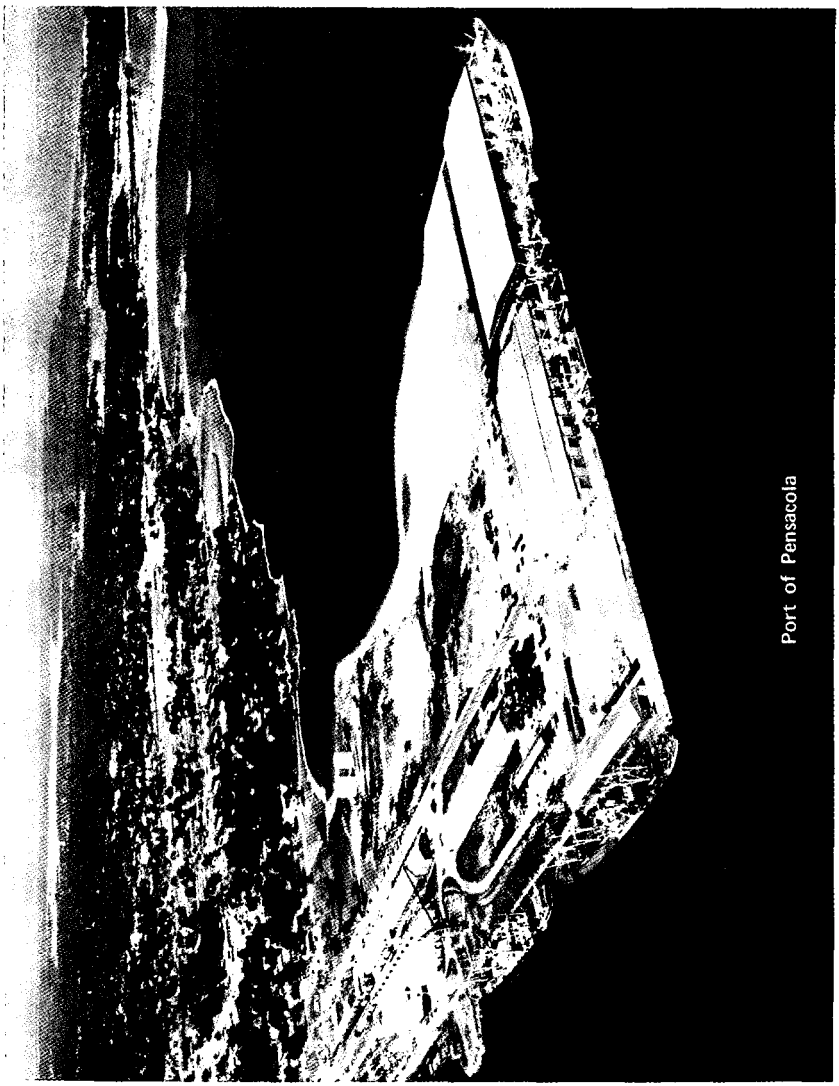
Chairman: Randolph Hodges
Executive Director
Department of Natural Resources

Joel Kuperberg
Executive Director
Trustees of the Internal Improvement
Trust Fund

Vincent D. Patton
Executive Director
Department of Air and Water Pollution Control

Staff: Bruce Johnson, Coordinator
Louis Burney, Coastal Planner
Dr. Lee Guernsey, Consultant
Mrs. Rose Harvey, Administrative Assistant

Room 682, Larson Building
Tallahassee, Florida



Port of Pensacola

INTRODUCTION

The Coastal Coordinating Council (CCC), established by the 1970 Florida Legislature, was charged with developing a comprehensive State plan for the protection, development and zoning of the coasts of Florida. Pursuant to the above charge, the two westernmost counties of Florida, Escambia and Santa Rosa ("Escarosa") were selected as a preliminary project in which to identify the principal problems in coastal zone management common to Florida and to lay the basis for future plans which would equitably balance conservation and development.

Escarosa was selected because the region contains prime examples of hydrography, coastal physiography and coastal economics, which are common to the entire length of the Florida coastline. It has barrier beaches , lagoons, marshlands, bays, and estuaries, as well as a significant port and metropolitan area (Pensacola), a progressive university (University of West Florida) and increasing pressure for conflicting multiple-uses of the shoreline brought about by an expanding population and expanding chemical-industrial uses. Moreover, Escarosa has a regional planning program (Escambia-Santa Rosa Planning Council) and has been the subject of a Federal-State Water Quality Conference.

There are many reasons to believe that Escarosa should yield to further increasing urbanization as the rich resources of the area are more intensively exploited by the expanding demands for tourism, water-oriented recreation, seafood production, and industrial use of the coastal areas. Competition for the use of the more densely populated shorelines of Escarosa is intense. The projected regional population for the year 2000 is 425,000 as contrasted to 243,000 today. This expected growth will continue to intensify the need for residential, commercial, industrial, and open space, as well as recreational facilities. Without the adoption of a comprehensive plan to protect, develop, and zone the coastal zone, much future development will be haphazard and not in the best public interest. The shoreline of the Gulf of Mexico and the various estuaries are a prime natural resource where a proper balance of conservation and development is necessary. If this is done, economic returns from tourism should increase dramatically.

Decisions as to the optimal use of the coastline have to be made. These decisions must be based on logical criteria which set shoreline use priorities, with the highest priority representing that use which benefits the most people to the highest degree. The CCC intends to initially establish criteria which hopefully will eliminate *future shoreline uses* which do not absolutely require a *shoreline* location. The remaining shoreline would be reserved for those uses which must have a waterfront location and are in the public interest, including conservation and recreation uses.

The following text is an overview of the principal problems of coastal zone management in Escarosa developed by the staff of the CCC from a preliminary survey of existing data. These problems are typical of most populated coastal areas of Florida; during their compilation the staff has been collecting and formulating plans to be put into a master plan for coastal zone management for the Northwest Florida coast from the Alabama border to the eastern boundary of Jefferson County. The master plan will treat many more subjects in greater detail than this preliminary study which is limited in scope and is intended to be an overview of the major problems and opportunities. Appendix A is an outline of the master plan format; each subject listed is intended as a chapter to be treated in considerable detail.

The Northwest Florida Regional Coastal Management Plan will be the first of a series of regional master plans which will be developed for the entire Florida coastal zone by the CCC, in cooperation with state, federal, regional, county, and local agencies of government. Inputs to the plan will also be solicited from private individuals and groups, industry and commerce, and academia.

The Coastal Zone for Escarosa is shown on the location map (Figure 1). Its seaward boundary is nine nautical miles offshore, the limit of Florida territorial waters in the Gulf of Mexico. The inland boundary of the Coastal Zone is based on selected *Census Enumeration Districts so that the area seaward of the inland boundary line can be analyzed in terms of population density and distribution, personal income, housing, etc. No other system of defining a coastal zone provides such ease in obtaining the necessary socio-economic data and, after all, people are the basic cause of most of the management problems. Unfortunately, the 1970 Census summaries were not available in time for inclusion in this preliminary study but will be incorporated in the Northwest Florida Regional Coastal Management Plan.

Acknowledgement is given here to all those individual authors and agencies listed in the bibliography and whose work has been consolidated and summarized in this report. Appreciation is also expressed to the many agencies and individuals who gave exceptional cooperation and assistance in providing data and constructive criticism.

** A Census Enumeration District is designed to provide a detailed analysis of a small geographic area, the boundaries of which normally coincide with political, cultural or sometimes, physical boundaries.*

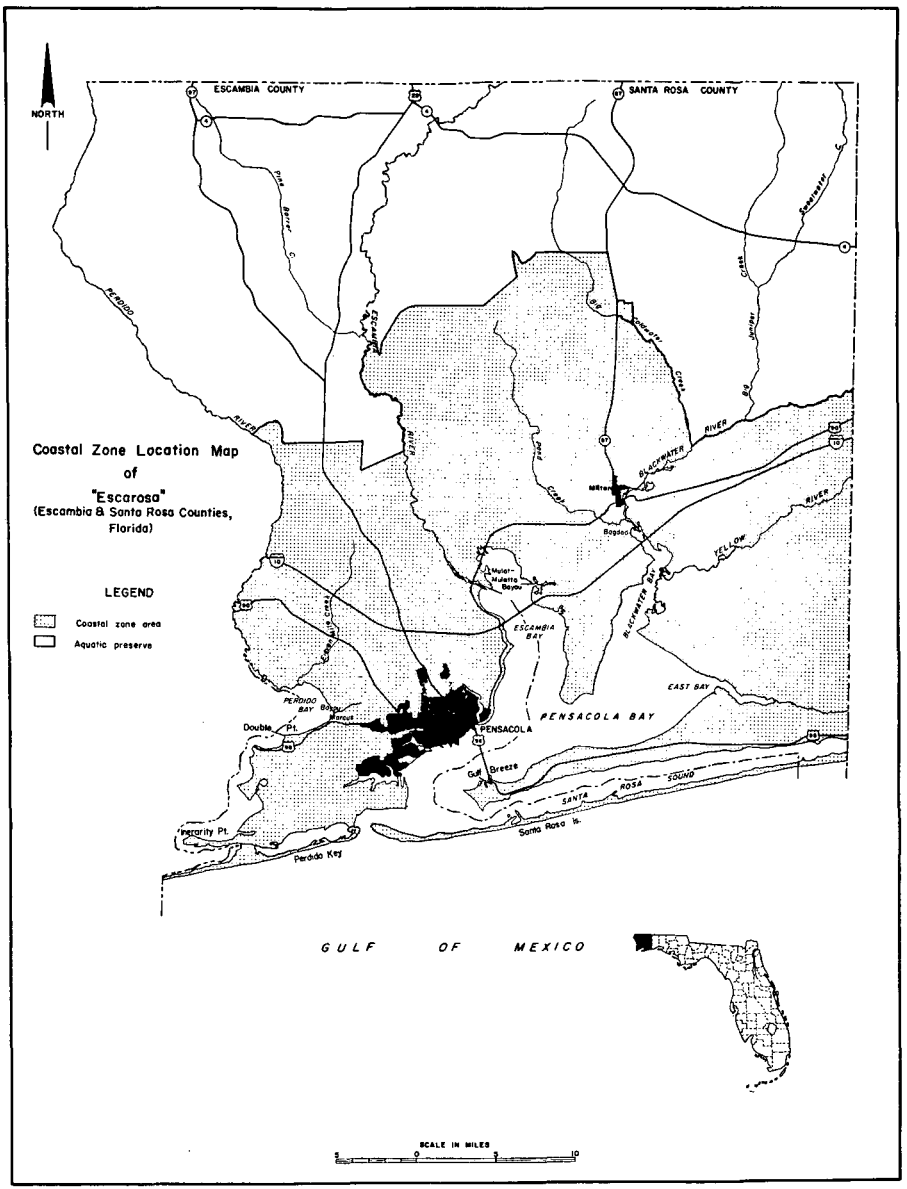

NORTH
ESCAMBIA COUNTY
SANTA ROSA COUNTY
Coastal Zone Location Map
of
"Escarosa"
(Escambia & Santa Rosa Counties,
Florida)
LEGEND
Coastal zone area
Aquatic preserve
PENSACOLA BAY
ESCAMBIA BAY
EAST BAY
PENSACOLA
Gulf Breeze
Milton
Bagdad
Muldoon-Mulatto Bayou
Perdido Bay
Marcus
Double Pt.
Perdido Key
Santa Rosa Is.
SANTA ROSA SOUND
BLACKWATER RIVER
YELLOW RIVER
GULF OF MEXICO
SCALE IN MILES

Figure 1

NATURAL ENVIRONMENTAL CHARACTERISTICS

Planning for optimum use of our coastal zone requires an understanding of the basic interrelationships between man's activities and his environment. These interrelationships have received very limited consideration in past planning efforts in Florida. In Escambia and Santa Rosa counties, long-range planning is in the early stages of development and until just recently, planners have failed to concern themselves adequately with the long-term effects of land uses on the local environment. There has been gradual degradation of the local marine environment which has precluded optimum use of natural resources in much of the area. Because of the many interrelationships, it is difficult to separate the area's various coastal zone planning considerations. This study attempts to present the most important considerations without losing sight of these interactions.

Climate

The climate of Escarosa is humid subtropical, with an average annual temperature of 68 degrees. Average yearly rainfall is 63 inches, with the largest amounts falling as summer thundershowers. However, it should be kept in mind that these figures are averages. Escarosa, as well as most of Florida , has one of the most variable rainfall patterns in the world. Unlike most subtropical areas, this locale experiences only slight seasonal extremes in precipitation, but has a wide variation from year to year. For instance, rainfall amounted to 90 inches in 1953 and only 29 inches in 1954. It is obvious that any planning efforts should consider these extremes rather than deal simply with averages.

Of considerable importance to planning is the fact that Escarosa is vulnerable to hurricanes, chances being one in ten that the area will experience such a storm in any given year. This compares with odds of one in fifty for the Jacksonville area. Planning should consider the fact that the exposed Gulf of Mexico coastline is more vulnerable to hurricanes than the more protected bays and estuaries. As a prerequisite to flood protection programs, flood plain studies are urgently needed to establish minimum elevation requirements for new construction in shoreline areas.

Topography and Drainage

Much of the land in the southern part of Escarosa is less than thirty feet above sea level. Bays, low marshy areas, peninsulas and islands with long shorelines characterize this section. The area contains five large estuaries: Perdido Bay, Pensacola Bay, Escambia Bay, Blackwater Bay and East Bay (Figure 1). These interconnected estuaries cover over 200 square miles and extend inland some 20 miles. They are fed by river systems which originate outside the area and drain about 6,000 square miles before reaching Escarosa.

The mainland of Escarosa is protected from the Gulf of Mexico by two narrow barrier islands, Santa Rosa and Perdido, which contain some of the most attractive beaches in Florida. These islands are characterized by thinly-vegetated, relatively unstable dunes and by shorelines that are subject to substantial changes during storms. The shores of the mainland, deeply indented by a number of embayments and estuaries, are fringed intermittently by alternating stretches of beach and marsh, with the latter predominating in the vicinity of river mouths. Overlooking the western shore of Escambia Bay are a series of bluffs averaging 80 feet above sea level, with narrow beaches at their base, which gives this section of shoreline considerable esthetic appeal. The steep slopes of these bluffs are being eroded.

The inland terrain north of Pensacola is hilly and well dissected with streams that drain toward the Pensacola area. The elevations of the streambeds remain about sea level for 30 to 40 miles inland, and stream floodplains are generally broad and swampy. The hills 20 miles inland are about 150 feet above sea level, becoming higher toward the north. Maximum elevations are about 290 feet along the northern boundary of Escarosa.

Soils

The soils of Escarosa, as in any area, reflect natural processes over long periods of geologic time. They are the product of climate, parent material, relief and erosion, drainage and vegetation. From the standpoint of coastal zone management, the most important soils considerations are drainage, permeability, load-bearing capabilities, slope and susceptibility to erosion.

A large portion of the coastal zone of Escarosa is characterized by soils having poor drainage, resulting in at least some wetness and/or permeability limitations for residential or industrial development along much of the shoreline and in the stream floodplains. There are very few slope limitations in most of the area, but the unstable sands along the shoreline are extremely vulnerable to erosion. As is indicated in Figure 2, about 32 per cent of Escarosa's coastal zone has one or more of these limiting characteristics.

Fresh Water Resources

Escarosa has abundant ground and surface fresh water of excellent quality. Over 8.5 billion gallons per day (bgd) of fresh water flow into the 200 square miles of estuarine bays from the major rivers. Only about five per cent of this water is used. The Escambia River, the fifth largest in the state, has an average flow of over 4.5 bgd, and many smaller streams within Escarosa produce large quantities of water.

Most of the 87 million gallons per day (mgd) of water pumped from the ground is from a sand-and-gravel aquifer. In parts of this aquifer the water is confined under artesian pressure by numerous layers of clay and hardpan. This aquifer contains a large supply of exceptionally soft (unmineralized) water.

The Floridan aquifer, consisting of limestones which underlie the sand-and-gravel aquifer, contains a large supply of virtually untapped harder (more mineralized) artesian water. This aquifer is recharged by rain falling in southern Alabama, 10 to 35 miles north of the area, and by downward filtration from the sand-and-gravel aquifer.

As shown in Figure 3, about three-fourths of Escarosa has areas where wells of 1,000 gallons per minute (gpm) or more capacity can be developed. About one-half of the remaining area, located in the southern part of Escarosa, is characterized by areas where wells of 250 gpm to 1,000 gpm can be developed. Only a minor amount of the available ground water in these two areas is being used at the present time. The thickness of the sand-and-gravel deposits ranges from about 230 to 1,000 feet, averaging from 400 to 500 feet. Figure 3 shows many areas where large supplies of water can be obtained. Small or domestic supplies of water can be developed almost anywhere in the two counties except close to the shorelines where the areas are subject to salt water encroachment when large quantities are pumped from the ground water supplies.

Industries consume about 60 per cent of the ground water withdrawn from the Escarosa area: St. Regis Paper Company, the largest user in the area, pumps 31 mgd. Monsanto, using 31.5 mgd, is the largest user of surface water in the area. However, the large amount of surface and ground water being used by all industries and all municipalities is only a small part of the useable water supply of the Escarosa area .

Biotic Resources

Natural vegetation in Escarosa is predominantly longleaf and slash pine forests on the uplands with cypress and assorted hardwoods occupying the river floodplains and other low areas. About 76 per cent of Escarosa is classified as commercial forest consisting of roughly 41 per cent hardwoods and cypress and 59 per cent pine lands. Manufacturing based on these forest resources play an important role in the local economy.

Vegetation along the immediate coastline is predominantly dune and drought-resistant types, with marshes occupying many of the poorly-drained areas. Marine vegetation, consisting primarily of turtle grass, Cuban shoalweed and widgeon grass, is abundant in Santa Rosa Sound and other shallow water areas near the Gulf.

Although the biological productivity of certain parts of Escarosa's estuaries has been significantly reduced by pollution, the area still supports a substantial fishery. The low salinity and natural fertility of these waters makes them almost ideal nursery areas for shrimp and many commercially-valuable species of fish. Oysters, crabs and scallops are also abundant in the area. Landings of fish, shrimp and shellfish for Escarosa in 1969 had a dockside value of over $1 million. Considering that retail value of processed seafood is at least three times its dockside value and that sportfishing is a favorite pastime in the area, it becomes evident that Escarosa's fisheries are a very important asset. However, due to lack of concern for long-range effects from certain economic activities and practices, there has been a gradual degradation of large portions of Escambia and Perdido Bays with subsequent reduction of fisheries values for these areas. This degradation is covered in detail in the section on Environmental Problems.

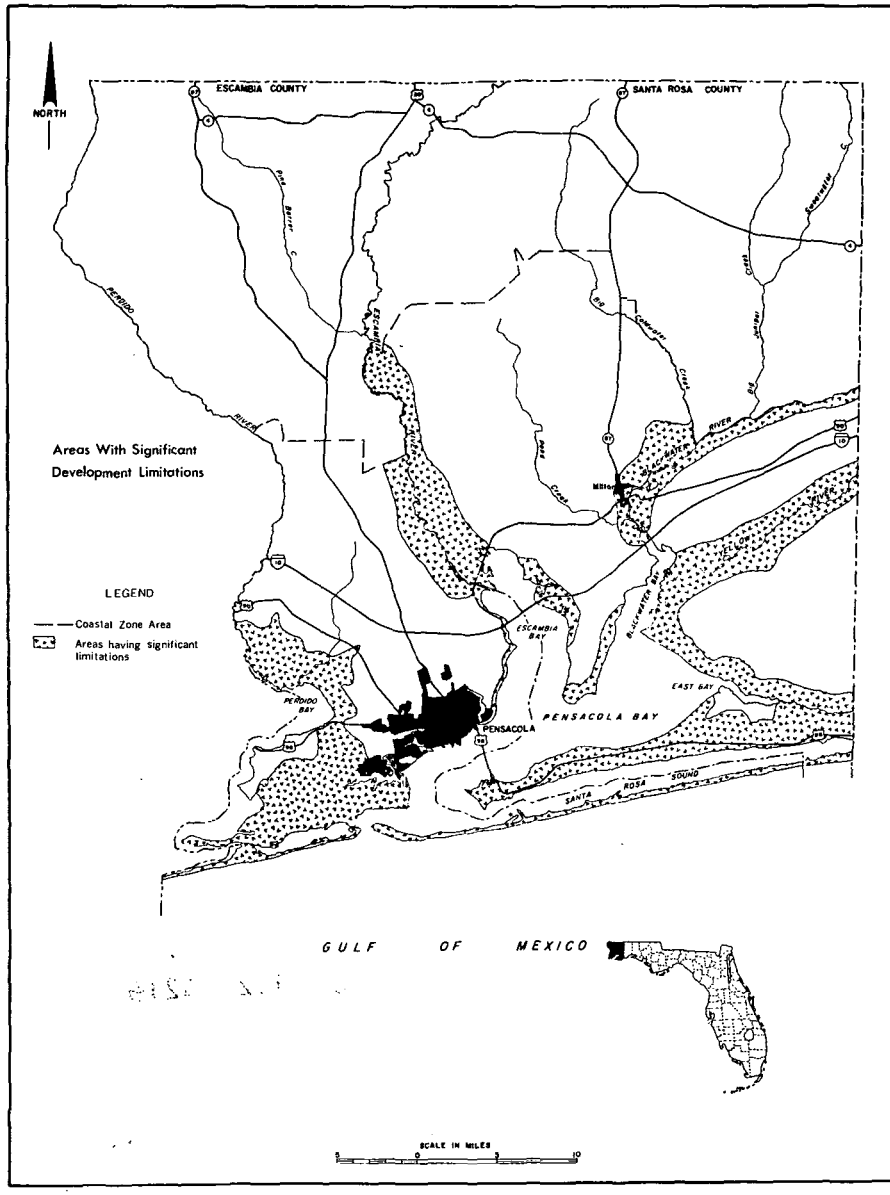

NORTH
ESCAMBIA COUNTY
SANTA ROSA COUNTY
Areas With Significant Development Limitations
LEGEND
Coastal Zone Area
Areas having significant limitations
PENSACOLA
PENSACOLA BAY
ESCAMBIA BAY
EAST BAY
PERDIDO BAY
SANTA ROSA SOUND
GULF OF MEXICO
SCALE IN MILES

Figure 2

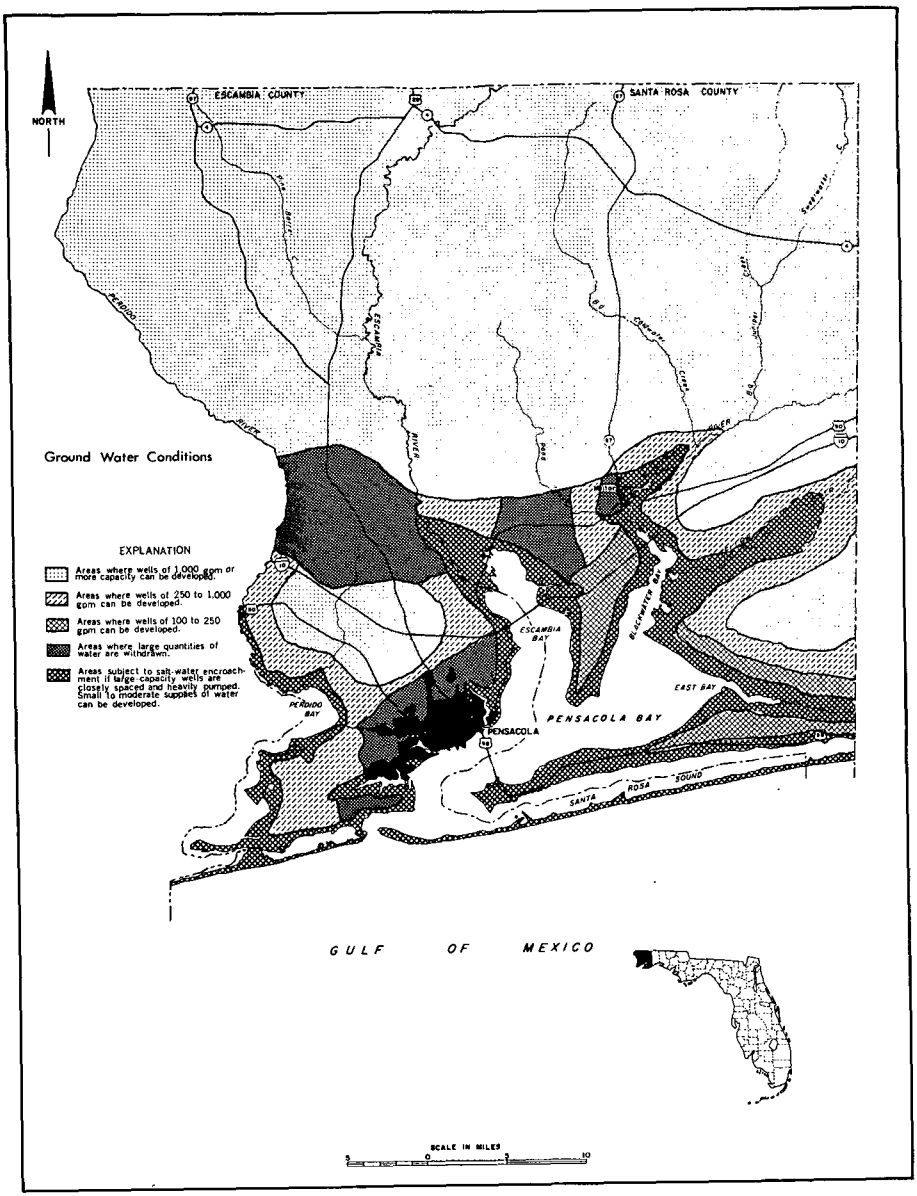

NORTH
ESCAMBIA COUNTY
SANTA ROSA COUNTY
Ground Water Conditions
EXPLANATION
Areas where wells of 1,000 gpm or more capacity can be developed.
Areas where wells of 250 to 1,000 gpm can be developed.
Areas where wells of 100 to 250 gpm can be developed.
Areas where large quantities of water are withdrawn.
Areas subject to salt-water encroachment if large-capacity wells are closely spaced and heavily pumped. Small to moderate supplies of water can be developed.
ESCAMBIA BAY
BLACKWATER BAY
EAST BAY
PENSACOLA BAY
PENSACOLA
PENSACOLA BAY
SANTA ROSA SOUND
GULF OF MEXICO
SCALE IN MILES

Figure 3

SOCIO—ECONOMIC CHARACTERISTICS

The coastal zone of Escarosa is expected to experience a sizeable population growth that will cause the area to face numerous new social and economic challenges in the future. By examining the principal environmental characteristics and extrapolating population and economic trends, decision-makers can more adequately prepare for future needs of Escarosa. Too often population and economic characteristics are studied alone without a knowledge of geographic and resource relationships. Consideration of all these factors will result in better planning for the future needs of Escarosa.

Population Trends

Escarosa has had a steady population growth during the last three decades. The impetus for growth was generated by military installations and other defense activities during World War II. In 1940, only 90,752 persons resided in Escarosa but a 44.6 per cent increase occurred during the 1940's. The same trend took place during the 1950's with a 54.5 per cent increase in population. Consequently, the population of the two-county area more than doubled during the 1940-1960 period, as the number of people increased from 90,752 to 203,376. This population increase is a marked contrast to the five counties of Northwest Florida that lost population between 1950 and 1960 (Calhoun, Holmes, Jefferson, Liberty and Washington).

During the 1960's, Escarosa's population grew at a rate of 19.5 per cent which resulted in an increase from 203,376 to 243,075 persons. Most of the people, then and now, live in and around Pensacola. During this decade, three counties of northwestern Florida continued to lose population (Gadsden, Holmes and Jefferson). Projections prepared by the Escambia-Santa Rosa Regional Planning Council and adapted from the Bureau of the Census indicate the estimated population of the two-county area will increase to 294,000 in 1980, 356,400 in 1990, and 425,000 in 2000, or an additional 182,000 persons in the area at the end of the century.

Employment in Escarosa increased from 27,385 workers in 1940 to 65,500 in 1969. Based on a projection of similar ratios between population and work force, 90,000 workers would be employed in 1980 and 110,000 by 1990. The growth of population and employment has been accompanied by a comparable increase in individual income. Since 1951, family income has increased 126 per cent from $3,770 to about $8,500 in 1970. However, if significant future reductions in the civilian work force occur at military installations, the above employment projections would have to be reduced.

Economic Trends

Retail sales relate directly to population trends. In 1954, retail sales in Escarosa amounted to $152 million and had increased to $198 million by 1958. Sales reached $241 million in 1963 and increased to $316 million by 1967. This represents a growth in retail sales of about 136 per cent during the 1954-67 period. Per capita retail sales in Escarosa increased proportionally. The 20-year projection from 1958 to 1978 by *Florida Trend* indicates that the rate of growth for per capita retail sales will be 106.3 per cent. In short, the projected increases in population, employment and family income should be accompanied by increased retailing activities.

Manufacturing has likewise experienced rapid growth in recent years. The value added by manufacturing increased by 255 per cent during the 1954-67 period. In 1954, the dollar value of manufacturing was $69.2 million, whereas, in 1967 it had increased to $245.2 million, a 354 per cent increase in value. Manufacturing is the primary source of employment in Escarosa. Of the total 1969 non-agricultural employment of 65,500 persons, 14,300 are employed in manufacturing. This contrasts to 12,529 in 1958, 13,100 in 1963 and 13,200 in 1967. By 1980, it is projected by the Escambia-Santa Rosa Regional Planning Council that more than 26,000 persons will be employed in manufacturing. This is a projected increase of 82 per cent during the 1970's.

A lack of industrial diversification characterizes economic conditions in the area. Only four of the 19 Standard Industrial Classifications (S.I.C. 21, 24, 28 and 32) of manufacturing are located in the Escarosa area. According to the 1967 Census of Manufacturing, ten chemical plants (S.I.C. 28) provided employment to 7,200 workers, representing an annual payroll of $51,300,000 and $153,800,000 in value added by manufacturing. More than one-third of the State's chemical products are manufactured in the Escarosa area. With expanding industrial and household consumption of chemical products and with Pensacola's advantageous position, the outlook for continued dominance of chemical manufacturing in Escarosa appears favorable.

Lumber and wood products (S.I.C. 24) ranks second to chemicals in value added by manufacturing and number of employees. The latest Census of Manufacturing cited 67 establishments employing 2,400 workers in the production of lumber and wood products. Extensive areas of commercial forest land in Escarosa assure a continued supply of raw materials for future wood products.

Ranking third in manufacturing employment, after chemicals and lumber and wood products, is food and kindred products (S.I.C. 21). One thousand persons are employed in food products with $9,100,000 added by manufacturing in 28 different establishments. The food industry is a relatively stable one centered around the canning and preserving of fruits, vegetables, nuts, poultry, beef, dairy products and seafoods. The only other industry included in the 1967 Census of Manufacturing was stone, clay and glass products (S.I.C. 32). These 13 mineral industries employ 800 persons with $19,800,000 added by manufacturing in 1967 (Table I).

TABLE I
Manufacturing in Escarosa, 1967

Industrial Code	*Industry*	*Establishments*	*Employees*	*Value Added by Manufacturing*
21	Food Products	28	1,000	$ 9,100,000
24	Lumber and Wood Products	67	2,400	17,700,000
28	Chemicals	10	7,200	153,800,000
32	Stone, Clay and Glass	13	800	19,800,000

* 1967 Census of Manufacturing, p. 10 - 15.

Of the various sources from which the 65,500 Escarosa workers derived their 1969 incomes, another one that provided significant employment is the service trades. This category includes the tourist-oriented businesses as well as repair shops and personal services. Escarosa has both a growing population and a natural endowment of amenities. These factors promote expanding services and provide increasing employment opportunities. With constant changes ahead in the living and working pattern, the service trades will be increasingly important in the decade ahead while agriculture and forestry will probably decline in relative importance.

The population and economic trends indicate a constant growth since 1940. The wide variety of economic activities has provided balance to Escarosa. Future economic growth is expected to continue in a stable fashion with a greater number of economic activities affected by increasing tourism in the Pensacola area. All economic indications point up the fact that a wise-use policy for fully utilizing the natural amenities of Escarosa will have a major impact in supplementing the area's rich cultural heritage in coming years.

Land Use Characteristics

A prerequisite to a development and management plan for Escarosa is a determination of existing land uses. To permit a more comprehensive understanding of the land use data, a generalized land use map and a land use table supplement the census data on the land use characteristics of Escarosa (Figure 4 in back cover and Table II). The land use data included in this study were gathered by personnel at the University of West Florida during the summer of 1970. These data were plotted on field maps from county records and aerial photos and were field checked for accuracy. A scale of one inch to one mile was used to depict overall land use and ownership patterns in Escarosa as a part of a presentation by the Martin-Marietta Corporation. This 1970 publication, *Florida Coastal Zone Land Use and Ownership*, was prepared for the Coastal Coordinating Council under a contract originated by the Florida Commission on Marine Sciences and Technology. The following land use and land ownership data were measured from the maps of Escambia and Santa Rosa Counties.

TABLE II
Existing Land Use
(Approximate Acreage Based on Map Measurements)

Primary Use	*Acreage*
Agriculture	187,500
Residential	127,000
Military	76,680
Recreation	8,960
Business and Commerce	8,240
Industry and Power	3,680
Transportation and Communications	1,680
Education	1,200
Government	360
Total Developed Areas	410,520
Total Undeveloped Areas	664,480
Grand Total	1,075,000

Escarosa contains 1,075,000 acres of which about 410,520 acres have been developed. As depicted on the land use map contained in a folder on the back cover and shown on Table II, about 60 per cent (664,804 acres) of the area is undeveloped. The primary use of areas designated as "undeveloped" is as woodlands. In addition, about 18 per cent of the area is agricultural, 12 per cent residential, seven per cent in military use and the remaining three per cent in six other uses. Of these six other categories, recreation, business and commerce, and industry and power account for most of the remainder of the developed areas. The combined total for transportation and communications, education, and government is less than one-half of one per cent.

Of the 1,075,000 acres in Escarosa, 187,500 acres are in 683 commercial farms. In addition, another 583 non-commercial farms are scattered about Escarosa but are in plots too small to be mapable on a scale of an inch per mile. The 1965 Census of Agriculture reported 4,410 persons residing in farm-operator households. The 1965 Census also listed the per farm value of lands and buildings at an average of $36,061 for Escambia County and $37,526 for Santa Rosa County. This contrasted with average farm values of $22,262 and $20,819 respectively for Escambia and Santa Rosa counties in 1959.

About 65,000 acres of land in Escarosa were in crops in 1964. The other widespread use of farmland was for pastured woodlands (60,223 acres). Most of the commercial agricultural land in Escarosa were in either cropland or pastured woodlands, and there are few improved permanent pastures. Seventy per cent of the farms also raised cattle, hogs, and sheep.

The cash income from most farms is inadequate to meet modern costs of living. Therefore, in recent decades most farmers have given up farming to work in non-farm occupations. This trend continues to the present as shown by the total number of farms reported in the last two census reports. In 1959 Escarosa had only 1,628 farms, while in 1964 the number of farms was further reduced to 1,266, an absolute reduction of 362 farms (23 per cent) during the five-year period. The share of total land devoted to farming also has declined. These trends are projected to continue in the central part of Escarosa, an area relatively level and well drained that is suitable for residential and industrial land uses. With the projected increases in population, the area in crops and pasture will undoubtedly experience additional pressures for future urban development.

Four types of farms predominate in Escarosa: general, truck, cash grain, and livestock. Most of the farming acres of northern Escarosa are general farms. Of the 1,266 farms reported in the 1965 Census, about one-half were general farms, producing miscellaneous farm crops and animals including soybeans, peanuts, sweet potatoes, Irish potatoes, fruits, chickens, dairy products, hogs, and beef. The truck farms generally produce Irish potatoes and other vegetables as their main source of income. Truck farms are normally small, part-time family operations. Cash grain farms numbered 235 in 1964 and were farmed mostly by full owners who had large farming operations in the areas most suitable for agriculture. Soybeans are the main cash crop on these cash grain farms. There were 182 livestock farms in 1964, which accounted for much of the output of cattle, hogs, chickens, and sheep of Escarosa.

The 1965 Census of Agriculture indicates that about 70 per cent of the farms of Escarosa were operated by owners, about one-fourth by part owners, but only 49 farms were operated by tenants. Therefore, farm tenancy is not common in Escarosa. In 1964 most farm operators were over 45 years of age and approximately 60 per cent held jobs in addition to their farm work. These "part-time" farmers reported at least $3,000 income from sources other than farming.

The 110,000 acres of commercial forests on farms contribute only a minor part of the total agricultural income in Escarosa. However, forestry is a widespread use of farmland. Second and third growth timber is commonly cut from farms of Escarosa for pulpwood and saw-mills. Longleaf-slash pine, oak-pine, oak-gum-cypress, and oak-hickory forests comprise the main groups of forest types in Escarosa.

Timber resources of the area are extensive. Based on a 1969 survey conducted by the U.S. Forest Service, about one-quarter million acres of forests are owned by private individuals and about the same amount is owned by large forest industries in Escarosa. Most of the forest land, located in northwestern Escarosa, is owned by two timber companies. In addition, about 120,000 acres of forests are located in the northeastern part of Escarosa and are state-owned lands in Blackwater River State Forest (Figure 5).

The use of Escarosa's land is continuously changing from forestry and agriculture to more intensive, non-extractive land uses. More forestry, grazing, and cropping areas are given way to areas developed for residential uses. Recent planning reports for Escambia and Santa Rosa counties indicate that residential use comprises about three-fourths of the total urban land in Santa Rosa County and about two-fifths of the developed area in Escambia County. Single-family dwelling units are the most prevalent form of residence in the 50 square miles of land actually urbanized in Escarosa. The urbanization is concentrated in the coastal zone, which is typical of the entire State of Florida.

The amount of land used for recreation has shown a steady increase in recent years. Escarosa has a relative abundance of open space, much of which is available for recreational uses. Of the 8,960 acres used primarily for recreation, most is concentrated in the coastal zone where swimming, sightseeing, surfing, boating, and both salt and fresh water fishing are primary recreational activities. There are numerous pleasure resorts located on the beautiful sandy beaches near Pensacola, and several excellent golf courses are situated in the Pensacola area. Hunting is also a favorite recreational activity within woodlands owned by farmers, timber companies, military lands, and the state-owned lands in Blackwater River State Forest.

Business and commercial land uses comprise 8,240 acres. Business and commercial areas make up 9.2 per cent of the total developed land in Santa Rosa County and 4.5 per cent of total Pensacola metropolitan developed area. Escarosa has almost three times the national standard of land used for business and commerce. From the extensive areas used for business and commerce, it can be inferred that the Pensacola metropolitan area receives a significant amount of business from persons residing outside its metropolitan boundaries.

The implications of the land use and land ownership characteristics of Escarosa are similar to those of other coastal counties in Florida. Trends are toward more intensive private developments in the coastal zone and less intensive developments of farmlands and forests located inland. With the rapid growth of manufacturing, retailing, trading, and servicing, along with construction and development activities, the land uses of Escarosa will be less oriented to extensive forestry and agriculture in the future. However, a more detailed knowledge of the intrinsic suitability of lands and future demands for space associated with anticipated population and economic growth is a prerequisite for an effective management plan of Escarosa's coastal zone.

Land Ownership Characteristics

The study, *Florida Coastal Zone Land Use and Ownership,* prepared for the Coastal Coordinating Council, contains a land ownership determination (Figure 5). The land ownership characteristics were measured from the maps of Escambia and Santa Rosa counties. As shown in Table III, 81.6 per cent (875,800 acres) of Escarosa is privately owned. These lands vary from holdings of several thousands of acres owned by timber companies, to farms that averaged 178 acres in 1965, to small city lots of only one-tenth acre or less. Most of the state-owned lands are located in northeastern Santa Rosa County in Blackwater State Forest (175 sq. miles). Other state-owned land holdings include Fort Pickens State Park and the University of West Florida. Eglin Air Force Base, which is partially located in eastern Santa Rosa County, is the largest area of federally-owned land. Other federal lands scattered throughout Escarosa include the Pensacola Naval Air Station, Whiting Field, and Saufley Field. Only about one-half of one per cent of Escarosa is county and city-owned lands, but some smaller areas are not depicted in Figure 5 because they are less than the minimum-sized mapable unit of 160 acres.

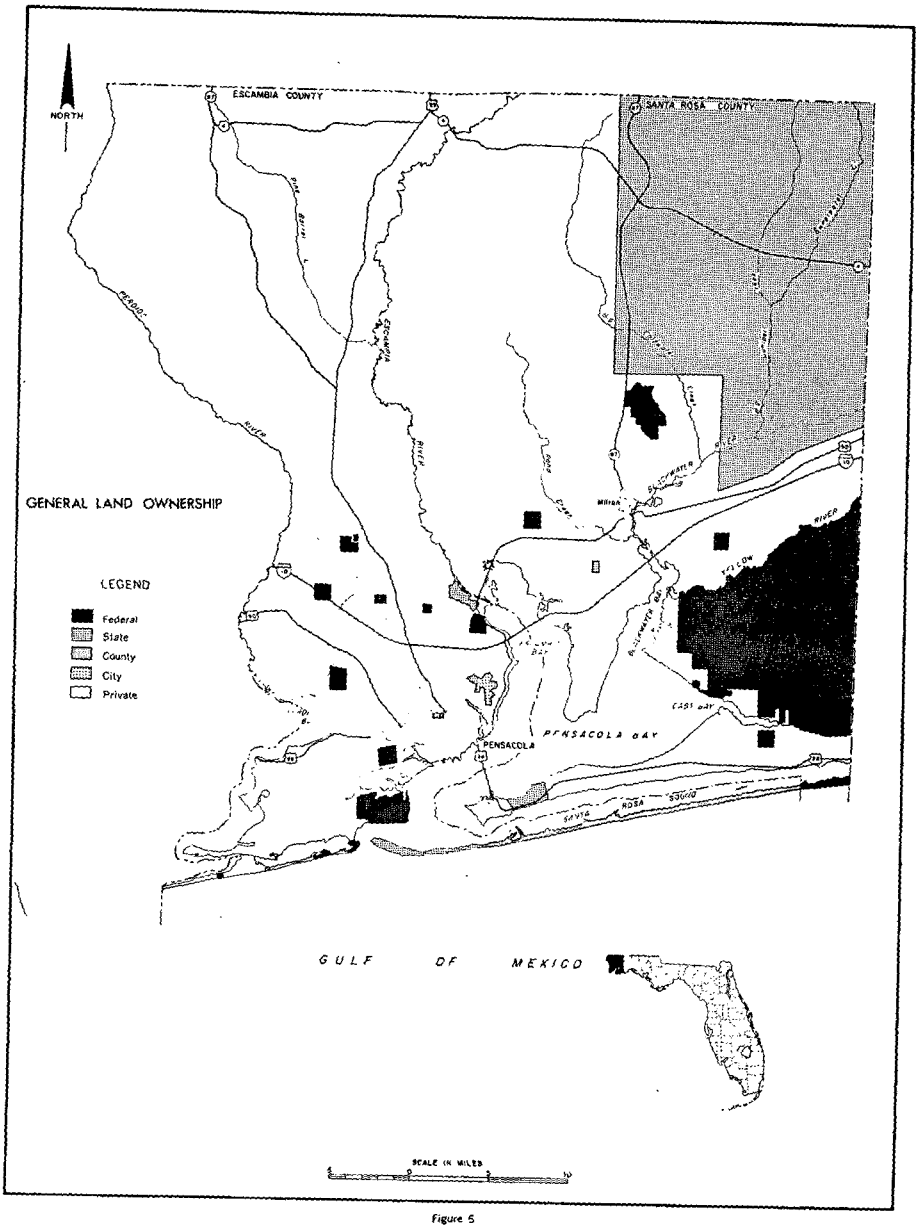

NORTH
ESCAMBIA COUNTY
SANTA ROSA COUNTY
GENERAL LAND OWNERSHIP
LEGEND
Federal
State
County
City
Private
PENSACOLA
PENSACOLA BAY
GULF OF MEXICO
SCALE IN MILES

Figure 5

TABLE III

Land Ownership
(Approximate Acreage Based on Map Measurements)

Ownership	*Area*	*Percentage*
Federal	76,680 acres	7.1%
State	116,960 acres	10.8%
County	4,520 acres	.4%
City	1,040 acres	.1%
Private	875,800 acres	81.6%
Total	1,075,000 acres	100.0%

Large military installations and large land holdings of timber companies restrict intensive land uses in Escarosa. Few of the 664,480 acres of undeveloped land are for sale and available for development. Nevertheless, these open space lands have great value in stabilizing runoff, preventing erosion, providing wildlife habitats, and offering opportunities for expanded outdoor recreational activities

There is a growing concern about environmental quality in Escarosa, and a recent "straw vote" indicated that the local residents are strongly in favor of preserving the area's attractive beaches by transferring them to the Federal Government as part of the National Seashore Program. Responding to pressures from both the local and federal level, the U.S. Congress passed legislation creating the Gulf Islands National Seashore system, which includes undeveloped portions of Santa Rosa Island and Perdido Key, now predominantly in county and state ownership. On January 8, 1971, President Nixon signed this legislation into law, thus insuring that a large portion of the area's beach resources will be preserved as public lands for future generations.

Tourism

The study, *Outdoor Recreation in Florida*, conducted by the Florida Division of Recreation and Parks in 1970 indicates that annually more than 78 per cent of Florida's resident population participated in out-door recreational activities. The study further states that each year two-thirds of all residents of Florida used the beaches and that about one-half went swimming. In northwestern Florida, about one-third of all the resident population regularly participated in outdoor recreation.

The study indicates that *the number of out-of-state visitors who engaged in outdoor recreational activities in Florida far exceeded that of the resident population* . Out-of-state tourists participated in beach activities, salt-water swimming, and salt-water fishing as primary outdoor recreational activities. The well-being of both the people and the economy of Escarosa will be increasingly dependent upon tourism in the future as increasing leisure time, mobility, and affluence become available to more people.

In order to achieve greater potential benefits from tourism in Escarosa, the private and public decision-makers need a comprehensive recreational plan to provide for more and better tourist facilities. The development of a comprehensive plan and an action program for tourism can expand local markets and strengthen the local economy by attracting more outside income to Escarosa. But care has to be taken to avoid the destruction of natural recreational resources. In order to optimize the use of the tourist potentials, Escarosa needs plans and programs for preserving the unspoiled area; providing open space within the urbanized areas; providing facilities for culture, historical and educational facilities; and reducing pollution of the beaches and waters of the coastal zone.

A recent tourist study of the Pensacola area by Milo Smith and Associates of Tampa projected Escarosa's annual growth of tourism to be 8.5 per cent. They based their extrapolations on past patterns, the projected expansion of the Pensacola urban area, and Escarosa's increased accessibility resulting from the construction of a high-speed expressway, Interstate 10, which will connect Jacksonville with Los Angeles. The tourist study estimates that 630,000 visitors, and more than 360,000 campers, will be using Escarosa by the end of the 1970's. An expenditure of $35,938,000 is projected for the area by 1980. These great increases in visitations to Escarosa will result in rapidly expanding demands for additional recreational space and facilities in the coastal zone.

63-902 O - 71 - 27

Florida Trend cites the projection that large numbers of visitors will travel to Escarosa on I-10, enroute from the Southwest and Far West to Disney World near Orlando. Escarosa has many recreational resources of interest to tourists and vacationers. The establishment of the Gulf Islands National Seashore Preserve, which will put significant portions of Santa Rosa Island and Perdido Island under the administration of the National Park Service, will draw an increasing number of tourists annually. If an action program is developed by local business, civic, and governmental leaders, Escarosa can benefit considerably from these recent trends. If plans and programs are not made to provide recreational facilities for the increased number of tourists who will be in Escarosa, the area will not benefit from an opportune circumstance.

ENVIRONMENTAL PROBLEMS

The coastal zone of Escarosa originally contained excellent beaches, estuaries, tidal flats, bays, marshlands, lagoons, and sounds. These features comprised areas of great biological diversity and productivity. Because of natural mixing of fresh and salt waters, the coastal environment of Escarosa has produced a wide variety of living organisms which range from microscopic animals to large-sized fish and mammals. At least two-thirds of marine animal species spend an essential portion of their life in estuarine waters. Because of the concentration of people and industry in the coastal zone, these estuaries have received large volumes of municipal and industrial wastes. These contaminants have adversely affected vast numbers of fish and shellfish as well as numerous birds and other wildlife that are a fundamental part of the basic food chain.

Since the major water bodies of Escarosa are interconnected and are fed by streams with headwaters in Alabama, planning efforts cannot be restricted to the immediate coastal area. The interstate character of the rivers complicates and, although this is not anticipated, could possibly negate local planning efforts concerning the marine environment of the two-county area.

Estuarine Pollution

Due to growing concern about the conditions of these estuaries, a National Marine Fisheries Service inventory was recently made which mapped the general occurrence of features such as areas of marine grasses, oyster bars, tidal marshes, areas that have been filled, and sources of pollution. Two other recent federal studies concerned themselves strictly with area pollution and its effects on water quality in Perdido and Escambia Bays.

Basing judgement on these and other reports concerning the area, the most serious planning problem from a marine standpoint is abatement of pollution. According to January, 1970 data, there are at least 25 minor sources of domestic sewage, one major source of domestic sewage, five minor industrial waste sources and seven major industrial waste sources (Figure 6).

Escambia Bay north of Interstate 10 is in a state of accelerated eutrophication as indicated by unstable dissolved oxygen variations resulting from algal activity, high carbon, nitrogen and phosphorus concentrations, and oxygen demanding sludge deposits. Dissolved oxygen at the bottom of nearly half of Escambia Bay has been found to be less than the 4.0 milligrams per liter (mg/1) criterion established by the Florida Department of Air and Water Pollution Control for these waters.

These water quality conditions in Escambia Bay and Mulat-Mulatto Bayou have been caused by the discharge of carbonaceous, nitrogenous, and phosphorus wastes from the following sources in Florida: Escambia Chemical Company, American Cyanamid Company, Monsanto Company, the City of Pensacola Northeast sewage treatment plant, and the Container Corporation of America in Brewton, Alabama. The total amount of pollution discharged from these five sources in October, 1969, was shown to be more than 130,000 population equivalents of carbonaceous wastes; 651,000 population equivalents of nitrogenous wastes; and 135,000 population equivalents of phosphorus wastes.

In addition to the above waste discharges, American Cyanamid Company also has discharged acrylonitrile, a compound that is toxic to fish. Although it was not directly demonstrated, the wastes from American Cyanamid are suspected to have been responsible for some of the fish kills in the north and northeast sections of Escambia Bay. Recent information, however, indicates that acrylonitrile is no longer being discharged into the estuaries or their tributaries.

The ecological problems caused by dumping wastes into Escambia Bay have been compounded by thermal pollution, dredging projects, and transportation routes crossing the bay. The Gulf Power Company, located about three miles from Escambia Bay, discharges about 150 mgd of heated water into the Escambia River. The Gulf Power effluent increases river temperature from 70.2° F. to 82.5° F. or 12.25° over background. This heated effluent generally clings to the left shoreline in the upper six feet of water. It is still evident at the Highway 90 bridge, located 1.0 mile below the effluent ditch, where the upper six feet of water of the Escambia River remains 9° F. above temperatures of the river immediately above the Gulf Power Company. Plans for future expansion of this facility include the installation of cooling towers to keep effluent temperatures from rising still higher. This, however, will not abate the existing discharge of heat into the river.

The effects of these elevated temperatures on biological life in the Escambia River have not been directly ascertained since the thermal pollution is indiscriminately mixed with other contaminants. However, the higher temperatures undoubtedly reduce the oxygen-carrying capacity of waters that already have critical biochemical oxygen demand levels. The National Technical Advisory Committee to the Secretary of the Interior has recommended that water temperature in estuaries should not be increased more than 4° F. from September to May nor more than 1.5° F. during June through August. On this basis, the Gulf Power Company is discharging thermal pollution to the Escambia River.

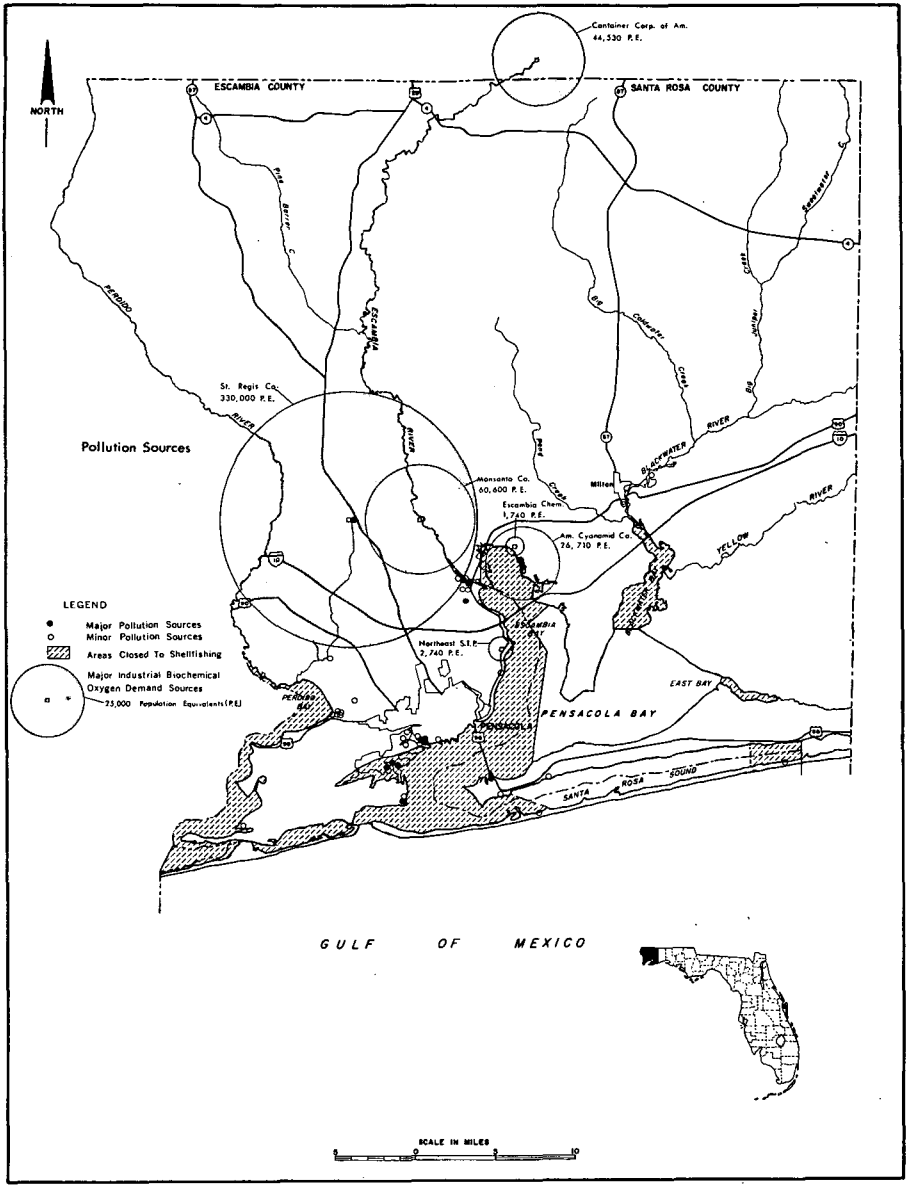

Container Corp. of Am.
44,330 P.E.
NORTH
ESCAMBIA COUNTY
SANTA ROSA COUNTY
Pine Barren C.
Bennetsville C.
PENSACOLA
ESCAMBIA
BIG
CONWAY
CREEK
CREEK
JULIAN
BIG
St. Regis Co.
330,000 P.E.
RIVER
Pollution Sources
RIVER
Pace
CREEK
Monsanto Co.
60,600 P.E.
Escambia Chem.
1,760 P.E.
Am. Cyanamid Co.
76,710 P.E.
Milton
BLACKWATER
RIVER
YELLOW
RIVER
LEGEND
Major Pollution Sources
Minor Pollution Sources
Areas Closed To Shellfishing
Major Industrial Biochemical
Oxygen Demand Sources
25,000 Population Equivalents (P.E.)
Northeast S.T.P.
2,740 P.E.
ESCAMBIA
BAY
EAST BAY
PENSACOLA BAY
PENSACOLA
SANTA ROSA SOUND
GULF OF MEXICO
SCALE IN MILES
5 0 5 10

Figure 6

This undesirable condition has been amplified by modifications to the bay that inhibit water movement. The L & N Railroad bridge, which parallels Interstate 10 to the north, had, until just recently, closely spaced pilings that adversely inhibited circulation, flushing and exchange between the upper and lower bay. The railroad company, however, has now removed more than 2,000 excess pilings and this should improve circulation in the upper bay. The Federal Environmental Protection Agency has plans to do a circulation study soon to ascertain the subsequent changes in circulation patterns. In Mulat-Mulatto Bayou, dredging and filling for interstate highway construction and residential development has contributed to degraded water quality. These conditions are the major causes of the numerous fish kills reported in Escambia Bay and Mulat-Mulatto Bayou during 1969 and 1970.

The southern section of Escambia Bay also has degraded water quality, primarily due to sludge deposits. The only factor preventing a similar condition as that of northern Escambia Bay is the better flushing and exchange of pollutants from the area within a relatively short period of time. Other bayous, such as Texar and Chico, which bracket the downtown waterfront section of Pensacola, are heavily polluted by storm drainage and sporadic overflow from various sewer pump stations.

Perdido Bay, on the west side of Escambia County, is also badly polluted. The primary source of pollution in this area is the St. Regis Paper Company mill located north of Pensacola in Cantonment. This facility discharges partially-treated paper and pulp waste into Eleven Mile Creek at an average rate of approximately 27 million gallons per day. This volume constitutes most of the dry weather flow in Eleven Mile Creek. Inadequately treated waste effluent is the major cause of low dissolved oxygen, unsightly foam, excessive sludge deposits and increased lignin in Perdido Bay and River, as well as degraded water quality in Eleven Mile Creek. Water quality problems which have become apparent in the mouth of Bayou Marcus in northeastern Perdido Bay are caused by the collective discharges to the bayou from six small treatment facilities, the most significant of which are the Mayfair, Montclair, and Avondale plants. However, St. Regis discharges 98 per cent of the Biochemical Oxygen Demand (B.O.D.) from all point sources to Perdido Bay, including the Perdido River input.

Pollution problems in Escarosa are well recognized, and considerable effort and money are being applied toward their solutions. The major pollutors are under citation by the Florida Department of Air and Water Pollution Control, and remedial actions are being taken. But in spite of concerted efforts and very significant accomplishments by industries and municipalities during 1970, the combined B.O.D. input from all sources remains at a level equivalent to that of a population of at least 400,000 (1.7 times as large as the existing one) dumping all of its municipal sewage untreated into the waterways.

Alleviation of the pollution problems constitutes an enormous and very expensive challenge, with total cleanup costs estimated to be about $75,500,000. Even this expenditure will not fully solve the problem because large amounts of pollutants will remain trapped in bottom sediments, subject to gradual release for many years into the future.

The gradual degradation of Escarosa's estuaries is causing tremendous losses of natural resources. Escambia Bay has suffered an estimated decrease in its fishing value of 80 per cent since 1952. Perdido Bay has also been substantially reduced in value. Actual or potential pollution has caused approximately 60 per cent of the waters in Escarosa to be unsuitable for commercial shellfish harvesting and has resulted in numerous fish kills. These losses are felt directly by that segment of the local economy that is dependent upon marine resources. Because of the large range of biological dependency involved, this loss is felt indirectly by areas beyond the county lines of Escarosa.

Air Pollution

Air pollution has received little attention in Escarosa until recently. There is only one monitoring station which records suspended particulates but chemical pollution of the air is not presently monitored, except on a spot-check basis. Suspended particulates at the one monitoring station exceed levels recommended by the Florida Department of Air and Water Pollution Control and the "Breathers Lobby" headed by Dr. Joe Edmisten, University of West Florida. Basing judgment on 1969 and 1970 figures, the level of suspended particulates appears to be increasing. This problem is caused primarily by a concentration of industries in the Pensacola area.

Sulfur dioxide, a common pollutant which can have serious corrosive effects and cause chronic injury to plants, does not presently appear to have reached significant concentrations in Escarosa. The major sources for this pollutant in Northwest Florida are pulp mills and power plants. Although there are several point sources that will undoubtedly have to reduce emissions in the future, the ambient air in Escarosa appears to be at acceptable levels.

Carbon monoxide, another common pollutant, is produced by incomplete combustion of fossil fuels. Automobiles are responsible for the majority of this air pollutant. Maximum limits of carbon monoxide concentration recommended by the Florida Department of Air and Water Pollution Control are apparently not being exceeded in Escarosa except for short periods of time at extremely busy intersections in urban areas.

Ground Water Problems

Although ground water supplies in Escarosa are large and are for the most part untapped, some very serious problems can occur which may render many of these supplies unusable. The Gulf of Mexico, Santa Rosa Sound, Pensacola Bay, Escambia Bay, East Bay, and Perdido Bay contain salty water. Consequently, the coastline bordering these bodies of water have salt water encroachment for varying distances up the streams that empty into the bays. Salt water intrusions are likely to occur where the water table is lowered by pumping in all the indicated areas shown in Figure 3. A decline in the water table may also be caused by below normal rainfall in the area.

Residual salt water, the water not completely flushed from the sand-and-gravel aquifer, is another basis of salt water encroachment. Such salt water probably entered the aquifer in the past when sea level stood higher than at present. This type of water is located at a depth of 75 feet at Fair Point on Gulf Breeze Peninsula. In some areas, clay beds retard the encroachment of salt water. For example, a clay bed 60 to 80 feet below the surface at Gulf Breeze retards the vertical movement of the underlying water when heavy pumping lowers water levels in the overlying sands. The water immediately below the clay bed is salty near the shorelines of the Gulf Breeze Peninsula.

Another clay bed that prevents salt water encroachment is at Fort Pickens on the western tip of Santa Rosa Island where sandy clay beds are almost 300 feet in thickness. Below the clay beds is a sand aquifer from which fresh water for the Fort is obtained. The clay keeps the salt water out even though the water level in this sand is below sea level. The chloride content of the water from wells at Fort Pickens averages 88 parts per million (ppm) and has not increased appreciably since 1940. The fresh water in the sand comes from the mainland southwest of Pensacola and moves southward under Pensacola Bay.

On the other hand, rapid salt water encroachment has recently occurred along the Escambia River at the Monsanto nylon plant. The salt water encroachment into the sand-and-gravel aquifer at the Chemstrand plant originates from the Escambia River by lateral movement. Prior to pumping at the Chemstrand plant, ground water moved eastward and seeped into the Escambia River. Ground water pumping lowered the ground water level and eventually caused salty water from the Escambia River to infiltrate into the ground.

Gulf Breeze and Garcon Point peninsulas are examples of two locations where salt water intrusion could become a serious problem in the Escarosa area. Their extensive contact with salt water and their narrow land masses increase the potential for encroachment. Water systems for future urban development in these areas must be designed with extreme care to avoid salt water pollution of the sand-and-gravel aquifer. There is a potential water shortage in Gulf Breeze Peninsula because of the probability of salt water intrusion resulting from excessive withdrawal of fresh water from the aquifer. However, this salt water intrusion problem can be avoided if major wells are drilled near the center of the peninsula and pumping is restricted. When the entire peninsula is considered, it is estimated that a series of wells drilled with proper spacing could yield a dependable supply of high-quality fresh water totaling about 2.5 million gallons per day. There is also a relatively high potential for salt water intrusion into the ground-water strata of Garcon Point Peninsula. However, it is feasible to drill wells in the area immediately north of the peninsula which can produce a maximum of 1.4 million gallons per day. If any proposal for a significantly large land development project on Garcon Point Peninsula should be forthcoming, it would be highly desirable for local governmental bodies to plan a water system for the peninsula area obtaining the water from areas farther north.

Waste Disposal Problems

Most of the people in Escarosa are served by septic tank systems. In sparsely developed areas characterized by porous soils, individual septic tanks work well. But densities greater than one dwelling unit per acre and soil conditions that markedly reduce the rate of downward seepage reduce the effectiveness and suitability of septic tanks. There are low areas along the rivers and bayous, however, where the water table is near ground level, causing disposal fields to be unsatisfactory. In other areas, soils contain large amounts of clay or organic matter, creating a low porosity that causes this method of disposal to be unsatisfactory.

Since the use of septic tanks is normally less expensive than the cost of connecting to existing sewage facilities, it is difficult to get most of the new houses in an area tied to a sewage system. Where a high density of septic tanks are installed in the same area served by individual wells, the excessive septic tank effluent pollutes the drinking water. Seepage from septic tanks near the shoreline also pollutes the inshore salt-water areas and further degrades ecological conditions.

The Blackwater River has high bacteria counts from a point above Milton to East Bay. Pollution levels are high from the insufficiently treated sewage generated in the Bagdad and East Milton areas. Although the present pollution level caused solely by sewage discharge is not critical, it does contribute substantially to the total pollution problem, which is critical in some areas. Future levels of anticipated urban growth will require that careful attention be paid to a regional water and sewer system if significant water pollution from sanitary waste is to be avoided.

The complex problem of properly disposing of industrial wastes is critical because these wastes can pollute both surface and ground-water supplies. As was discussed earlier, some industries in Escarosa presently discharge wastes directly into streams, bays, and holding ponds. In addition to the surface water problems caused by industrial waste disposal, the subsurface problems can be equally as critical.

Discharging industrial wastes into holding ponds has resulted in the pollution of the sand-and-gravel aquifer where the water level in infiltration ponds was above the ground-water level. One example of such pollution has occurred in the northern part of Pensacola, where concentrated acid wastes have been discharged into a pond for more than 70 years. This waste material has infiltrated into the ground and moved with the hydrolic gradient. A diluted form of this waste has been detected in the water from a Pensacola municipal well at 12th Avenue and Hayes Street, more than a mile from the pool. This well subsequently was abandoned. Wastes discharged into streams or rivers also have contaminated ground water supplies where pumping lowered the ground water level below stream or river level.

Shoreline Erosion Problems

As was mentioned earlier, the mainland of Escarosa is protected by two narrow barrier islands which contain some of the most attractive beaches in Florida. Although these islands are ill suited for high density development, their attractive character will make them subject to increasingly heavy development pressures in the near future.

The attractive character of these islands can be attributed to the natural processes of erosion and deposition. These gradual processes result from the combined forces of wind, wave action, and tidal currents. They are continuous, constantly influencing the shape, elevation and very existence of the islands. An understanding of the shifting nature of these valuable areas is mandatory in planning for their optimum use. A review of past changes in the shorelines should give an indication of what to expect in the future.

Santa Rosa Island, which extends eastward from the entrance to Pensacola Bay, has elevations ranging from eight to 12 feet except along the western end, where dune heights range up to 35 feet. Many of the island's dunes are anchored insufficiently by vegetation to prevent migration. The beaches on the eastern end of Santa Rosa Island appear to be relatively stable, with deposition and erosion occurring almost in equilibrium. However, the shifting nature of these sands is illustrated by a recent public works project. In late July 1965, the Santa Rosa County Beach Administration completed the dredging of a small boat channel across Santa Rosa Island at a cost of $30,000. The channel was located about half-way between the Eglin AFB reservation boundary and the south end of Navarre Bridge. Jetties were not constructed at the Gulf inlet. Within two weeks it was reported that the entrance could be waded across easily. After Hurricane Betsy on September 8 - 11, 1965, the entrance was completely closed. Evidence indicates that a net westerly drift of the same magnitude occurred in Pensacola, which amounted to 65,000 cubic yards per year.

From the Santa Rosa-Escambia County line westward to the vicinity of Pensacola Pass, the Gulf of Mexico shoreline of Santa Rosa Island, as determined in 1934 - 35, had moved landward from its position as determined between 1855 - 60 and 1868 - 72. The eastern half of this long beach had moved landward from 100 to 200 feet, and the western half from 300 to 500 feet. Accretion along the western end has resulted in a westward extension of the island of about 2,500 feet. A physical inspection of the beaches and an examination of 1963 aerial photographs indicated that the beaches were relatively stable at that time. A physical inspection in 1970 indicates that this shoreline is either stable or undergoing light erosion at present.

Perdido Key, which extends westward from Pensacola Bay, has moderately well-vegetated dunes which average six to ten feet above mean sea level. The beaches along this island have undergone varying degrees of accretion and erosion. The eastern end has receded about 500 feet while the western end of Santa Rosa Island has advanced. This beach erosion has undermined and destroyed the brick structures of old Fort McRae. From the Pensacola Pass westward for about five miles, erosion has moved the Gulf shoreline landward from 300 to 400 feet during the period 1855 - 60 to 1934 - 35. West of Pensacola Pass, to the Florida-Alabama State line, some portions of the shoreline have eroded, some have accreted, and some have remained stable, but the maximum movement has averaged only about 100 feet. At a point about 1.5 miles east of Perdido Pass the barrier island was breached during a hurricane in 1906. The new inlet migrated about 2,500 feet westward before it became closed completely in 1934. Unfortunately, there is little information on the historical condition of

Pensacola Bay, Escambia Bay, and Perdido Bay.

Erosion is normally a gradual process of removal of littoral material either alongshore or offshore, resulting in landward retreat of the shoreline. The process is greatly accelerated by storm waves and the long-term rise in sea level. The three miles of Gulf of Mexico shoreline in Santa Rosa County and all of the Santa Rosa Sound shoreline show some erosion. Minor erosion is also occurring around most of Pensacola Bay, East Bay, Blackwater Bay, and Escambia Bay, except in the river delta areas which are growing in size. More serious erosion is generally occurring along the northern shore of Santa Rosa Peninsula eastward from Gulf Breeze. Of 120 miles total shoreline, 87 miles are eroding to some extent.

Areas where large-scale erosion is occurring are considered critical by the U. S. Army Corps of Engineers only when the area is developed and structures are endangered. Using the Army Corps of Engineers' classification scheme, no critical erosion occurs on the Gulf of Mexico and Santa Rosa Sound shorelines in Santa Rosa County. The area of critical erosion is concentrated along the northern shore of Santa Rosa Peninsula from Fair Point, in Gulf Breeze, eastward to the mouth of Little East Bay. Several short stretches along the shoreline are undeveloped and therefore are not classified as critical. Of the 87 miles of eroding shoreline mentioned above, 22 miles are considered to be experiencing critical erosion.

All the shorelines of Escambia County presently show at least some mild erosion, and serious erosion is scattered along parts of Pensacola Bay and Escambia Bay. *Serious* shoreline erosion is occurring at the following locations in Escambia County: (1) Along the bluff shoreline of Escambia Bay in between bulkheaded properties; (2) Along the shoreline fronting Warrington, between Bayou Grande and Bayou Chico; (3) Along the Gulf shoreline of the westernmost 3.5 miles of Santa Rosa Island in Fort Pickens State Park; and (4) Along the two developed beaches on Perdido Bay, at Inerarity Point, and Paradise Beach. Serious erosion on the Gulf shoreline totals 3.5 miles and bay/estuary serious shoreline erosion totals about ten miles in Escambia County. These conditions are illustrated in Figure 7.

With this view of shoreline erosion problems, it becomes obvious that all shoreline developments must take natural forces into consideration. Any activities that damage or destroy the stability of dunes on the barrier islands or accelerate erosion of the bay shorelines can have tremendous economic and social costs and result in the degradation or loss of valuable natural resources.

In the opinion of the Corps of Engineers, it is estimated that remedial actions for controlling erosion in Escarosa will have the following costs: (1) Ten miles of riprap at $156 per front foot will cost $8,350,000; (2) Restoration of six miles of beaches will cost an estimated $2,620,000; (3) Nourishment of the restored beaches will cost an estimated $131,000 annually; (4) Restoration of the 22 miles of eroded shoreline in Santa Rosa County will cost about $83 per front foot or a total estimated cost of $9,620,000; and (5) Nourishment of the beach will cost an estimated $480,000 annually. This amounts to a remedial cost for the present erosion situation in Escarosa of $20.5 million with an annual upkeep of $600,000. If developers do not consider these conditions, the compounded costs for damages will become astronomical.

Dog Fly

The stable fly, known by the name "dog fly" in Escarosa, is a biting, blood-feeding fly that causes significant losses to tourism and agriculture in the coastal areas, particularly in the vicinity of the beaches. The dog fly is a vicious biter of both man and animals. Annually, during the late summer months of August and September, the pest becomes abundant and is a considerable nuisance. The most important breeding areas are associated with aquatic plants in estuaries and around lake shores.

The serious nature of the dog fly was widely recognized during World War II when vast areas along the coastline were sprayed with DDT in order for military operations to function effectively in Escarosa. Today, the dog fly is a late summer menace to tourism, recreation, agriculture and aquaculture. In recognition of this problem, the United States Department of Agriculture's Agricultural Research Service has currently appropriated $90,400 for the biological control of the dog fly.

Current control techniques are based on the proper treatment of organic wastes, manure, and marine grasses; the application of insecticides to breeding grounds; and spraying insecticides to kill adult flies. Further research is under way to improve new approaches to get rid of the dog fly problem. Elimination of the dog fly would permit many economic benefits to Escarosa.

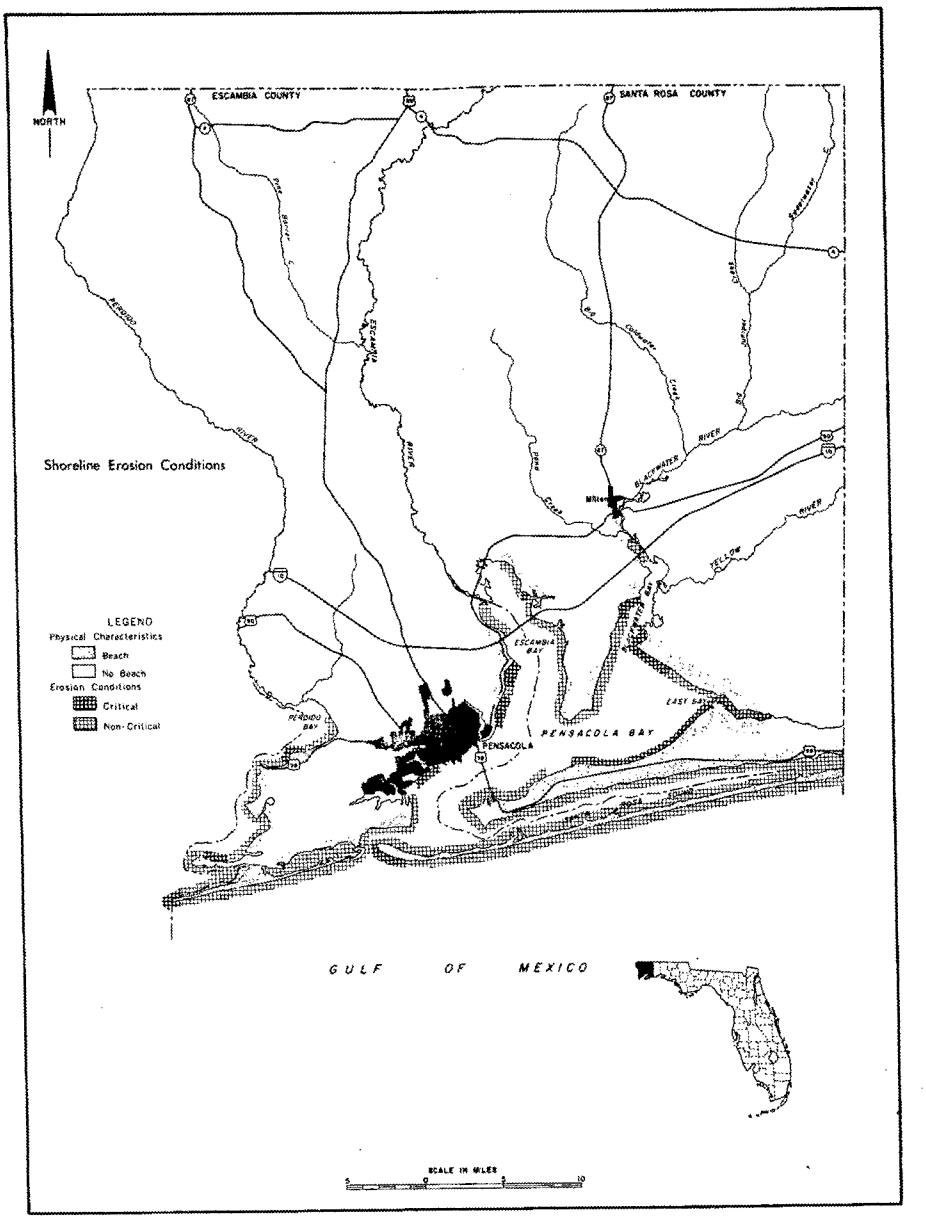

NORTH
ESCAMBIA COUNTY
SANTA ROSA COUNTY
Shoreline Erosion Conditions
LEGEND
Physical Characteristics
Beach
No Beach
Erosion Conditions
Critical
Non-Critical
PENSACOLA
PENSACOLA BAY
ESCAMBIA BAY
PENSACOLA BAY
GULF OF MEXICO
SCALE IN MILES

Figure 7

MANAGEMENT PRACTICES

As Escarosa's population continues to grow, pressures for use of the shoreline will increase tremendously. This will undoubtedly result in many efforts to convert marginal shoreline areas to uses which will show tangible economic returns to landowners. Because of this, management practices must include controls to insure that future options for shoreline uses are not sacrificed for the sake of short-term economic returns. There are several management practices now available to the state and to local governments which can help control haphazard development and needless destruction of shoreline resources.

Water Quality Management

As part of a statewide program for maintaining good water quality, the Florida Department of Air and Water Pollution Control has recently set standards for most of the surface waters of the state. These standards were set using the following general classifications:

Class I- waters from which water is withdrawn for treatment and distribution or a potable supply.

Class II- waters which either actually or potentially have the capability of supporting recreational or commercial shellfish propagation and harvesting.

Class III-waters which are capable of being used for body contact recreation and fish and wildlife enhancement. Within this class is a special stream classification which requires that higher dissolved oxygen content (5.0 ppm) be maintained in the waters so classified.

Class IV-waters used primarily for agricultural and industrial water supply.

Class V- waters used primarily for navigation, utility and industrial use – such waters must have decided and definite enhancement no later than January 1, 1973.

These minimum values do not set the quality of a body of water. They, in essence, constitute the non-degradation clause inherent in Florida law as well as in the Federal Government's laws and regulations. The provision requires the maintenance or improvement of existing water quality throughout the state.

The waters of Escarosa will now have standards set at Class III or better, with the exception of Eleven Mile Creek, which is Class V. Even this highly polluted stream must have decided and definite enhancement no later than January 1, 1973. The implementing of these standards in Escarosa will be a valuable tool for abating pollution and gradually improving the area's surface water quality.

The Federal Government has also been active in water quality management, and on July 2, 1970, the Federal Water Quality Administration (FWQA) issued new regulations (18CFR601:32-33) for basin planning and regionalization of pollution abatement projects. Projects that receive federal aid must now be included in a basin-wide program to abate pollution. Facility design must serve regional interests and accommodate future population growth, land use, and water quality standards.

Recently published planning guidelines provide general criteria for projects which receive either Environmental Protection Agency (EPA, formerly FWQA) or Department of Housing and Urban Development (HUD) grants and stress the following areas:

(1) Environmental capability

(2) Regionalization of facilities to the extent possible

(3) Maximize the cost effectiveness of investments in pollution abatement

(4) Maximum flexibility in providing a high degree of treatment under varying circumstances and waste loads

(5) Maximum reliability at all times

The deadline for submitting plans is July 1, 1973, after which there shall be a periodic updating of adopted plans. Federal Facilities Construction grant awards will not be made in the absence of water quality management plans after July 1, 1973.

Another potentially important tool for management of Escarosa's water quality is the anticipated development of a mathematical model for Escambia Bay. The Florida Department of Air and Wat ollution Control has entered into an

agreement with the University of West Florida for the purpose of developing this model, and work is proceeding ahead of schedule. It is hoped that this model will allow determination of the bay's assimilative capacity with respect to specific pollutants, primarily to nutrients. This in turn will possibly allow prediction of effects certain activities may have on water quality in the bay.

Bulkhead Line Regulation

Fortunately, most of Florida's coastal submerged lands are in public ownership, with the Board of Trustees of the Internal Improvement Trust Fund serving as their steward. Chapter 253 of Florida Statutes governs the Trustees' actions and gives them broad powers for preservation and management of submerged and intertidal lands along the shoreline.

One of the powers possessed by the Trustees is the authority to fix bulkhead lines (Chapter 253.122). However, this authority is often limited by technical, political, legal, social, and economic considerations. Many of these limitations are evident in Escarosa. Of the 294 miles of shoreline in this area, less than ten miles have established bulkhead lines. This condition exists because, under present operating procedures, cities or counties must request bulkhead lines and then the state approves or disapproves them. This requires expensive surveys to determine the line of mean high water, a biological survey report to determine effects, a public hearing, passage of a formal resolution by the County Commission and the construction of adequate maps for use by the Trustees of the Internal Improvement Trust Fund. In many cases, local costs are prohibitive.

In spite of these drawbacks, and their inability to control types of shoreline development, bulkhead lines are a basic tool for controlling the shape and seaward extent of development. Bulkhead lines also serve to simplify granting of construction permits and because they act as guidelines for development, can greatly aid in planning for wise use of the shoreline.

Dredge and Fill Regulation

Closely associated with bulkhead line establishment is regulation of dredging and filling seaward of the mean high water mark. Any such projects are regulated by the Trustees under Chapters 253.123 and 253.124 of the Florida Statutes. Realizing that past dredge and fill operations have in many cases caused needless degradation of large areas of our coastal zone, the Trustees have become more cautious in granting permits and now require much more rigid safeguards against adverse biological effects.

According to a National Fisheries Service survey, there have been approximately twenty dredge and fill projects in Escarosa. Most of these operations were minor when compared to the filling in of Boca Ciega Bay near St. Petersburg, an experience that should not be repeated in the bays of Escarosa. The U.S. Navy has recently filled an area adjacent to Pensacola Naval Air Station, and the Pensacola Port Authority has expanded its facilities by adding approximately twenty acres through dredging and filling. There are several dredging projects planned in the near future but these relate to navigation channels for industries in upper Escambia Bay. Dredge and fill projects in Escarosa have destroyed relatively small amounts of bay bottom to date and there appear to be no plans at present for creating residential subdivisions by dredging and filling in the two-county area.

In January 1970, a Federal-State Enforcement Conference was held concerning the Escambia and Perdido River systems. Among the conference recommendations was the establishment of a joint county-state-federal plan for shoreline development of Escambia and Perdido Bays with an interim moratorium on dredging and filling operations. However, state efforts to carry out these actions have, to date, been hindered by quiescence at the local level.

Construction Setback Regulation

In addition to regulatory powers over bulkhead lines and dredging and filling, the state has authority under Public Law 70-231 to establish 50-foot setback lines for coastal construction and excavation. Administered by the Department of Natural Resources, Bureau of Beaches and Shores, this law is designed to prevent construction practices, even on private property, which might induce or accelerate erosion of Florida's beaches. Violators are subject to fines of up to $1,000 for any violation of this law and will be deemed guilty of a separate offense for each month the violation continues. Shoreline oscillations such as those experienced by Escarosa's Gulf beaches emphasize the wisdom of maintaining, or even increasing, present setback regulations. However, as of now, these regulations apply only to ocean-front shoreline, not to estuaries or bays.

There appears to be very little difficulty involved with these setback requirements in Escambia and Santa Rosa counties, primarily because development pressures along the Gulf shoreline in Escarosa have generally been comparatively less than for many other areas. If future developments indicate the state setback regulations are inadequate in certain instances, local communities have the option of making them more rigid. This should include protection of the dune line from indiscriminate leveling.

Wetland Preservation

An important tool for control of coastal development is also represented by the state's establishment of an aquatic preserve system designed to preserve marine areas of exceptionally high value. Under this system, there have been 16 areas on the Gulf coast and 15 on the Atlantic coast set aside in permanent preserves, forever off-limits to incompatible human activity. As part of this system, a large area of the entrance to Pensacola Bay was set aside to serve as a buffer around Fort Pickens State Park. The upper reaches of East Bay and part of the Yellow River marshes also were set aside as a preserve. These are very productive areas which should be left in their natural state. (Figure 1).

Since the undeveloped portions of Santa Rosa Island will now be almost entirely in public parks due to the new Gulf Islands National Seashore, it would be wise to include the shallow waters of Santa Rosa Sound in the aquatic preserve system to serve as a buffer against incompatible development practices around the Park.

One of the difficulties involved in management and preservation of Escarosa's marine resources is a gap in the knowledge of the ecological interrelationships of the marine organisms and their true value to man. Our knowledge of the dependency of some of our most valued marine and coastal fisheries on the productivity of estuaries, tidal flats, and coastal marshes has only recently been demonstrated. This knowledge has yet to greatly influence management of our estuarine areas, largely because we are still plagued by the long-held view that wetlands, intertidal areas and estuarine shoals are no more than wastelands awaiting improvements. This view is aggravated by our inability to adequately evaluate basic estuarine productivity in terms of the market place. Moreover, demonstration of cause-effect relationships between damages and losses to this productivity and resource values, either of the market or those seen and appreciated by the public, are even more tenuous. To make matters worse, the law and the courts have seldom accorded much weight to effects that are not easily traced directly to tangible damages close at hand. In spite of the shortcomings of our knowledge, we know enough to be cautious when dealing with activities that may have potentially damaging secondary effects on marine resources.

Aquaculture Activities

Salt water farming of commercially important species of marine life is under study by scientists throughout the world. Adequate laws are necessary to permit aquaculture to proceed from the status of only a scientific curiosity into a vital world food source. To date, Florida is the only state that has passed a law and drawn up guidelines for developing controlled aquaculture within its coastal waters.

Since aquaculture activities in tidal waters require a state lease, the State of Florida receives an annual fee in addition to a percentage of the gross income derived from commercial production. An exception to this would possibly be in a case where tidal bottoms are in private ownership. Ownership of intertidal lands is reasonably well established in Escarosa and presents a lesser problem than in many other areas of Florida.

There is considerable potential for aquaculture in Escarosa if pollution can be controlled. However, there is some controversy over the desirability of using estuarine waters for such activities as shrimp farming or raising pompano because these activities require the fencing off of large areas and, in some cases, use of low concentrations of chemicals to control predators and nuisance species. This results in disruption of the area's natural productivity and removes it from public use. On the other hand, activities such as oyster culture do not require the fencing off of large areas, do not require chemical controls and, in many cases, may enhance the natural productivity. In any case, it seems that aquaculture activities would serve as an incentive to maintain good water quality.

Game and Fish Management

Game and fish have traditionally been viewed as infinite resources of coastal waters and marshes that are capable of withstanding man's efforts to develop the coastal zone. But the disappearance or reduction in numbers of certain species, such as the brown pelican on the northern Gulf coast, the bald eagle on the St. Johns River Basin, oysters in the Amelia River, shrimp in Escambia Bay, and the green sea turtle around all of Florida's coastline, has resulted in a growing awareness of the fragile existence of many of our living resources. The pressures for realizing tangible economic returns from land, without concern for long-term effects, is causing irreparable ecological consequences and destroying many once common species that should rightfully be part of the heritage of future generations.

Escarosa, as has been pointed out, is suffering from the results of an apathetic attitude on the part of the general public concerning the quality of their environment. It is evident that unless this trend is reversed, many of the area's game and fish resources will go the same path as shrimp in Escambia Bay. There are, however, recent encouraging signs of more local awareness and interest in environmental considerations.

This area harbors many species of waterfowl and sport fish that may have no established dollar value, but which have definite values for esthetic or recreational purposes, especially during the winter months when many migratory species utilize the shallow water areas. Protection of sport fish, shorebirds, waterfowl, and other non-commercial species does not generally require special consideration over commercial species because their existence is based on the same common denominator, quality environment. In terms of optimum coastal zone management, these practices which preserve marine productivity will also benefit the non-commercial species.

Flood Control

In spite of steadily increased expenditures on flood control structures, national losses due to floods continue to rise. It is ironic that the most important factor contributing to this situation is persistent invasion of the floodplains by those land users most likely to suffer large financial losses from floods. Even though serious flooding problems are not common in Escarosa, it is important that future development be guided in a direction that will minimize any damage to property or injury to life resulting from flood waters. Also, it is important that stream drainage corridors remain unobstructed to minimize any problems with future sanitary and storm sewer facilities which can be most economically laid along the stream valleys. It is also ecologically wise to leave these flood plains undeveloped, for they constitute ecological corridors which contain unique habitat types and perform vital biotic functions for the rivers that flow through them.

Little or no work has been done on flood damage prediction and control in Escarosa. Both counties have requested floodplain information studies through the Florida Department of Natural Resources and these are scheduled to begin in fiscal year 1972. However, due to the area's complexity, the studies will probably take several years for completion. Upon completion, they will become valuable tools for floodplain zoning and for establishing minimum elevation standards along the coastline.

Land Use Regulation

A major shortcoming of most of the management practices already mentioned is that they emphasize controlling *location* and *extent* of development but, for the most part, ignore *type* of development. In many cases, the type of land use is far more important from a management standpoint than is its extent. For instance, some industrial land uses have a range of effects that is greatly out of proportion to the size of area occupied. In such cases, controlling the seaward extent of development is meaningless.

The most popular method of regulating type of land use is through zoning. But for this to be effective, it must be combined with long-range planning and the use of tax incentives. Because very few areas have good planning and zoning practices to serve as a basis for directing land use, it is generally the case that zoning exerts less influence on land use patterns than do sewer and water extensions, highway locations, land speculation, and other factors. This is not to imply that efforts at directing land use are hopeless, but rather to indicate that planning without zoning and zoning without planning are equally futile.

Escarosa, at present, is working toward development of a plan, but has made only slight progress toward solving the zoning deficiency. Neither county has zoning ordinances despite the fact that as of July 1, 1973, a fully certified and accepted regional plan is required as a prerequisite for awarding construction grants for sewage treatment plants in accordance with Title 18, Part 601 of the Federal Water Quality Administration. Past experience has shown that the local populace does not want zoning restrictions; they have voted against zoning in past referendums and, consequently, only the City of Pensacola has a zoning code. This situation may be alleviated by the recent passage of local legislation which empowers the County Commission of Escambia County to adopt county wide zoning regulations. However, Santa Rosa County has made little or no progress in this regard.

If Coastal zone management is to become a reality in Escarosa, the power to enact and enforce zoning must be granted to both county governments. This does not assure that conscientious long-range plans will be constructed or that any such plans will be adhered to, but it does represent a basic step toward optimum use of Escarosa's coastal zone.

SUMMARY AND CONCLUSIONS

The coastal zone is geographically where the land meets the sea. But equally important in coastal zone management, it is the arena where people meet the sea. This preliminary study of the Escarosa coastal zone highlights the present conditions, brought about primarily by increasing population and industrial expansion, and indicates the extent of the management problems, such as marine pollution, beach erosion, lack of fixed bulkhead lines, intensive use of septic tanks and lack of zoning. Some indications are given as to the difficulties and costs of rectifying these present negative factors and what actions are needed to bring Escarosa up to higher standards.

The implementation of a coastal management plan will require substantial cooperation on the part of local residents and authorities as well as county, state and federal officials. Public policy plans and action programs will be improved as knowledge about the Escarosa environment increases through coastal zone research. This is now being implemented by the University of West Florida and other Florida universities, as well as state and federal agencies.

The following conclusions have been reached:

The abundant natural resources of Escarosa are a part of the area's heritage; they should not be used selfishly or denied to future generations. To obtain the greatest value from these resources, planned development should achieve multiple uses of land and waters wherever possible.

The basic ecological characteristics of the Escarosa area must be understood through an increased research effort so that these may be preserved in the planning for man's development activities.

Undeveloped parcels of coastal land with shoreline frontage should be considered a precious public heritage and regional zoning controls should be established to ensure the maximum retention of coastal land use options for the future. Criteria should be established restricting any future shoreline use to those activities absolutely requiring a waterfront location; other competing land uses can be planned and zoned for in locations farther inland. This regional zoning, incorporating environmental protection concepts provided in cooperation with the Coastal Coordinating Council and other state and federal agencies, should be enacted and enforced at the earliest possible date.

A dredge and fill moratorium, except for necessary navigational channels and beach repair, should be declared until a state-approved regional coastal zone management plan has been adopted and implemented by Escarosa authorities.

Escarosa authorities should expedite and facilitate state and federal pollution control requirements, including the limitation of septic tanks.

Approved bulkhead lines should be established throughout Escarosa by local authorities acting in cooperation with the Trustees of the Internal Improvement Trust Fund and other state agencies.

There are no easy or ready-made solutions to coastal zone management problems. Present problems are constantly aggravated and multiplied by the relentless pressure of a proliferating population, a large proportion of which are moving to favored coastal sites from inland locations.

Unless an attempt is made now to understand the coastal environment, to evaluate alternatives among competing land and marine uses and to create and enforce a workable management plan, the coastal zone will continue to be degraded in piecemeal fashion by the dominant self-interest groups to the detriment of the public interest. Effective management will be expensive, but the results of apathy more so. It is obvious that the one unacceptable alternative is to do nothing.

APPENDIX A

The following outline has been adopted by the Coastal Coordinating Council as the framework for Regional Master Plans for Coastal Zone Management.

I. NATURAL ENVIRONMENTAL CHARACTERISTICS

Land:

- Physiography
- Geology
- Hydrology
- Soils
- Vegetation
- Wildlife Ecology

Land/Sea Interface:

- Coastal Geomorphology

Sea:

- Hydrography and Oceanography
- Marine Geology
- Marine Ecology

Climatology

II. HUMAN ADAPTATIONS

Historical Background
Population Trends
Land Ownership
Coastal Zone Uses:

Land:

- Recreation, Tourism, & Historical
- Transportation & Communications
- Business & Commerce
- Industry & Power Generation
- Residential
- Agriculture
- Government
- Education & Research
- Military Bases
- Undeveloped

'ea:

- Fisheries
  - Commercial
  - Sport
- Aquatic Preserves
- Aquaculture
- Non-Living Resources

III. ENVIRONMENTAL QUALITY

Water Quality
Air Quality
Health & Safety
Land & Open Space
Amenities & Aesthetics

IV. SPECIAL PROBLEMS OF THE COASTAL ENVIRONMENT

Multi-Use Conflicts in the Coastal Zone
Submerged Land Management
- Bulkhead Lines
- Ownership of Inter-Tidal Lands
- Dredge and Fill Problems
- Spoil Bank Management

Protection & Preservation of Bays, Estuaries and Wetlands
Beach Erosion
Enforcing Coastal Construction Setback Lines
Sewage & Solid Waste Disposal
Salt-Water Intrusion
Power Plant Sites
Aquatic Weed Control
Pesticides
Oil Spills
Hurricane/Flood Damage Prediction and Control
Local Planning Problems
New Towns or Port Developments
Loss of Increased Tax Base Due to Conservation Areas Closed to Development
Local, County, State , and Federal Jurisdictions

V. PLANNING

Analysis of Regional, County and Local Plans
Legal Restraints
Inventory "Data Bank"
Recommendations

VI. MANAGEMENT

State of Florida Objectives and Interests
Federal Objectives and Interests
Present & Potential Problems in Meeting State Objectives
Problem Solving Policies , Criteria and Guidelines
Management, Administration, and Organization
Recommended Legislation

ESCAROSA BIBLIOGRAPHY

Barraclough, J.T. and O.T. Marsh, 1962. Aquifers and quality of ground water along the Gulf coast of western Florida. Rept. of Invest. No. 29, Fla. Geol. Surv.

Blanchard, J., 1968. Escambia River scientific data. Fla. Game and Fresh Water Fish Comm., January.

Brown, D., 1970. Northwest air quality control region public hearing on A/P (S.P., SO_2, CO). Florida Dept. of Air and Water Pollution Control, November.

Carlisle, V.W., 1960. Soil survey of Escambia County, Florida. USDA and U. of Fla. Agri. Exp. Sta., Ser. 1955, No. 8, June.

Division of Recreation and Parks, 1970. Outdoor recreation in Florida. Fla. Dept. Nat. Res., January.

Division of Health, 1970. Shellfish status maps. Fla. Dept. of Health and Rehab. Ser., December.

Donaldson, W.T. and J.W. Gakstatter, 1966. Investigations of complaints concerning the Conecuh-Escambia River. Fed. Water Poll. Contr. Admin.

Environmental Protection Agency Water Quality Office, 1971. Supplement to effects of pollution on water quality: Perdido River and Bay, Alabama and Florida. SE Water Lab., Athens, Ga., Feburary.

Escambia-Santa Rosa Regional Planning Council, 1969. Housing in the Pensacola metropolitan area. December.

——————, 1969. A comprehensive area-wide plan for water and sewer systems in Escambia County. September.

——————, 1970. University of West Florida zoning.

——————, 1970. Pensacola urban area transportation study (statistical data), January.

——————, 1970. Overall program design 1970-1973.

——————, 1970. Open space and recreation in the Pensacola metropolitan area. March.

Federal Water Pollution Control Administration, 1967. Guidelines for grants: Comprehensive river basin planning. Section 3 (c) of the Fed. Water Poll. Contr. Act, August.

——————, 1971. Conclusions and recommendations of the federal-state enforcement conference on pollution of Escambia River and Bay: Florida-Alabama, second session. Washington, D.C., February 23-24.

——————, 1971. Conclusions and recommendations of the federal-state conferees: Perdido Bay enforcement conference, second session. Washington, D.C., February 25-26.

Federal Water Quality Administration, 1970. Title 18: Conservation of power and water resources. Fed. Register, 35 (128), 2 July.

Florida Department of Air and Water Pollution Control, 1970. A cursory view of Florida's waste treatment plants and future needs. April.

Florida Inter-Agency Advisory Committee on Submerged Land Management, 1968. Bulkhead line review and recommendations for Bay, Broward, Charlotte, Clay, Dixie, Escambia, Flagler, Franklin, St. Johns, Santa Rosa, Taylor, Wakulla, and Walton counties. Rept. No. 3, December.

Frederic R. Harris Inc., 1969. Comprehensive economic study and long-range plan – Port of Pensacola, Florida. July.

Heath, R.C. and W.E. Clark, 1951. I-Potential yield of ground water on the Fair Point peninsula, Santa Rosa county, Florida. Rept. of Invest. No. 7, Fla. Geol. Surv.

Hopkins, T.S., 1969. The Escambia River and Escambia Bay during summer 1969, Part 1 and 2. U. of West. Fla.

Huffstutler, K., 1971. Presentation for the Escambia Bay interstate enforcement conference. Florida Dept. of Air and Water Pollution Control, February 23.

——————, 1971. Presentation for the Perdido Bay interstate enforcement conference. Florida Dept. of Air and Water Pollution Control, February 25.

Institute of Food and Agricultural Sciences, 1969. 1969 DARE report. U. of Fla.

Jones, E.C. (ed), 1970. Florida statistical abstract 1970. Bur. of Econ. and Bus. Res., U. of Fla.

Knight, H.A., 1969. Forest statistics for northwest Florida. Southeast Forest Exp. Sta., USDA Forest Ser. Res. Bull. SE-14.

Landscape Architecture Research Office, 1967. Three approaches to environmental resource analysis. The Conservation Foundation, November.

Marcus, R.B. 1964. A geography of Florida. U. of Fla.

Milo Smith and Associates Inc., 1968. General economic study – Pensacola metropolitan area. March.

——————, 1968. Part 2 – Comprehensive planning analysis of the Pensacola metropolitan area-Escambia county, Florida. March

——————, 1969. Part 3 – Comprehensive planning analysis of the Pensacola metropolitan area-Santa Rosa county, Florida. April.

63-902 O - 71 - 28

_____, 1969. Pensacola area tourist market.

_____, 1970. A plan for the Pensacola region.

Musgrove, R.H. et al., 1965. Water resources of Escambia and Santa Rosa counties, Florida. Info. Cir. No. 40, Fla. Geol. Surv.

_____, 1966. Water resources records of Escambia and Santa Rosa counties, Florida. Info. Cir. No. 50, Fla. Geol. Surv.

National Marine Fisheries Service, 1970. Gulf coast estuarine inventory. Mar. Lab. St. Petersburg (unpublished).

Pensacola City Planning Department, 1969. Land development plans for Pensacola.

Pensacola Journal, various dates.

Perloff, H.S. , 1968. The Quality of Urban Environment: Resources for the Future. Johns Hopkins Press.

Proceedings of the Federal-State Enforcement Conference on Pollution of Escambia River and Bay, January 20-21, 1970.

Proceedings of the Federal-State Enforcement Conference on Pollution of Perdido River and Bay, January 22, 1970.

Proceedings of the Florida Environmental Engineering Conference on Water Pollution, 1969. Fla. Engin. & Ind. Exp. Sta., Bull. Ser. 135, U. of Fla.

R. Dixon Speas Associates, 1970. Upper Gulf coast regional air transportation study — Vol. I.

_____, 1970. Joint upper gulf coast regional air transportation study — Vol. II.

Teverbaugh, D. (ed), 1970. The five great growth markets: Northwest. In *Florida Trend*, 12 (12), April.

The American Society of Planning Officials, 1968. Problems of zoning and land use regulation. Prepared for the Nat. Comm. on Urban Problems.

U.S. Army Corps of Engineers, 1970. National shoreline study: Regional inventory report for South Atlantic-Gulf region and Puerto Rico and the Virgin Islands-County summaries: Florida (draft). S. Atl. Div., Atlanta, Ga., September.

U. S. Bureau of the Census. 1965 Census of Agriculture.

_____. 1967 County and City Data Book.

_____. 1967 Census of Manufacturing.

_____. 1970 Census of Population: Florida.

U.S. Department of Interior, 1970. Effects of pollution on water quality: Perdido River and Bay, Alabama and Florida. SE Water Lab., Athens, Ga., January.

_____. 1970. Effects of pollution on water quality: Escambia River and Bay, Florida. SE Water Lab., Athens, Ga., January.

Waterbury, R.C. (ed), 1970. Florida coastal zone land use and ownership. Martin-Marietta Corp.

Wenk, E. Jr., 1970. National policy for coastal management. Congr. Record-Senate, 7 December.

White, G.F., 1961. Papers on flood problems. Res. Paper No. 70, Dept. of Geo., U. of Chicago.

COASTAL ZONE REFERENCES FOR FLORIDA AND OTHER COASTAL STATES

California Advisory Commission on Marine and Coastal Resources, 1969. Proceedings of the 6th meeting, Sept. 19-20.

California Advisory Commission on Marine and Coastal Resources, 1969. Second annual report and proceedings of the 7th meeting, Dec. 5-6. Defining the California public interest in coastal zone management.

California Advisory Commission on Marine and Coastal Resources, 1970. Proceedings of the 8th meeting, May 1-2.

Cheney, P.B., 1970. The development of a procedure and knowledge requirements for marine resource planning. Mar. Res. Council Nassau-Suffolk Reg. Plan. Bd., February.

Cheney, P.B. and R.H. Ellis, 1970. Marine resources planning and management for Nassau and Suffolk counties, Long Island, New York. Mar. Tech. Soc. J., 4 (2): 50-55, March/April.

Florida Commission on Marine Sciences & Technology, 1968. Official proceedings of Conference: The sea and the states, mutal problems and the solutions, Nov. 20-23.

Gunn, C.A., 1969. Annotated bibliography of resource use Texas Gulf Coast, Recreation & Parks Dept., Texas A & M Univ., Sea Grant Publ. No. 204, November.

Hall, A.E. et al., 1968. Shoreline Utilization in the Greater Seattle area, Clearinghouse (PB 183026), January.

Hawaii Department of Planning, 1969. Hawaii and the sea, Report to the Governer's Task Force on Oceanography.

Humboldt Bay Development Commission, 1969. Final report Humboldt Bay, California.

Institute of Marine Sciences, 1969. California and the use of the ocean. U. of California, October.

Maine State Planning Office, 1970. Maine coastal development plan-Phase 1 report, June.

Miloy, J. and W.M. Blake, 1970. Texas marine resources: A summary of coastal activities, Sea Grant Publ. No. 105, Texas A & M Univ., February.

North Carolina Wildlife Resources Commission. Estuarine resources.

Robb, J., 1969. Management of the coastal zone, Lecture Series of U. of Calif., Nov. 3-6.

Swanson, R.A., 1969. The land use and natural resource inventory of New York State, N.Y. Office of Planning Coordination, Albany, June.

Trident Engineering Assoc., Inc., 1968. Chesapeake Bay case study, Clearinghouse (PB 179844), September.

U.S. Army Corps Of Engineers, 1965. Appraisal report on beach conditions in Florida, Jacksonville District, January.

U.S. Army Corps of Engineers, 1969. Water resources development by the U.S. Army Corps of Engineers in Florida, South Atlantic District, January 1.

NATIONAL COASTAL ZONE REFERENCES

Alexander, L. Federal State Responsibilities in coastal zone planning, Law of Sea Inst., U. of Rhode Island.

Coastal Plains Regional Commission, 1968. Regional plan of the Coastal Plains Regional Commission, December 19.

Coastal Plains Regional Commission, 1969. Second annual report, 1968-1969.

Coastal Studies Institute, 1970. Coastal studies bulletin number 5, Office of Sea Grant Devel., Dept. of Mar. Sci., La. St. U., February.

Floyd, C.F. et al., 1970. Economic profile of the coastal plains region, *for* Coastal Plains Regional Commission, January.

Garretson, Albert, 1968. The land-sea interface of the coastal zone of the United States: Legal problems arising out of multiple use and conflict of private and public rights and interests, New York University, September.

Knauss, J., 1969. Management and development of the coastal zone, U. of Rhode Island, Paper given before OSTAC April 23.

Ladd, B. Planning for multiple use of the coastal zone: Implications from case studies on Chesapeake Bay and Seattle Harbor, *for* National Council on Marine Resources and Engineering Development.

Maton, G.L. et al., 1968. A perspective of regional and state marine environmental activities, J.I. Thompson & Co., Washington, D.C.

National Council on Marine Resources & Engineering Development, 1968. Seminar: Multiple use of the coastal zone, Williamsburg, Va., Nov. 13-15.

O'Connor, D.M. Coastal region legal problems, Law of the Sea Program, U. of Miami Law School.

Shaw. S.P. and C.G. Fredine, 1956. Wetlands of the United States – their extent and their value to waterfowl and other wildlife, U.S. Dept. of the Interior Circular #39.

Steinitz, C. et al., 1969. A comparative study of resource analysis methods, Dept. of Landscape Arch. Res. Office, Harvard U., August.

Stratton, J.A. (Chairman), 1969. Volume 1 – Science and Environment *from* Panel Reports of the Commission on Marine Science, Engineering and Resources.

Stratton, J.A. (Chairman), 1969. Volume 2-Industry and Technology *from* Panel Reports of the Commission on Marine Science, Engineering and Resources.

Stratton, J.A. (Chairman) 1969. Volume 3-Marine Resources and Legal-Political Arrangements for their Development *from* Panel Reports of the Commision on Marine Science, Engineering and Resources.

Stratton, J.A. (Chairman), 1969. Our Nation and the Sea *from* Report of the Commission on Marine Science, Engineering and Resources.

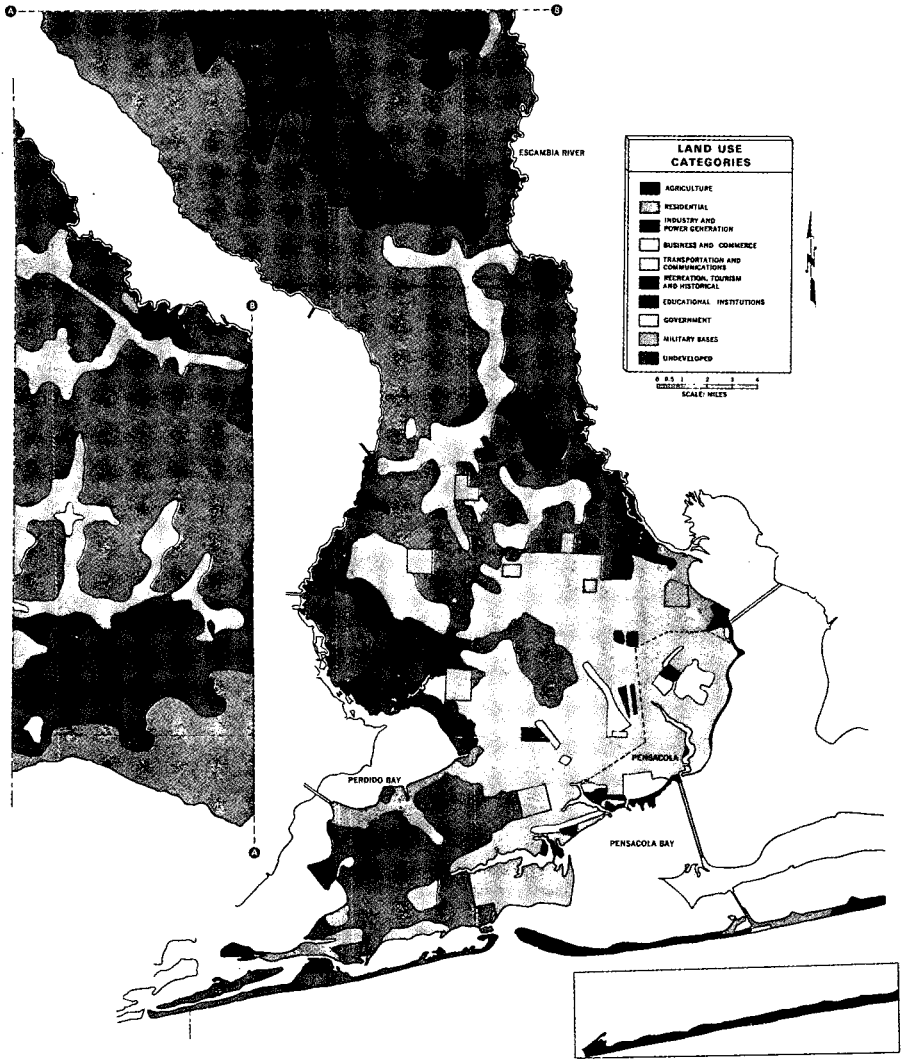
U.S. Army Corps of Engineers, 1970. Shore protection program, Office of Chief of Engineers, Washington, D.C., July.

U.S. Army Corps of Engineers, 1964. Land against the sea, Misc. Paper No. 4-64, Coastal Engineering Research Center, May.

U.S. Dept. of the Interior, 1969. The national estuarine pollution study – Vol. I, II, III, Federal Water Pollution Cont. Admin.

Wass, N.L. and T.D. Wright, 1969. Coastal wetlands of Virginia, Appl. Mar. Sci. & Ocean. Eng., No. 10, Va. Institute of Marine Science, December.

ESCAMBIA COUNTY
FLORIDA



SANTA ROSA COUNTY
FLORIDA

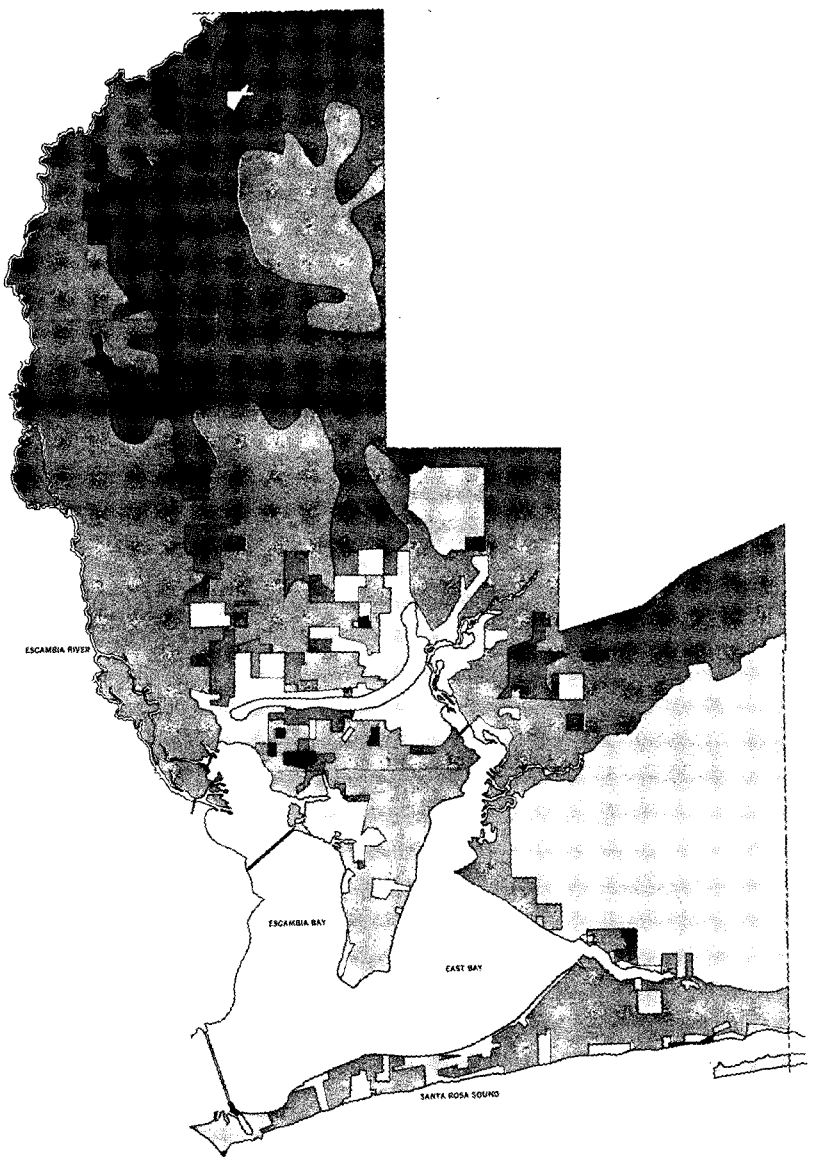


Figure 4. General Land Use

STATE OF MARYLAND,
DEPARTMENT OF CHESAPEAKE BAY AFFAIRS,
Annapolis, Md., July 8, 1971.

Mr. CRANE MILLER,
Senate Commerce Committee, Subcommittee on Oceans and Atmosphere, New Senate Office Building, Washington, D.C.

DEAR CRANE: I would like to make one strong recommendation for a revision of the Coastal and Estuarine Zone Management Act. Because I do not have a Senate copy, my reference is to the House version, H.R. 2493. I understand that the versions are identical. My recommendation is for a change to Section 313(b)(3). In place of the present language beginning "any applicant for a Federal license or permit . . . etc.", I would substitute the following: "No Federal license or permit to conduct any activity in the coastal and estuarine zone subject to such license or permit shall be issued unless the appropriate State agency has first provided to the licensing or permitting agency a certification that the proposed activity complies with the State coastal and estuarine zone management plan and program, and that there is reasonable assurance, as determined by the State, that such activity will be conducted in a manner consistent with the State's coastal and estuarine zone management plan and program."

Below are the reasons for this recommendation:

1. Under our proposal, State and Federal permit processing would run concurrently. This will cut from six to ten weeks from the total processing time of the project.
2. Concurrent processing will allow for cooperation between the State and Federal permit-granting agencies. This is particularly important where either or both require modifications to the application.
3. Concurrent processing allows for effective communication by the State and Federal fish and wildlife agencies. Tandem processing would prevent Federal participation in State permit proceedings.
4. Concurrent processing would eliminate at least two, possibly four, steps in the processing of a single case.

Maryland, in running its own tidewater permit system, has had experience in both tandem and concurrent State-Federal processing. The concurrent processing has proven superior in every respect.

Sincerely yours,

JOHN R. CAPPER, *Deputy Director.*

KENNEBUNK, MAINE, *February 3, 1971.*

Hon. ERNEST F. HOLLINGS,
Chairman, Senate Subcommittee on Oceanography, U.S. Senate, Washington, D.C.

DEAR SENATOR HOLLINGS: I wish to most emphatically oppose placing coastal management anywhere but in National Oceanographic and Atmospheric Administration. Certainly the control of our land/sea interface should not be given to the Department of Housing and Urban Development.

From its title on down, HUD is totally unfit to properly protect, in the public interest, this complex, delicate, and irreplaceable zone. HUD's function is incompatible with this need, it has no expertise, and its important operational areas rarely coincide with important coastal areas.

My uninformed suggestion would be to establish within NOAA a Coastal Zone Authority under the direct supervision of the Director of NOAA.

Sincerely yours,

CYRUS HAMLIN.

CENTEREACH, N.Y., *February 8, 1971.*

Senator ERNEST F. HOLLINGS,
Senate Subcommittee on Oceanography, U.S. Senate, Washington, D.C.

DEAR SENATOR HOLLINGS: I am sincerely hoping that you will do all in your power to prevent coastal zone management from being placed in the land planning charter of the Department of Housing and Urban Development. It seems almost inconceivable that dedicated conservationists and the ocean community would be passed over to allow a bureaucracy to further expand its control into an area

that it is most dubious that HUD is qualified. In general I find bureaucracies quite insensitive to the voter and taxpayer and too eager to undertake grand schemes that are usually expensive, in efficient, and very possibly one sided. There exists a sufficient number of individuals more closely related to the problems and needs of the coastal zone to initiate the formation of a coastal zone authority as an independent entity. Please do that which is within your power to develop influence of HUD.

Most sincerely yours,

LOUIS H. R. MULLER.

NORTHERN ILLINOIS UNIVERSITY,
DeKalb, Ill., February 8, 1971.

Senator ERNEST F. HOLLINGS,
Chairman, Senate Subcommittee on Oceanography,
Washington, D.C.

DEAR SENATOR HOLLINGS: I would like to go on record as opposing the assigning of coastal zone management to the Housing and Urban Development Department, and urge that the National Oceanic and Atmospheric Administration be assigned this responsibility. To give such an important task to an agency whose main interest is urban renewal would be a step backwards in the effort to halt the rapid deterioration of our coastal waters.

Sincerely,

DAVID W. GREENFIELD,
Associate Professor, Biological Sciences.

JANUARY 28, 1971.

Senator ERNEST F. HOLLINGS,
Chairman, Senate Subcommittee on Oceanography,
Washington, D.C.

DEAR SENATOR: As part of a firm intimately engaged in coastal zone planning studies, I vigorously oppose putting coastal zone management authority into HUD.

Instead, it needs the broad concern for special land-water problems that NOAA could give.

I urge you to oppose the Administrations views on assigning coastal zone authority to the wrong agency.

Sincerely,

RICHARD TATLOCK,
President, Coastal Research Corp.

MICHIGAN TECHNOLOGICAL UNIVERSITY,
Houghton, Mich., January 28, 1971.

Senator ERNEST F. HOLLINGS,
Chairman, Senate Subcommittee on Oceanography,
Washington, D.C.

DEAR SENATOR HOLLINGS: I note that there is consideration being given to the idea of expanding the Housing and Urban Development Department's land planning charter to include coastal resources. Although there is something to be said in favor of giving one agency cognizance over all land resources, including the coastal ones, the latter are quite unique and not susceptible of treatment on the same basis as the remainder. Indeed, it is quite likely that our coastal resources, so vital to our national well-being, would get short shrift in HUD where urban problems of transcendent urgency demand and must receive immediate attention.

I would suggest that serious consideration be given to placing responsibility for coastal zone management with the National Oceanic and Atmospheric Administration where it can be discharged with more appropriate expertise and motivation.

Sincerely,

J. A. KENT, *Dean.*

TAMPA, FLA., *January 30, 1971.*

Senator WARREN G. MAGNUSON,
Senator, H. M. JACKSON,
Senator E. F. HOLLINGS,
Washington, D.C.

DEAR SENATORS: Everything that can be done to pursuade the Administration to separate Coastal Zone Management from the H.U.D. Department—on that has demonstrated an ability to lose about as much money as it has used.

N.O.A.A. is the proper place for the Coastal Zone department. Let us study and protect our important Coastal Zone in the department best able to handle the job.

Sincerely,

W. B. PEARCE.

RICHLAND, WASH., *February 9, 1971.*

Senator WARREN G. MAGNUSON,
Chairman, Senate Commerce Committee, Senate Building, Washington, D.C.

DEAR SIR: The concept of separate coastal zone management is the only method for the government to protect our already eroded coastal areas. To give this authority to HUD would be another example of Mr. Nixon's supreme disregard for the people and resources of the United States.

Sincerely,

(MRS.) ELIZABETH R. APPLEBY.

NATIONAL LEAD CO.,
RESEARCH AND DEVELOPMENT DEPARTMENT,
Hightown, N.J., February 17, 1971.

Mr. ERNEST F. HOLLINGS,
Chairman, Senate Subcommittee on Oceanography,
Washington, D.C.

DEAR SIR: After reading recently an article on the management of coastal zones, I would like to express my opinion that this management should be left to the National Oceanic & Atmospheric Administration as this field is one in which they are well versed and more than competent to handle versus it being placed in the Housing & Urban Development's land planning charter.

Thank you for your kind consideration in this matter.

Very truly yours,

(Miss) NINA VAN DELEUR.

SEATTLE, WASH., *February 15, 1971.*

Hon. ERNEST F. HOLLINGS,
Chairman, Senate Subcommittee on Occanography,
Senate Office Building, Washington, D.C.

DEAR SENATOR HOLLINGS: As a concerned citizen of a coastal state and community, I wish to express my displeasure upon hearing the rumor that the Administration may propose placing responsibility for coastal zone management under HUD. This seems a foolhardy and wasteful idea since HUD has no apparent experience in the marine field.

Establishing a separate, independent agency would be contrary to the present trend of consolidating similar activities under one organization.

Responsibility for coastal zone management would logically fit in with the hydrographic, fisheries and marine minerals surveying presently being performed by NOAA under the Department of Commerce. NOAA does have unique knowledge of the marine world, operates an extensive fleet of research ships, has close ties with the scientific community on the national and international levels and, in spite of the fears of conservationists, does have a greater concern for protection of the environment than do most agencies of the Government.

I hope your committee is willing and able to prepare legislation that will lead to utilization of existing NOAA resources rather than establishment of another marine-oriented agency from scratch.

Thank you very much for your attention.

Sincerely yours,

GRAHAM E. MATHES.

SAN ANTONIO, TEX., *February 14, 1971.*

DEAR SIR: I am currently preparing to pursue a career in oceanography research at Trinity University and therefore wish to convey to you my growing concern for the President's forthcoming proposal to expand HUD's land planning charter to include coastal resources. This would serve as a severe setback to research and development of these coastal areas. Separate coastal zone management power as a means to integrate intelligent nationwide planning and funding at the federal level with initiative and awareness at the State level would be a far more prudent course of action. I urge you to support this plan.

Very sincerely,

LAURA K. IVES.

DEPARTMENT OF THE NAVY,
NAVAL UNDERSEA RESEARCH AND DEVELOPMENT CENTER,
San Diego, Calif., February 16, 1971.

Hon. ERNEST F. HOLLINGS,
Chairman, Senate Subcommittee on Oceanography,
U.S. Senate, Washington, D.C.

DEAR SENATOR HOLLINGS: The suggestion that the President proposes to assign responsibility for the management of coastal resources to the Department of Housing and Urban Development is troubling to many of us conducting research in marine biology. We had hoped that recently established NOAA would continue to grow in its responsibilities for such matters. If it is not given jurisdiction over coastal affairs, its impotence is certainly insured. We need no more figurehead groups; we need an organization which can and will concentrate efforts toward reasonable management of our ocean enviroment. We oppose the assignment of coastal management to HUD and encourage its assignment to NOAA.

Sincerely yours,

J. S. LEATHERWOOD, *Scientific Staff Assitsant.*

ROWLAND HEIGHTS, CALIF., *February 15, 1971.*

Senator ERNEST F. HOLLINGS,
Chairman, Senate Subcommittee on Oceanography,
Washington, D.C.

DEAR SENATOR: Apparently the White House intends to combine land and ocean authorities under one hat, i.e. HUD. I protest! I interpret this trend as a further degrading of priority from the past proposal to combine the ocean authority with the Department of the Interior. The rationale seems to be, based on the President's message in turn based on the Ash Committee report, that centralized government increases efficiency. Generally true, granted, but this also requires the participants to coordinate their activities often at the expense of special programs and operate under a heavy bureaucracy.

I agree wholeheartedly with the Federal government's ideal of eliminating redundant functions. I do not agree, however, that basically independent authorities coping with radically different problems can function and develop efficiently under the same management. Responsibility to the public interest would be increasingly remote and indirect, such that the authority could act only within the dictates, and be subject to the stronger political tides, of the larger organization. In short, to bury the existing, infant ocean agencies in the larger, established bureaucracy of land and urban administration would hinder their maturity into an omnipotent authority. It would also weaken sensitive progress towards the exploitation and conservation of a great, untapped, natural resource, and enhance the trend to repeat the errors of the past. Since this resource is obviously so vast and, as yet, relatively unexplored, we must proceed carefully and under specialized, experienced leadership. I believe the atmosphere necessary to attract and hold such leadership can be built and maintained only in an autonomous agency.

The first step is to establish authority in an organization administering our coastal margins. The need for an agency in government to initiate research and organize or mobilize oceanographic technology is immediate. Renowned authorities are long on record as favoring the independent agency approach. The Commission on Marine Science, Engineering and Resources leads the way in recommending such an approach. Also, polls of individuals active in this field, pub-

lished in the Oceanology International magazine in July/August, 1967, and again in March/April, 1968, demonstrate that the commission's recommendations are backed by the people involved. Be it called "NASA of the Sea", "National Oceanic and Atmospheric Agency (NOAA)", or whatever, the clear intent is to provide a politically insulated agency to guide and coordinate unique programs towards making the ocean's resources available for the benefit of mankind. Let a review of the history and current standing of NOAA and NACOA be a reminder of the results of current White House football tactics and the results of premature compromise. An obvious ground-rule would seem to be the establishment of such an agency independent of presidential elections, appointments and apparently empty campaign promises.

I believe strongly that an objective, autonomous administration with omnipotent public authority and free of established bureaucracy is the optimal alternative and worth striving for without compromise. This agency should be empowered to negotiate and coordinate the large number of present and foreseeable Federal, State, and Local activities and demands generated during development and use of our marine resources. Such an agency would fill an immediate need since there is a general lack of viable, responsible government operations adequate to meet modern and future demands at any level. Even the legal framework is yet to be refined. An active, dedicated leadership can best be collected and empowered to act, with and for the multitude of public and special interests involved, in the atmosphere possible only in an independent organization. Until then, opportunities shall continue to pass untouched and programs delayed or made to falter for lack of vigorous sponsorship and the guidance only strong, independent leadership can provide. After a period of trial, this agency can be easily combined as presently proposed, if such is indicated. However, the reverse would be against all established rules of bureaucratic empire building.

On a more personal note, I want to thank you for your past and continuing hard effort in this field. Your efforts are much appreciated by all those interested and me in particular. I sincerely hope your groundwork of last year will finally bear fruit this year.

If there is any way that I, personally, can be of service on a voluntary basis, please call on me. As a practicing, professional engineer, I may be of some assistance towards providing a sound, technical background for your studies and proposals. Some pertinent notes on my background are:

Age: 34.
Profession: Civil Engineer; Registered in the State of California.
Qualifications: Master of Science (USC); Special courses.
Background: Design of Shipyard; Research, Development and Construction of Missile Installations (Minuteman, Safeguard, Hardrock); Specialize in Protective Design, Structural Dynamics and Computer Applications; Past owner of commercial sport fishing boat; Expert SCUBA diver.

Sincerely yours,

RONALD G. CLARY, *P.E.*, *M.S.C.E.*

STATEMENT OF POLICY ADOPTED BY THE CITY COUNCIL, CITY OF NEWPORT BEACH, CALIF.

COASTAL ZONE PLANNING AND MANAGEMENT

Coastal zone planning and management should adhere to the following principles:

Public interest.—All of the people of the State have a primary interest in the conservation and utilization of all of the coastal resources as well as for other

massive resources such as rivers, mountains and deserts. Uses of the coastal zone must be regulated to attain the best balance between preservation and development of resources.

Coastal zone use criteria and guidelines.—The State should develop criteria and guidelines for uses of the coastal zone which should include components for all lawful uses and which should not generically prohibit any lawful use. The criteria should facilitate an optimum combination of such uses in the coastal zone by a consideration of all public and private benefits and costs resulting from them. Special regulation should apply to uses which may cause irreversible diminishment of coastal resources. Environmental and ecological priorities should be established for areas of the coastal zone, the establishment of areas being based on natural environmental compartments.

Planning process and organization.—A single State Agency should be designated to give leadership to State planning and to develop the coastal zone criteria and guidelines. Local agencies within the coastal zone must be required to develop coastal elements of their general plans that are in accord with State criteria and guidelines. Regional coordination should be effected through a review and comment process within county lines. Where two or more counties occupy a large environmental compartment designated by the State, regional coordination should be effected either through an existing Council of Government, by a joint powers agreement or by the establishment of a regional planning district in accordance with the Government Code. Any agency formed to provide regional planning functions must have a predominate majority of elected city officials from cities abutting the shoreline in its membership. A State plan will consist of a collection and coordination of county and regional plans after the State agency has reviewed them for compliance with criteria and guidelines.

Management process and organization.—Management must be at the local agency level in response first to State criteria and guidelines, and secondly to coastal elements of the local agency general plan when developed. Specially regulated uses may be subject to State approval after proposed uses are reviewed and commented upon by counties or regional agencies, as appropriate. State and Federal agencies proposing uses in the coastal zone must coordinate with the State plan and must receive approval of the State agency designated to manage the coastal zone.

In order to most quickly and effectively implement planning and management of the coastal zone, existing capabilities and experience at the local, regional and State level should be reinforced and exploited and not supplanted by new agencies.

Personal and private property rights.—In the effort to conserve and enhance the coastal zone, constitutionally guaranteed personal and property rights must not be abridged. The burden of financing should not fall on landowners in the coastal zone disproportionate to the benefits received by them.

Effect on local government.—Appropriate recognition must be given to the effect of coastal zone planning and management on units of local government. A means should be provided for equalizing benefits as well as costs incurred in maintaining or enhancing environmental factors or in sustaining low density uses.

Enforcement.—Existing legal enforcement procedures should be utilized along with provisions for substantial fines on a daily basis for violations of use regulations.

Funding.—The designated State agency should be funded to be properly staffed and to be able to obtain and provide required technical and scientific advice in both the planning and management processes. The State should provide a means whereby local agencies can obtain technical and scientific advice either directly or through funding support.

Adopted May 24, 1971.

PLEASE BRING THIS DRAFT TO THE ANNUAL MEETING

The American Law Institute

A MODEL LAND DEVELOPMENT CODE

Submitted by the Council to the Members of The American Law Institute for Discussion at the Forty-eighth Annual Meeting on May 18, 19, 20, and 21, 1971

Tentative Draft No. 3

SUBJECTS COVERED:

ARTICLE 7. State Land Development Regulation
ARTICLE 8. State Land Development Planning
ARTICLE 9. Judicial Review

April 22, 1971

The Executive Office
THE AMERICAN LAW INSTITUTE
4025 Chestnut Street
Philadelphia, Pa. 19104

© 1971 BY THE AMERICAN LAW INSTITUTE

THE AMERICAN LAW INSTITUTE

Norris Darrell, *President*
R. Ammi Cutter, *1st Vice-President*
Bernard G. Segal, *2nd Vice-President*
Laurens Williams, *Treasurer*
Herbert Wechsler, *Director*
Paul A. Wolkin, *Assistant Director*

COUNCIL

Francis A. Allen	Ann Arbor	Michigan
Dillon Anderson	Houston	Texas
Frederick A. Ballard	Washington	District of Columbia
F. M. Bird	Atlanta	Georgia
Charles D. Breitel	New York	New York
John G. Buchanan	Pittsburgh	Pennsylvania
William T. Coleman, Jr.	Philadelphia	Pennsylvania
Homer D. Crotty	Los Angeles	California
R. Ammi Cutter	Boston	Massachusetts
Norris Darrell	New York	New York
Hardy C. Dillard	Charlottesville	Virginia
Edward J. Dimock	New York	New York
Arthur Dixon	Chicago	Illinois
H. Vernon Eney	Baltimore	Maryland
Thomas E. Fairchild	Milwaukee	Wisconsin
Jefferson B. Fordham	Philadelphia	Pennsylvania
Paul A. Freund	Cambridge	Massachusetts
Henry J. Friendly	New York	New York
Edward T. Gignoux	Portland	Maine
Erwin N. Griswold	Washington	District of Columbia
Peter H. Holme, Jr.	Denver	Colorado
Vester T. Hughes, Jr.	Dallas	Texas
Laurance Mastick Hyde	Jefferson City	Missouri
William J. Jameson	Billings	Montana

Joseph F. Johnston	Birmingham	Alabama
Edward Hirsch Levi	Chicago	Illinois
William B. Lockhart	Minneapolis	Minnesota
Ross L. Malone	New York	New York
William L. Marbury	Baltimore	Maryland
Hale McCown	Lincoln	Nebraska
Wade H. McCree, Jr.	Detroit	Michigan
Carl McGowan	Washington	District of Columbia
Vincent L. McKusick	Portland	Maine
Charles Merton Merrill	San Francisco	California
Roswell B. Perkins	New York	New York
H. Chapman Rose	Cleveland	Ohio
Walter V. Schaefer	Chicago	Illinois
Austin W. Scott	Cambridge	Massachusetts
Bernard G. Segal	Philadelphia	Pennsylvania
Eugene Bonn Strassburger	Pittsburgh	Pennsylvania
Roger J. Traynor	Berkeley	California
Lawrence E. Walsh	New York	New York
Raymond S. Wilkins	Boston	Massachusetts
Charles Hastings Willard	New York	New York
Laurens Williams	Washington	District of Columbia
John Minor Wisdom	New Orleans	Louisiana
Charles Alan Wright	Austin	Texas
Charles E. Wyzanski, Jr.	Boston	Massachusetts

CHIEF REPORTER

ALLISON DUNHAM, University of Chicago Law School, Chicago, Illinois

ASSOCIATE REPORTER

FRED P. BOSSELMAN, Chicago, Illinois [As of March 1969]

ASSISTANT REPORTERS

IRA MICHAEL HEYMAN, University of California School of Law, Berkeley, California [To March 1969]
JAN Z. KRASNOWIECKI, University of Pennsylvania Law School, Philadelphia, Pennsylvania [To March 1969]
TERRANCE SANDALOW, University of Michigan Law School, Ann Arbor, Michigan [To March 1969]

ADVISORY COMMITTEE

RICHARD F. BABCOCK, Chicago, Illinois
Chairman, Advisory Committee
DAVID CRAIG, Pittsburgh, Pennsylvania
HOMER D. CROTTY, Los Angeles, California
R. AMMI CUTTER, Associate Justice, Supreme Judicial Court of Massachusetts, Boston, Massachusetts
ARTHUR DIXON, Chicago, Illinois [As of 1969]
H. VERNON ENEY, Baltimore, Maryland [As of 1969]
JEFFERSON B. FORDHAM, Professor of Law, University of Pennsylvania Law School, Philadelphia, Pennsylvania
PHILIP P. GREEN, JR., Professor, Institute of Government, University of North Carolina, Chapel Hill, North Carolina
FREDERICK W. HALL, Justice, Supreme Court of New Jersey, Somerville, New Jersey
MENDES HERSHMAN, New York, New York
BURNHAM KELLY, Dean, College of Architecture, Cornell University, Ithaca, New York
JOHN M. JONES, JR., Baltimore, Maryland
ROBERT W. O'DONNELL, Denver, Colorado [To January, 1970]
DENNIS O'HARROW, American Society of Planning Officials, Chicago, Illinois [Deceased 1967]
REUBEN OPPENHEIMER, Associate Judge, Retired, Court of Appeals of Maryland, Baltimore, Maryland [As of 1968]
KLINE ROBERTS, President, Columbus Area Chamber of Commerce, Columbus, Ohio
SAMUEL J. ROBERTS, Justice, Supreme Court of Pennsylvania [As of 1969]
S. J. SCHULMAN, Urban Development Corporation, White Plains, New York
ARTHUR E. WHITTEMORE, Associate Justice, Supreme Judicial Court of Massachusetts, Boston, Massachusetts [Deceased 1969]
ALBERT B. WOLFE, Boston, Massachusetts

EX-OFFICIO

NORRIS DARRELL, New York, New York
President, The American Law Institute
HERBERT WECHSLER, New York, New York
Director, The American Law Institute

FOREWORD

Last year the Institute examined the statutory framework of the local control of land development, based on the old Department of Commerce Model Acts that were pervasively enacted during the last forty years. Proposals for change in both the form and substance of this legislation, clarifying the authority conferred, improving the procedure for its exercise and seeking, within limits, to encourage planning as an incident of local regulation, were receptively considered at the Meeting.

Important as it was, Tentative Draft No. 2 had no more than the modest object of re-working and improving the prevailing statutory norms. The present Draft pursues a more ambitious goal. Its basic premise is that total localism in the regulation of land development has now become anachronistic, calling for imaginative recourse to the State's authority to safeguard values that ought not to be subordinated to competing local interests. Articles 7 and 8 attempt to delineate such values and to fashion mechanism and procedures for their adequate protection, relying so far as possible on local agencies as organs of administration. That these formulations are both timely and important is attested by the current federal proposals with respect to land use policy, designed to stimulate precisely such initiative by the States. The Institute can render a great service by considering these Articles with care.

The Draft also attempts in Article 9 a full treatment of the scope and method of obtaining judicial review of administrative determinations under the Code. This also is a subject of importance, since State Administrative Procedure Acts often do not apply to the review of agencies of local governments, and general doctrines governing

judicial intervention may profit, in any case, from thoughtful exploration in relation to the normative elaboration in the Code.

I should add that though the Council has considered this material on several occasions, it has not yet given its final approval of the text. It authorized submission of the Tentative Draft for consideration and discussion at the Meeting, intending to examine it again in light of all the criticism and suggestions. Issues as difficult and delicate as these merit such special caution in the shaping of the Institute's position.

The material included in this Draft, together with that covered in Tentative Draft No. 2, constitutes a major portion of the substance of the Code. Problems of significance remain, as the Reporters indicate in their description of the Code that they envisage (pp. xiv, xv), but what is still to come is supplementary. The central contribution of the project is before us now.

Those who remember Tentative Draft No. 1 of 1968 will recognize that its suggested statutory text has been completely superseded by Tentative Draft No. 2 and the present Draft. Not all of the commentary of Draft No. 1 has been reproduced, however, in the subsequent submissions. The portion that retains vitality will, of course, be revised and included when we reach the stage of a Proposed Official Draft.

HERBERT WECHSLER
Director
The American Law Institute

April 11, 1971

63-902 O - 71 - 29

TABLE OF CONTENTS

Section *Page*

Reporters' Introductory Memorandum xiii
Questions for Discussion xv

ARTICLE 7. STATE LAND DEVELOPMENT REGULATION

Commentary 1

PART 1

GENERAL PROVISIONS

7-101. Scope and General Applicability 7
7-102. Power to Exempt Regions or Development 9

PART 2

DISTRICTS OF CRITICAL STATE CONCERN

7-201. Designation of Districts of Critical State Concern 9
7-202. Suspension of Development 14
7-203. Local Regulations 15
7-204. State Regulations 16
7-205. Time Limit on Adoption of Regulations 18
7-206. Amendment of Regulations 18
7-207. Development Permission in Districts of Critical State Concern .. 19
7-208. Notice to State Land Planning Agency 20

PART 3

SPECIAL DEVELOPMENT PERMITS FOR DEVELOPMENT OF STATE OR REGIONAL BENEFIT

7-301. "Development of State or Regional Benefit" 21
7-302. Special Development Procedures for Development of State or Regional Benefit 25
7-303. Standards Applicable to Permits for Development of State or Regional Benefit 26

PART 4

LARGE SCALE DEVELOPMENT

7-401. "Large Scale Development" 27
7-402. Location of Large Scale Development 30
7-403. Special Development Procedures for Large Scale Development .. 31
7-404. Standards Applicable to Permits for Large Scale Development .. 33
7-405. Additional Standards Applicable to Large Scale Development Substantially Increasing Employment 35

PART 5

ANALYSIS OF OVERALL IMPACT OF DEVELOPMENT

7-501. Balance of Detriments and Benefits 37
7-502. Areas and Factors to be Considered 37

PART 6

OFFICIAL MAP RESERVING LAND FOR GOVERNMENTAL AGENCIES

7-601. Adoption of Official Map 42
7-602. Development Permission in Designated Areas 43
7-603. Expiration of Designation 44

TABLE OF CONTENTS (Continued)

Section *Page*

PART 7

APPEALS TO STATE LAND ADJUDICATORY BOARD

7-701. State Land Adjudicatory Board 44
7-702. Appeals 45
7-703. Decisions of State Land Adjudicatory Board 46
7-704. Procedure for Rules and Orders 47

ARTICLE 8. STATE LAND DEVELOPMENT PLANNING

Commentary 48

PART 1

STATE LAND PLANNING AGENCY

8-101. Organization of State Land Planning Agency 53
8-102. Regional Planning Divisions 55
8-103. State and Regional Advisory Committees 60
8-104. Interstate Planning 62

PART 2

GENERAL POWERS

8-201. Power to Adopt Rules and Issue Orders 62
8-202. Educational Programs 63
8-203. Intervention in Judicial and Administrative Proceedings 64
8-204. Designation of Persons Who May Appear at Local Administrative Hearings 65
8-205. Appointment of Local Land Development Agency 65

PART 3

APPLICATIONS FOR FEDERAL OR STATE LOANS OR GRANTS

8-301. Designation of Areawide Planning Agency 66
8-302. Review of Applications 67

PART 4

STATE LAND DEVELOPMENT PLANS

8-401. State and Regional Land Development Plan 68
8-402. Objectives, Policies and Standards of State Land Development Plan 71
8-403. Consideration of Local and Agency Plans 73
8-404. Short-Term Program 74
8-405. Adoption of State Land Development Plan 77

PART 5

LOCAL PLANNING ASSISTANCE

8-501. Planning Assistance to Local Governments 83
8-502. Review and Comment on Local Land Development Plans 84
8-503. Specification of Data and Projections 86

PART 6

LONG RANGE PLANNING INSTITUTE

8-601. Creation of Institute 87
8-602. Functions of Institute 87
Appendix 89

TABLE OF CONTENTS (Continued)

Section *Page*

ARTICLE 9. JUDICIAL REVIEW

Commentary 96

PART 1

JUDICIAL REVIEW OF ORDERS, RULES AND ORDINANCES

9-101. General Provisions 102
9-102. Place for Judicial Review 103
9-103. Persons Entitled to Initiate Judicial Proceedings to Review Orders 104
9-104. Persons Entitled to Initiate Judicial Proceedings Where no Order is Involved 109
9-105. Intervention in Judicial Proceedings 110
9-106. Time Limitations on Challenges to Validity of Orders, Ordinances and Rules 111
9-107. Requirements for Commencement of Judicial Proceedings 113
9-108. Record in Proceeding Concerning an Order 115
9-109. Basis for Judicial Relief 116
9-110. Judicial Relief Available; Consolidation of Actions 118
9-111. Stay in Certain Cases 119
9-112. Effect of Court Order 122
9-113. Appeals 123

REPORTERS' INTRODUCTORY MEMORANDUM

Submitted herewith is Tentative Draft No. 3 of the Model Land Development Code. Tentative Draft No. 2, which was submitted to the Institute in May, 1970, contained general provisions including definitions in Article 1; provisions enabling local governments to regulate the development (defined as new construction and changes in use) of land and administrative provisions for the agency of local government empowered to act on applications for development permits in Article 2; and provisions enabling local governments to engage in land development planning in Article 3. Two appendices in Tentative Draft No. 1 (May 1968) are also relevant by way of background since they set forth the basic existing statute law: the Standard State Zoning Enabling Act (SZEA) and the Standard City Planning Enabling Act (SPEA) prepared by the United States Department of Commerce in the 1920's and widely copied. T.D. 2 is basically a codification and modification of these early models in light of almost 50 years of case law development and changes in local ordinances.

T.D. 3 presents the most far-reaching and controversial material submitted up to this point. The basic policy issues in T.D. 2 concerned the extent to which government should be permitted to interfere with decisions of landowners regarding the use of land. While the question of government power to interfere with the decisions of landowners continues to be prominent in Articles 7 and 8 of this Draft, the essential policy question in these Articles is an intergovernmental one: To what extent should the interests of the state as a whole be brought to bear on the local desires reflected in a local plan or ordinance regulating land development?

Articles 7 and 8 empower the state land planning agency to treat certain land development matters on a

statewide or regional basis. In the instances enumerated in Article 7, the local administrative agency is directed to grant or deny development permits if certain state or regional standards are met, notwithstanding a local ordinance directing that the application for development be denied or granted.

Article 8 on state planning is analogous to Article 3 on local planning. It describes the subject matter of the state plan; it prescribes how it is to be adopted; and in certain instances the Article directs that state planning determinations supersede determinations on the same subject made in a local plan under Article 3. While the basic adjudicatory determination on an application for development continues to be made by the local land development agency, provision is made in Article 7 for a statewide appellate administrative agency to review local administrative determinations where statewide interest is involved.

Article 9 on judicial review brings to bear on zoning and subdivision litigation the experience of judicial review under state administrative procedure acts. In most states these acts are not applicable to local as distinguished from state administrative agencies.

It may be helpful to the reader to have some idea of the work in process. The Reporters' plan for the balance of the Code (not yet approved by the Council) is as follows:

Article	1.	General Provisions (T.D. 2)
Article	2.	Power to Regulate Development (T.D. 2)
Article	3.	Land Development Plans and Powers of Planning Governments (T.D. 2)
Article	4.	Land Acquisition (In process)
Article	5.	Termination of Existing Land Use (In process)
Article	6.	Compensation for Development Regulation (In process)
Article	7.	State Land Development Regulation (In this T.D. 3)

Introductory Memorandum

Article 8.	State Land Development Planning (In this T.D. 3)
Article 9.	Judicial Review (In this T.D. 3)
Article 10.	Enforcement (In process)
Article 11.	Public Records of Development Permits (In process)
Article 12.	Financial Provisions (In process)

The introductory memorandum to T.D. 2 sets out the Reporters' over all goals and should be referred to by a reader unfamiliar with the project. The general purposes of each of the Articles presented in T.D. 3 are discussed in the commentary that precedes each Article.

Allison Dunham
Fred P. Bosselman

QUESTIONS ON TENTATIVE DRAFT NO. 3 SUGGESTED FOR DISCUSSION AT ANNUAL MEETING

1. Section 7-101. Article 7 identifies certain development problems as being of state or regional concern and sets up standards for insuring that the state or regional interest is considered in decisions regarding these problems. It provides, however, that the initial decision should be made by a local Land Development Agency subject to a right of appeal to a state board. For reasons set forth in the Commentary to Article 7, the Reporters have rejected the alternative of preempting the local process of development regulation by replacing it with a process of hearings and decisions by a state agency. Are these reasons sound?

2. Section 8-101. The draft proposes that a State Land Planning Agency be created in the office of the Governor. The Note to this section states that a planning agency in a

line department would be a second but decidedly inferior choice; it rejects the idea of a separate and independent planning commission. Are these positions sound?

3. Section 8-405. The Reporters have suggested that a State Land Development Plan become effective if it has been submitted by the Governor to the Legislature and neither House has passed a resolution disapproving the plan within 90 days thereafter. A variety of alternative methods for making the plan effective are discussed in the Note to this section. Have the Reporters chosen the best of these alternatives?

4. Sections 9-103 and 9-104. These sections define the categories of persons who are granted standing to seek judicial review of orders, rules and ordinances concerned with land development. Should the persons entitled to litigate an erroneous governmental action either granting or denying development permission be as restricted as is proposed in the enumerated sections? In particular, in view of the current concern that certain restrictions of local governments are imposing discriminatory burdens on racial or economic classes, have the Reporters in § 9-104(5) made it reasonably possible to bring class actions in regard to these issues or are additional provisions needed?

ARTICLE 7. STATE LAND DEVELOPMENT REGULATION

COMMENTARY ON ARTICLE 7

Until recently, the choice of local government as the agency to exercise the states' powers to regulate land development had been accepted with little question. Within the past few years, however, the attention of the country has been focused on a number of well-publicized problems caused by the failure of the state government to retain any of its power to regulate the use of land within its boundaries.

In Florida one of the major sources of opposition to the proposed Everglades Airport was fear that local governments would encourage the development of commercial and industrial facilities in the area around the airport. In New York the consumer faces electricity shortage because local opposition to new generating plants has stymied both private utilities and state agencies. In California the willingness of each local government around San Francisco Bay to see its share of the Bay filled to encourage new development raised the prospect that the Bay would be turned into a river. In New Jersey the failure of the local communities to agree upon a plan for the development of the Hackensack Meadows stymied the development of this important area for many years. Many other examples could be cited.

Also within recent years the report of the National Commission on Urban Problems, together with the Kerner Commission and Kaiser Committee reports and other recent studies, focused the nation's attention on the extent to which local restrictions on low-income housing were responsible for the inability of minority groups to obtain access to new suburban jobs. All of these problems have suggested

the need for some form of state or regional participation in the control of land use.

Hawaii undertook the first and most far-reaching reform of land use regulation in 1961, placing statewide zoning power in its State Land Use Commission. Hawaii Rev. Stat. § 205 (1968). As required by statute, the Commission has divided the entire state into four zones: urban, rural, agricultural, and conservation. County agencies have substantial authority to delineate allowable uses within the boundaries of some zones, subject to the general regulation of the Commission. Counties undertake the enforcement of use restrictions in all zones, the Commission having no enforcement arm of its own.

Vermont, faced with a second-home boom and several major industrial developments, created a state board which, with the help of nine District Commissions, will eventually administer a statewide land use plan. 151 Vt. Stat. Ann. §§ 6001-091 (Supp. 1970). Residential, commercial, and industrial developments in excess of 10 acres must obtain state permits under the Vermont act, but if the municipality having jurisdiction has not adopted permanent zoning and subdivision laws any development of one acre or more must obtain a state permit.

In Wisconsin the state's concern with development was confined largely to "critical areas" around lakes and waterways. During the 1960's Wisconsin had carried out a statewide inventory of values in the rural landscape and discovered that the majority of such values appeared along waters and nearby lands. Most of these lands were under heavy development pressure. Septic tanks and erosion from heavy construction threatened the quality of Wisconsin waterways and shorelands. In response to such problems the legislature adopted the Shoreland Zoning Law. 59.971 Wisc. Stat. Ann. 144.26 (Supp. 1970). Administered by the Division of Resource Development, it is applied to areas

1,000 feet around lakes and within 300 feet from river basins. The Division supervises counties having jurisdiction over such areas to ensure that the counties are making satisfactory progress toward adopting shoreland zoning acceptable to the Division. In counties which adopt no ordinance or an unsatisfactory ordinance, the Division will impose its own ordinance at the cost of the county.

In Massachusetts the legislature expressed concern about the inability to obtain local permission to construct modestly priced housing. The Zoning Appeals Act, 40B Mass. Gen. Laws Ann. §§ 20-23 (Supp. 1971) establishes a Housing Appeals Committee within the Department of Community Affairs. This Committee hears appeals by developers who have been denied necessary local approval to build subsidized housing. The developer (who must be a public housing agency, or a non-profit or limited dividend corporation) first applies to the local zoning board of appeals for a comprehensive permit, in lieu of applying for the numerous local permits (fire, health, building, etc.) normally required of a residential development. The zoning board may refuse to issue the permit if this refusal is "consistent with local needs," defined by statute to include three basic facets: regional housing needs, traditional local planning standards for residential development, and a cut-off rule under which a community need not accept additional subsidized housing if either 10 per cent of its existing housing stock consists of subsidized units, or if such units occupy 1.5 per cent of its land area, excluding public lands. On an annual basis, a community need not consider further proposals for subsidized housing if previously approved sites exceed 0.3 per cent of its land area, excluding public lands, or 10 acres, whichever is larger.

Innovations in state land development regulation are proliferating in many other states also. The State of California has created the San Francisco Bay Conservation

and Development Commission, Cal. Govt. Code §§ 66600-652 (Supp. 1971). In New Jersey the Hackensack Meadowlands Development Commission controls the use of land in an area of the meadows formerly regulated by 14 separate local governments. N.J. Stats. Ann. C13:17-1 *et. seq.* Many coastal states have passed wetlands legislation requiring a permit from a state agency before any development can take place in marshland areas. See, *e.g.,* 130 Mass. Gen. Laws Ann. § 27A, 105, 131 *id.* § 40 (Supp. 1970). All of these laws, like the Wisconsin law cited earlier, identify specific portions of the state as requiring special concern by a statewide agency.

Maine has recently established a procedure requiring all large commercial and industrial developments to obtain a permit from the state's Environmental Improvement Commission. 38 Me. Rev. Stat. Ann. Ch. 481-88 (Supp. 1970). These statutes, like the Massachusetts Zoning Appeals Act, identify particular types of development having a state or regional impact.

In the federal government there has been an increasing interest in encouraging the states to become involved in state land planning and regulation. The Congress has on its 1971 agenda bills from both sides of the aisle that would provide federal financial assistance to states for this general type of legislation.

This Article 7 is designed to assist the states in finding a workable method for state and regional involvement in land development regulation. Although the increased state and federal concern with the consequences of land development is welcome, it is important to channel this concern into areas where it will be effective in dealing with important problems without unnecessarily increasing the cost of the land development process. A time-consuming and inefficient procedure requiring the approval of state or federal agencies for decisions of minor importance could have

serious social consequences, especially for development in which cost is a key factor, such as housing.

For this reason it is important to recognize that at least 90 per cent of the land use decisions currently being made by local governments have no major effect on the state or national interest. Furthermore, most of these decisions can be made intelligently only by people familiar with the local social, environmental and economic conditions. The decision whether a gas station should be located on the corner of Fifth and Main Street in Elyria, Ohio can only be made intelligently in Elyria, not in Columbus or in Washington. The Reporters have tried, therefore, to balance the need for expanded state participation in the control of land use against a policy that this participation be directed toward only those decisions involving important state or regional interests, while retaining local control over the great majority of matters which are only of local concern.

The problem of defining in advance those matters that will be of state or regional interest is not an easy one. The Reporters are proposing three methods intended to complement each other, although it would be quite possible for a state to use only one or two of the methods. The three methods are:

1. The state may designate portions of the state in which, because of their natural resources or the characteristics of development that has previously occurred, future development of any character becomes an issue of statewide concern. Examples of such areas might include a tidelands marsh, an area surrounding a major highway interchange, or the approaches to an airport. This method is embodied in the portions of this Code dealing with "Districts of Critical State Concern" found in Part 2 of Article 7.
2. Some types of development by their very nature almost invariably become matters of state or regional concern. These would obviously include airports, public utility transmission lines, major highways, etc. Part 3 of Article 7 provides for an appeal to a state board from local decisions regarding this type of "Development of State or Regional Benefit."

3. Some types of development may have only local impact if undertaken on a small scale but may be of state or regional significance when undertaken on a large scale. Part 4 of Article 7 provides for an appeal to the State Land Adjudicatory Board in regard to "Large Scale Development."

Throughout all of these methods the Reporters have followed the principle that policy should be established at the state level but the enforcement of that policy should be handled by the local Land Development Agencies in deciding particular cases, subject to appeal to a State Land Adjudicatory Board on the record made before the local Land Development Agency. Thus the state legislature and the State Land Planning Agency determine policies, the local Land Development Agencies administer them in conjunction with local policies, and the State Land Adjudicatory Board exercises an appellate function. This procedure eliminates the need for active involvement of any state agency in the process of holding hearings, taking evidence and making initial decisions, thus reducing the cost of administering the state program. And by placing the state board in a purely appellate role it hopes to encourage concentration on important issues rather than minor details.

The Reporters have not required the adoption of a State Land Development Plan as a prerequisite to state regulation. Many problems need urgent attention by the state that should not be delayed by the necessity of obtaining final action on an overall state plan. The existence of a viable planning process is, of course, a key ingredient in any successful regulatory system. Article 8 contains the authorization for a process of state land development planning that complements the regulatory provisions of Article 7.

ARTICLE 7. STATE LAND DEVELOPMENT REGULATION

Part 1

General Provisions

Section 7-101. Scope and General Applicability

(1) Notwithstanding the provisions of a development ordinance or rule of a local government, every Land Development Agency shall be governed by the procedures, standards and criteria set forth in this Article 7 in passing on applications for development permission subject to this Article.

(2) An order granting or denying development permission under this Article may be made subject to compliance with reasonable conditions designed to adjust the interests of the governmental agencies involved, including the payment of money by one governmental agency to another, in addition to any conditions that may be authorized under other articles of this Code.

NOTE

(1) Although this Article is titled "State Land Development Regulation," it is the local government's Land Development Agency that remains the primary regulatory body. It continues to hold the public hearing and make the initial decision on all applications for development permits. This Article brings into play a statewide regulatory element, however, by establishing standards (and authorizing a state agency to establish standards) with which certain of the more important local decisions must comply, and by authorizing appeal of these decisions to a state board.

Although the Reporters desired to see increased state participation in land use regulation, they certainly do not seek to replace local regulation as the basic mechanism for controlling the use of land. Even land use decisions that will clearly have a statewide impact should initially be decided by a local agency rather than by

an agency at the state level. The great majority of land use decisions do not involve matters of state or regional importance, so it is necessary to create local machinery for handling these land use issues, because the local people will be familiar with the land and the specific conditions of the local community and may discern problems in a development proposal that would be too subtle for people not familiar with local conditions. To set up parallel machinery to allow a state agency to hold public hearings and make initial decisions would be costly and duplicative. If hearings before a state agency were to preempt local hearings on certain categories of development applications the line of definition between those development proposals which should be heard by the local agency and those which should be heard by the state agency would become of critical importance. The developer who made a mistake might find that he had presented his entire case at great expense to an agency which had no power to grant the permit. Or, on the other hand, it might give the developer the opportunity to choose between filing his application with the local agency and the state agency depending on which he thought would give the most favorable result—"forum-shopping" in the classic sense.

It would be possible to create a system for issuing permits by a state agency that duplicates the local system, allowing the developer to proceed only if he obtains permits from both agencies. Maine and Vermont have recently established such systems. 38 Me. Rev. Stat. Ann. Ch. 481-88 (Supp. 1970). 151 Vt. Stat. Ann. §§ 6001-091 (Supp. 1970). The Reporters have rejected this alternative because of the burden of time, cost and inconvenience it imposes on developers and because it provides no relief for the developer against the local community who acts contrary to the interest of the people of the state as a whole.

It can be argued, however, that asking a local agency to apply standards based on statewide policies is likely to result in a bias in favor of the local interests. But the tightened procedural requirements of Article 2, requiring findings and a decision on a record after a formal hearing, and the right to appeal to a state agency under Part 7 of this Article, should offer an opportunity to make an adequate record on which to demonstrate that the state standards require that local wishes be overridden. And if the local agency is skeptical it is only fair that anyone seeking to demonstrate that local desires frustrate statewide policies should have a substantial burden of demonstrating the correctness of his position.

(2) Where disputes between governmental agencies are involved the issue may turn on the costs imposed on one agency by development that will benefit another agency. In such cases a

transfer of funds may be the most equitable solution. This section authorizes a requirement of such a transfer as a condition to the issuance of a permit.

Section 7-102. Power to Exempt Regions or Development

The State Land Planning Agency may by rule

(1) restrict the applicability of this Article or any Part thereof to any region of the state for which a Regional Planning Division has been created under § 8-102 if it determines that the volume of development outside those regions is not sufficient to present major state or regional problems;

(2) make this Article inapplicable to any development otherwise included in Parts 3 and 4 which it determines to be relatively insignificant in the development of one or more regions or state.

NOTE

The State Land Planning Agency may determine that there are parts of the state in which conflicts between local and regional interests are unlikely to occur. Under § 8-102 the Agency may choose to apply the planning powers of Article 8 only to particular regions of the state, exempting those regions where the powers are not needed. Subsection (1) allows the Agency to also restrict the operation of Article 7 to the same regions of the state in which the state planning powers are being exercised.

Subsection (2) allows the Agency to make exceptions to the general standards specified in this Article in order to prevent the State Land Adjudicatory Board from being burdened with numerous appeals regarding matters of minor significance.

Part 2

Districts of Critical State Concern

Section 7-201. Designation of Districts of Critical State Concern

(1) The State Land Planning Agency may by rule designate specific geographical areas of the state as Dis-

63-902 O - 71 - 30

tricts of Critical State Concern and specify the boundaries thereof. In the rule designating a District of Critical State Concern the State Land Planning Agency shall indicate the reasons why the particular area designated is of critical concern to the state or region, the dangers that might result from uncontrolled or inadequate development of the area, and the advantages that might be achieved from the development of the area in a coordinated manner, and shall specify general principles for guiding the development of the District, and what development, if any, shall be permitted pending the adoption of regulations under §§ 7-203 or 7-204.

(2) Prior to adopting any rule under this Section notice shall be given to all local governments that include within their boundaries any part of any District of Critical State Concern proposed to be designated by the rule, in addition to any notice otherwise required under § 8-201.

(3) A District of Critical State Concern may be designated only for

(a) an area significantly affected by, or having a significant effect upon, an existing or proposed major public facility or other area of major public investment;

(b) an area containing or having a significant impact upon historical, natural or environmental resources of regional or statewide importance; or

(c) a proposed site of a new community designated in a State Land Development Plan, together with a reasonable amount of surrounding land.

(4) A "major public facility" means any publicly-owned facility of regional significance but does not include

(a) any public facility operated by a local government, or an agency created by it, primarily for the benefit of the residents of that local government;

(b) any street or highway except an interchange between a limited access highway and a frontage access street or highway;

(c) any airport that is not to be used for instrument landings; or

(d) any educational institution serving primarily the residents of a local community.

NOTE

(1) Some land development proposals have a state or regional impact because of the nature of the land on which they are located, while others have a state or regional impact because of the nature of the development proposed. The Reporters recommend that those areas of land on which any substantial proposed development is likely to have a state or regional impact be designated "districts of critical state concern" under this Part. Those problems that are related primarily to the nature of the development being proposed, rather than to the nature of the land on which it is proposed, will be covered under Parts 3 and 4.

The State Agency's rule designating the District of Critical State Concern should spell out the reasons why development in the area has become a matter of state concern and should state the principles for guiding development in the area. It must also specify the types of development, if any, that are allowed during the interim while regulations are being prepared for the future development of the area.

For the State Land Planning Agency to properly determine all of the Districts of Critical State Concern within the state would require a comprehensive study of the state's natural resources and the major development that has taken place and will take place throughout the state. The comprehensive planning studies undertaken as part of the preparation of a comprehensive State Land Development Plan would furnish the State Land Planning Agency with the adequate basis of information necessary to make a comprehensive designation of all Districts of Critical State Concern.

The Reporters do not recommend, however, that the state be prohibited from designating any districts of critical state concern

until it has prepared, and obtained legislative approval of, a comprehensive State Land Development Plan. Many of these Districts will present problems of immediate and critical importance and if designation is delayed the possibility of seeing the area preserved or developed in a manner consistent with state goals will be forever lost. Moreover, in most cases the factors that make each District critical relate to that District alone and are not necessarily dependent on the relationship of the District to an overall plan or pattern.

Thus, for example, the State Land Planning Agency may be aware of the impending construction of a major highway interchange adjoining a state hospital and near a wildlife preserve. It may be important to insure that the land near the interchange is not developed with industrial or commercial uses in a manner that would intrude upon the privacy of the hospital patients or contribute to the pollution of the waters in the wildlife preserve, and these goals might be achieved by restricting the types of development that would be permitted within various segments of the land surrounding the highway interchange. It would be important to permit the State Land Planning Agency to take immediate action to accomplish this result, and no benefit would be achieved by delaying this action until a complete study of all other major highway interchanges had been made.

With one exception, therefore, the Reporters have not required the adoption of a State Land Development Plan as a prerequisite to the designation of Districts of Critical State Concern. The exception involves use of a District of Critical State Concern to control use of land in and around the site of a proposed new community. Such sites cannot be designated as Districts of Critical State Concern except as part of a State Land Development Plan. The selection of such sites does not usually involve any elements of emergency, and should involve extensive consideration of the overall growth policies of the state, which can best be accomplished through the comprehensive planning process.

(2) The rule designating a District of Critical State Concern must be adopted using the regular rulemaking procedures under Part 2 of Article 7, which entitle local governments within the District to special notice of proposed rules.

Cross Reference: State Land Development Plan. § 8-401.

(3) Three criteria are established to guide the State Land Planning Agency in the designation of Districts of Critical State Concern. The state legislature of any particular state may wish to expand or contract this authority with regard to the specific problems of that state. In general, however, the Reporters believe that

most portions of the state having a special statewide interest either involve major public facilities, the usefulness of which is affected by the development in the surrounding area, or involve present land resources that would be damaged by undesirable development. In addition, authority is granted for the use of the District of Critical State Concern procedure for proposed sites of new communities if they are specifically designated in an adopted State Land Development Plan.

The following are illustrations of districts to which the designation "District of Critical State Concern" might be applied:

Illustration (a): A site has been selected for a major airport to serve the needs of a metropolitan area. It is important that provision be made on land near the airport for motels and airport-oriented development needed to serve persons using the airport, but it is also important that the land at critical locations in relation to the major runways must not be developed with high density housing which would be subjected to noise and safety hazards. The state designates the proposed airport site as a District of Critical State Concern, and also designates a reasonable amount of land surrounding the site, extending for some distance along the major approach paths and for a lesser distance in other directions. The criteria accompanying the designation specify in some detail the nature of the land uses to be permitted.

Illustration (b): The water quality of a major river which supplies the water for a large number of citizens in the state is being adversely affected by acid pollution caused by a number of scattered small strip mines in a rural portion of the state. In order to protect the water quality of the river it is essential to require the installation of settling basins or other treatment facilities in connection with all strip mines located within the watershed. The state designates the appropriate area as a District of Critical State Concern and establishes criteria for the District requiring that the local regulations must contain adequate requirements for the installation of treatment facilities in connection with all strip mine development. No other aspect of development in the District is believed to have a significant effect on the state interest, so the local land use regulations are unaffected except in regard to this single factor.

Illustration (c): The site of a Civil War battle is located near a highway on which future commercial development is anticipated. The state wishes to encourge commercial developers to adopt architectural designs compatible with the historic structures in the battlefield area and to discourage developers from commercially exploiting the site in a manner that would

detract from the dignity of the battlefield area. The state designates the highway approaches to the battlefield as a District of Critical State Concern and establishes regulations concerning the design and layout of commercial development.

Illustration (d): A major salt marsh forming a significant habitat for migrating wildfowl is threatened by indiscriminant landfill operations. The state designates the marsh and a reasonable amount of surrounding land as a District of Critical State Concern and sets out criteria regarding the areas in which landfill is permitted and the type of operations that must be used.

(4) Many public facilities constructed by or within the boundaries of local governments have a substantial impact on the surrounding area but the surrounding area is entirely within the boundaries of the local government. Subsection (4) attempts to avoid state involvement in this type of problem. Thus, a community college may have a substantial land use impact, but only on the residents of the community.

Section 7-202. Suspension of Development

(1) No person shall undertake any development within any District of Critical State Concern except in accordance with this Part.

(2) Except as provided in § 7-207 the designation of a District of Critical State Concern suspends the powers of any local government to grant development permission within the District to the extent specified in the rule designating the District.

NOTE

The immediate effect of the designation of a District of Critical State Concern is to freeze development in the District, except for development permitted by the rule designating the District and development permitted under § 7-207. If a landowner in the District seeks permission to develop between the time the District is designated and the time the regulations have become effective he may apply for a development permit under § 7-207(2). If the permission is refused, he may seek judicial review of that refusal. This remedy adequately protects him from any injury that may result while the rule is pending.

Because this opportunity to seek relief is available to any landowner or any potential developer in the district it is the intention of the Reporters that the designation of a District of Critical State Concern not be reviewable in court except on appeal from a denial of this relief. This is consistent with court decisions dealing with "official maps" which show sites for future parks or streets. It has been held that such maps do not in and of themselves cause injury to a landowner; it is only when development is prohibited or restricted in the mapped area that the courts have recognized standing to contest the validity of the map and regulations. See Anderson, 3 AMERICAN LAW OF ZONING 516.

Section 7-203. Local Regulations

(1) After the adoption of a rule designating a District of Critical State Concern the local government or governments having jurisdiction under this Code to adopt land development regulations for the District may prepare and adopt development regulations for the District, taking into consideration the principles set forth in the rule designating the District, and transmit to the State Land Planning Agency a copy of the regulations.

(2) In preparing development regulations for a District of Critical State Concern each local government shall have all the powers available to a planning government under Article 3 of this Code whether or not these powers would be otherwise available to the local government. If any power under Article 3 of this Code is conditioned on consistency with a local Land Development Plan, and if no Land Development Plan has been adopted by the local government, the exercise of such power shall nevertheless be valid within the District of Critical State Concern.

(3) If the State Land Planning Agency finds that the proposed development regulations submitted by a local government comply with the principles for guiding the development of the District specified under § 7-201(1), the State Land Planning Agency shall by order approve the proposed regulations.

(4) No regulation adopted under this Section becomes effective until the State Land Planning Agency order approving it becomes effective.

NOTE

This and the next section give the local government or governments an opportunity to adopt land use regulations consistent with the general standards laid down by the State Land Planning Agency for the District of Critical State Concern. If such regulations are not adopted, or if they do not receive the approval of the state agency, the state agency is authorized to adopt its own regulations for the district under § 7-204. Even if the state agency adopts its own regulations, however, the initial decision on applications under the regulations is to be made by the local land development agency.

Requirements that policies and standards be determined by the higher level of government with implementation at the lower level are attaining increasing popularity at both the federal and state level. In most instances the local governments will be more familiar with the details of the subject matter and thus far better able to draft proposed regulations than the more distant state agency. Under this system the state agency will usually have only the easier job of reviewing proposed regulations that the local governments have submitted to it.

Because the procedure under this Part requires that careful planning be undertaken for the entire District of Critical State Concern it seems appropriate to allow any local government to exercise within the District all the powers it could exercise if it had prepared a Land Development Plan. Note that by giving the local governments all the regulatory power of planning governments this section authorizes the use of the "precise plan" powers of § 3-203 of T.D. #2.

Cross Reference: Planning Governments. § 3-201.

Section 7-204. State Regulations

(1) If any local government fails to submit proposed regulations complying with the standards designated under § 7-201 within [6] months after the adoption of a rule designating a District of Critical State Concern, the State Land Planning Agency may by rule adopt development reg-

ulations applicable to that government's portion of the District. In the rule the State Land Planning Agency shall specify the extent to which its development regulations shall supersede local development ordinances or be supplementary thereto. Notice of any proposed rule issued under this Section shall be given to all local governments in the District of Critical State Concern, in addition to any other notice required under § 8-201.

(2) The development regulations adopted by the State Land Planning Agency under this Section may include any type of regulation that could have been adopted by the local governments under § 7-203.

(3) Any development regulations adopted by the State Land Planning Agency under this Section shall be administered by the local Land Development Agency as if they were part of the local development ordinance. If part or all of the District of Critical State Concern is not governed by any local development ordinance the State Land Planning Agency shall appoint a Land Development Agency under § 8-205. If a local development ordinance is subsequently adopted and a Land Development Agency appointed, that agency may assume the administration of any regulations adopted under this Section.

(4) At any time after the adoption of direct state regulation under this Section a local government may propose development regulations under § 7-203 which, if approved by the State Land Planning Agency as therein provided, supersede any regulations adopted under this Section.

NOTE

The State Land Planning Agency may not adopt its own regulations for a District of Critical State Concern until after it has given the local governments six months to submit proposed development regulations. After the six-month period has passed the State Land Planning Agency may adopt its own regulations. If

it fails to do so within another six months the District is dissolved under § 7-205.

If the State Land Planning Agency adopts its own regulations they are to be in the form provided for local development ordinances under Article 3 and are to be administered by each local Land Development Agency as if they were a part of the local development ordinance. However, if there is no development ordinance governing part of the District of Critical State Concern the State Land Planning Agency is to appoint its own Land Development Agency for the administration of the regulations using the procedures set out in § 8-205. If local regulations are subsequently submitted and approved by the State Land Planning Agency they will supersede the State Land Planning Agency regulations.

Section 7-205. Time Limit on Adoption of Regulations

If within [12 months] after the adoption of the rule designating a District of Critical State Concern under § 7-201 development regulations for the District have not been adopted under § 7-203 or § 7-204 the designation of the area as a District of Critical State Concern terminates.

NOTE

Because § 7-207 prohibits most development between the time a district of critical state concern is designated and the time regulations have been adopted, it is essential that the regulations be prepared and adopted as fast as reasonably possible in order not to unduly burden landowners in the district. This section provides a one year time limit within which regulations must be adopted. Failure to adopt such regulations terminates the designation of the District of Critical State Concern.

The courts have upheld similar temporary land use restrictions during the time when a plan was being prepared. See *Walworth County v. City of Elkhorn,* 27 Wis. 2d 30, 133 N.W.2d 257 (1965); *Fowler v. Obier,* 224 Ky. 742, 7 S.W.2d 219 (1928); *Hunter v. Adams,* 4 Cal. Rptr. 776 (1960); *City of Los Angeles v. Superior Court,* 34 Cal. Rptr. 161 (Cal. App. 1963). Compare *Deal Gardens, Inc. v. Board of Trustees of the Village of Loch Arbour,* 226 A.2d 607 (N.J. 1967).

Section 7-206. Amendment of Regulations

(1) Development regulations adopted under § 7-203 by a local government in the District of Critical State Concern

may be amended or rescinded by the local government, but the amendment or rescission becomes effective only upon approval thereof by the State Land Planning Agency under § 7-203 in the same manner as for approval of original regulations.

(2) Development regulations for a District of Critical State Concern adopted under § 7-204 by the State Land Planning Agency may be amended by rule in the same manner as for original adoption.

NOTE

Any development regulations for Districts of Critical State Concern may be amended in the same manner as they were originally adopted.

Section 7-207. Development Permission in Districts of Critical State Concern

(1) If a District of Critical State Concern has been designated by the State Land Planning Agency under § 7-201, a Land Development Agency shall grant development permission within the District only in accordance with the requirements of this Section.

(2) If no regulations for the District of Critical State Concern have become effective under §§ 7-203 and 7-204, the local Land Development Agency shall grant development permission only if

(a) the development is specifically permitted by the rule designating the District of Critical State Concern, or is essential to protect the public health, safety or welfare because of an existing emergency; and

(b) a development ordinance had been in effect immediately prior to the designation of the area as a District of Critical State Concern and development permission would have been granted thereunder.

(3) If regulations for a District of Critical State Concern have become effective under §§ 7-203 or 7-204, a Land Development Agency shall issue orders concerning applications for development permission within the District of Critical State Concern only in accordance with those regulations.

(4) Within a District of Critical State Concern designated under § 7-201 the procedures, criteria and standards of Parts 3 and 4 of this Article shall not be applicable.

NOTE

After a District of Critical State Concern is designated the local governments may prepare regulations to control the development of the area in compliance with standards established by the State Land Planning Agency. Upon failure of any local government to adopt such regulations the State Land Planning Agency may adopt its own regulations.

Whether the regulations are adopted by the local government or by the State Land Planning Agency the administration of the regulations is initially undertaken by the local Land Development Agencies in the same manner as if the regulations were part of the local development ordinance. The State Land Planning Agency may appeal any decision of the local Land Development Agency under these regulations to the State Land Adjudicatory Board.

During the interim period between the designation of the District of Critical State Concern and the adoption of the regulations for it, this section allows the Land Development Agency to permit development only if immediate development is essential or if the development will comply with the principles set forth by the State Land Planning Agency in its designation of the District of Critical State Concern.

Section 7-208. Notice to State Land Planning Agency

In addition to any other notice required to be given under § 2-304 the Land Development Agency shall give notice to the State Land Planning Agency of

(1) any application for development permission in any District of Critical State Concern for which no regulations have become effective under §§ 7-203 or 7-204; and

(2) any application for special development permission in any District of Critical State Concern for which regulations have become effective under §§ 7-203 or 7-204.

NOTE

The State Land Planning Agency must be given notice of all applications for development permission until regulations have become effective. After that time it need be given notice only of special development applications since it can be deemed to have approved all development permitted under general development regulations.

Cross Reference: Development Permits. § 2-102.

Part 3

Special Development Permits for Development of State or Regional Benefit

Section 7-301. "Development of State or Regional Benefit"

Any developer who proposes to undertake development of state or regional benefit as defined in this Section in any jurisdiction in which a land development ordinance is in effect may notify the Land Development Agency that he elects to proceed under this Part at the time he files an application for a development permit. The Land Development Agency shall give notice of the application as required under § 7-302, and shall hear and decide the application according to the standards and criteria of this Part as required by § 7-303. "Development of state or regional benefit" as used in this Part means any development within the following categories, except development that would be "large-scale development" under § 7-401

(1) development by a governmental agency other than the local government that created the Land Development

Agency or another agency created solely by that local government;

(2) development which will be used for charitable purposes, including religious or educational purposes, and which serves or is intended to serve a substantial number of persons who do not reside within the boundaries of the local government creating the Land Development Agency;

(3) development by a public utility which is or will be employed to a substantial degree to provide services in an area beyond the territorial jurisdiction of the local government creating the Land Development Agency; and

(4) development by any person receiving state or federal aid designed to facilitate a type of development specified by the State Land Planning Agency by rule.

NOTE

If the developer proposes "development of state or regional benefit" the local Land Development Agency is required to consider the regional implications of the proposed development under § 7-303 and Part 5 of this Article. The local Agency's decision may be appealed by the developer to the State Land Adjudicatory Board.

The developer has an unqualified option to choose whether or not he wishes to take advantage of his rights under this Part 3. If he opts to do so, he must notify the Land Development Agency at the time he files his application for development permission that he elects to proceed under this Part. If he opts not to do so, neither the agency nor any other party can insist that the standards of this Part be applied to the developer's application.

The types of development included within the category "development of state or regional benefit" are those that typically provide benefits to an area beyond the boundaries of a single local government, but that may cause some problems within the local area. If the local agency chooses to permit the development under its own standards, there is no need to consider the development's benefits to the state or region. Thus, since "development of state or regional benefit" is likely to have only beneficial but not adverse impact on the surrounding communities it is appropriate that the developer be given the option of deciding whether the local agency should con-

sider the state or regional impact. The developer may decide for various reasons that he wishes to go ahead with the project only if the local agency welcomes him voluntarily rather than under the compulsion of this Part.

Note, however, that under Part 4 the same type of development may fall within the category of "large scale development" which would require the land development agency to consider regional detriments and benefits. Any type of development which is likely to have substantial adverse impact beyond local boundaries should be included within the category of large scale development.

Because the developer must give notice of his intention to proceed under this Part at the time he files his application the agency is immediately informed that its decision may have a potential state or regional impact. In addition, the State Land Planning Agency (and such other agencies or groups as they may designate) are immediately given notice and become entitled to participate in the local hearing.

Development of state or regional benefit is defined to include four separate types of development. Note, however, that if the development is "large scale" as defined in Part 4 it must meet the additional standards applicable under that Part rather than the standards of this Part 3.

(1) State governmental agencies are intended to serve the needs of a constituency larger than the local government. Similarly, state or federal grant programs for the aid of development are almost always instituted for the purpose of achieving goals of a broader community than the residents of a particular local government. It is important to insure that the local governments do not allow their own constituents' fears of the adverse effects of development to outweigh completely the interests of a broader section of society that might be entitled to greater concern. Thus development by state governmental agencies is entitled to be judged under the standards and procedures of this Part. It should be kept in mind that under present law in most states all development by state agencies (such as highway construction) is exempt from any local control. Article 2 of this Code would require all state agencies to apply for development permission from the local Land Development Agency. Overall, therefore, the Code would strengthen the position of local government in regard to state agencies.

Because different states contain such a wide variety of types of local governments, special districts, public corporations and other governmental agencies the language of paragraph (1) may require modification to define the types of governmental agencies in the particular state that should be entitled to take advantage of this section. Basically, it is the Reporters' intent that governmental

agencies that are responsible to the local government from which they are seeking permission to develop land should not have the power to ask a state agency to review a decision of the very local government to which they are responsible. If, however, the governmental agency has been created by the state for a separate purpose and its existence is not dependent upon any act of the local government, then the state has demonstrated a policy that agencies performing these functions should exist regardless of the wishes of the local government, and in such circumstances the agency should have a right to seek state review of unfavorable action of the local government.

(2) Charitable uses serving persons outside the local government provide a valuable public function; this section gives such charities the right to have the regional interests they serve balanced against local interests. It should be noted that this section does not establish any special privileges for religious development but merely gives it an avenue of appeal by which a coercive restriction can be removed.

(3) The term "public utility" is intended to include transportation and pipeline systems, gas and electric companies, transmission systems and other similar public services whether interstate or intrastate. In a jurisdiction where the term "public utility" has acquired a meaning too narrow for the purpose of this section appropriate language should be used to include all of these public services.

Present state laws vary greatly regarding the relationship between local land development regulations and public utility facilities. Some states provide an automatic exemption, other states provide a right of appeal to the state public utility commission and still other states make public utilities subject to local regulations. See J. Lansdale and A. Buchanan, "Regulation of Land Use Affecting Utilities," 1967 Annual Report of the ABA Section on Public Utility Law 68; Note, 42 N.C.L. REV. 761 (1964); Note, 1965 WASH. U.L.Q. 195 (1965). Under this Code the public utility has a right of appeal from local zoning regulations, but the appeal is to be taken to the State Land Adjudicatory Board rather than to the public utility commission.

(4) Under present law the fact that private persons have obtained federal or state aid to undertake development does not ordinarily give them any different status than other private persons operating without such aid. On the other hand, where the federal or state government undertakes the development directly it is usually entitled to a complete exemption from local regulation. Thus, for example, the extent to which a dam or reclamation project paid for by federal funds is subject to local land development

regulations may turn on the extent to which the federal agency acts as a construction agency rather than as a financing agency for private developers. If the project is constructed by the Bureau of Reclamation it would be exempt from local regulation, but if built by a private landowner under a soil conservation grant it would not. This discrimination against private enterprise should be eliminated.

Both types of programs are designed to achieve particular policies or goals of the federal or state government, and the extent to which they should be subject to local control should not be determined by the method of financing employed. Under (4) the State Land Planning Agency could by rule designate any type of governmentally-assisted development to be treated in the same way as direct governmental development.

The federal government and some state governments assist in the financing of housing under a wide variety of housing programs. See National Commission on Urban Problems, *Building the American City* 56-197 (1968). The federal housing programs are currently divided into those in which it makes a capital or periodic grant to provide the funds necessary to provide housing for persons of low or moderate income and other programs in which the federal participation is more indirect in that there is no direct grant of funds. The old FHA insured mortgages are an example of the latter type, and the public housing and new Section 235 and 236 programs are illustrations of the former type. See The President's Committee on Urban Housing, *A Decent Home* 59-68 (1968). Local governments often believe that the heavily subsidized programs have an unfavorable cost-revenue impact, and there may be social and racial prejudice against the anticipated occupants. Thus it has been difficult to find sites for housing of this type that will be approved by local governments. This section would permit the State Land Planning Agency to designate decisions involving subsidized housing as appealable to the State Land Adjudicatory Board. This is consistent with the recommendations of all of the commissions and task forces that have recently studied this problem. (See, in addition to the reports cited above, The President's Task Force On Low Income Housing, *Toward Better Housing for Low Income Families,* May, 1970, and the Report on the National Advisory Commission on Civil Disorders, March, 1968.)

Section 7-302. Special Development Procedures for Development of State or Regional Benefit

If the developer chooses to proceed under this Part, the Land Development Agency shall thereupon treat the appli-

63-902 O - 71 - 31

cation under the procedures for special development permits as set forth in § 2-201 of this Code, and shall comply with the following additional requirements

(1) the notice of hearing shall indicate that the developer alleges that the proposed development would be of state or regional benefit as defined in this Part;

(2) notice shall be given

(a) to the State Land Planning Agency;

(b) if the development is alleged to be development for charitable purposes under § 7-301(2), to the Attorney General of this State;

(c) if the development is alleged to be public utility development under § 7-301(3), to the [Public Utility Commission].

NOTE

Whenever the developer alleges that this Part is applicable the application is to be treated under the procedures for special development permits under Article 2. Notice is to be given as specified therein and also to the State Land Planning Agency. In addition, notice regarding charitable development should be given to the Attorney General, and notice regarding a public utility should be given to the commission that regulates such utilities.

Cross Reference: Development Permits. § 2-102.

Section 7-303. Standards Applicable to Permits for Development of State or Regional Benefit

(1) A Land Development Agency shall grant special development permission for development of state or regional benefit which meets the criteria of subsection (2) of this Section whether or not the development is authorized by the development ordinance. A Land Development Agency may also grant development permission for devel-

opment alleged to be of state or regional benefit without regard to this Part if the development meets the applicable criteria of the development ordinance.

(2) A Land Development Agency shall grant development permission if it finds that

(a) the development is development of state or regional benefit as defined in § 7-301; and

(b) the probable net benefit from the development exceeds the probable net detriment under the standards set forth in Part 5 of this Article.

NOTE

If the development would have been permitted under the development ordinance, the Land Development Agency may grant permission under the terms of the ordinance and may ignore the procedures and criteria set forth in this Part. If the development would not have been permitted by the ordinance, the Land Development Agency must grant the permit if it finds that the development will be of state or regional benefit as defined in § 7-301 and if the benefits of the development to the general public will outweigh any local harm that it may cause. Of course, a Land Development Agency might find that the proposed development complies with both the standards of the development ordinance and the criteria of this Part.

Under Part 7 of this Article decisions under this Part 3 are appealable to the State Land Adjudicatory Board. If the decision of the Land Development Agency is in favor of granting land development permission and is based both on this Part and on the land development ordinance, judicial review of the decision under the local development ordinance will be delayed until after the State Land Adjudicatory Board has reviewed the decision. See §§ 9-109 (2) and 9-111 (4).

Part 4

Large Scale Development

Section 7-401. "Large Scale Development"

(1) The State Land Planning Agency shall adopt rules defining development which, because of its magnitude or

the magnitude of its effect on the surrounding environment, is likely in the judgment of the Agency to present issues of state or regional significance. Development included within the class so established is "large scale development" as used in this Part.

(2) In adopting rules under this Section the State Planning Agency shall include in its consideration

(a) the amount of pedestrian or vehicular traffic likely to be generated;

(b) the number of persons likely to be present;

(c) the potential for creating environmental problems such as air or water pollution or noise;

(d) the size of the site to be occupied; and

(e) the likelihood that additional or subsidiary development will be generated.

(3) Rules adopted under this Section may vary in different areas of the state to respond to differing conditions in these areas.

NOTE

In Part 3 certain specific types of development are categorized as "development of state or regional benefit" because each proposal for development of that type is likely to have a state or regional impact. Development can also have a state or regional impact not because of its type but because of its magnitude. The single home affects only the neighborhood, the new community affects the whole region. This Part 4 authorizes the State Land Planning Agency to define the degree of magnitude beyond which each type of development is likely to present questions of state or regional impact.

The rules defining the line between small and large scale development of a particular type might be based on, among other factors, those listed in subsection (2):

(a) Some types of development may have state or regional impact merely because of the amount of traffic they generate. *E.g.*, the rules might designate as large scale development any truck terminal with loading area for 15 or more trucks.

(b) The number of users or occupiers may often be the most workable test of magnitude. Any development which is used by a large number of people will have a substantial impact on a large area even though the development itself may occupy only a smaller area. Thus, for example, the scale of an apartment building might be measured by the number of dwelling units.

(c) Some types of development may attract few people and occupy only small acreage but create a serious potential for air or water pollution. Specific types of industrial uses (*e.g.*, an oil refinery) might be treated as large scale development regardless of size.

(d) Development may also have a substantial state or regional impact if it occupies a large land area even if it is used only by a few people; the withdrawal of large acreage from other potential use is itself a decision of important state or regional concern. Thus development of any type occupying more than a specific number of acres might be considered large scale.

(e) Some types of development have major impact because of the type and amount of subsidiary development that they attract, so the Agency might designate as large scale development, *e.g.*, any skiing facility containing three or more tows or lifts.

The Reporters intend that the State Land Planning Agency should have a high degree of flexibility in designing rules to meet the conditions of its particular state. It is recognized that these lines will be hard to draw and require the exercise of a sound judgment. In drafting the rules it is important to keep in mind both the need to protect state interests and the need to avoid forcing small developers to engage in unnecessary red tape. A procedure of state review such as outlined in this Code is likely to be successful only if it concentrates on the truly important decisions. If it gets bogged down in a backlog of meaningless paperwork on minor decisions it may create more harm than good.

The State Land Planning Agency is empowered under subsection (3) to vary the rules for different portions of the State. In a large city the Agency might wish to use a more limited definition of large scale development than would be applicable to the rest of the State, because the impact of many types of development might not go beyond the city boundaries. Thus, for example, the Agency might exclude all residential or commercial development in cities over 100,000 population except development within one-quarter mile of municipal boundaries.

Section 7-402. Location of Large Scale Development

(1) A developer may undertake large scale development if, and only if, the land on which the development is proposed is

(a) within the jurisdiction of a local government that has adopted a development ordinance under this Code; or

(b) in an area for which the State Land Planning Agency has appointed a Land Development Agency under § 8-205 or has failed to appoint a Land Development Agency within 90 days after the developer gave notice under § 8-205 that he proposed to undertake large scale development.

(2) If the proposed development is to be located in a jurisdiction that has adopted a development ordinance, or in an area for which the State Land Planning Agency has appointed a Land Development Agency, the development shall be undertaken only if the Land Development Agency has issued a special development permit which complies with the requirements of this Part.

NOTE

Any proposed large scale development will by definition be likely to have a significant impact on the state or region. Because this Part 4 establishes a procedure by which this impact can be evaluated, it is important to insure that large scale development is undertaken only in areas where this procedure can be utilized.

Even when the large scale development is certain to be beneficial, regulation may be needed because the large scale developer has no means of controlling other development that will take place on land outside the boundaries of his project. Adverse effects have often resulted from unregulated development attracted to the areas surrounding large development projects.

Illustration (a): The developer of a new community begins construction in a rural county. A gravel company, attracted by the new construction in the area that creates a demand for his

product, opens a gravel mine upwind from the new residential development. The mining creates an unpleasant amount of dust in the area.

Illustration (b): An airport is built on the outskirts of a metropolitan area. The vacant land surrounding the airport is developed with homes for the people who are attracted by the new jobs in the airport area. Soon the residents' complaints about noise force the airport to limit aircraft operations.

This section insures that any large scale development and its surrounding area can be made subject to regulation. Large scale development is permitted only if the locality has adopted a development ordinance, or if there is no ordinance, if the developer notifies the State Land Planning Agency of his proposal and gives it an opportunity to appoint a Land Development Agency under § 8-205.

The effect of this section should be to encourage rural areas to adopt land development ordinances if they seek to attract industry or other development. Any area which desires to promote development on a large scale should be required to guarantee that it will exercise some control over the results, or face the prospect of intervention by the state. Under § 8-205 the State Land Planning Agency may, however, decline to intervene if it believes that the impact of the particular development will not be of major significance. Note also that the State Land Planning Agency might choose to use the District of Critical State Concern technique under Part 2 as a means of exercising state control, in which case this Part 4 would become inapplicable. See § 7-207(4).

Section 7-403. Special Development Procedures for Large Scale Development

(1) Prior to undertaking any large scale development the developer shall file an application for a special development permit with the Land Development Agency having jurisdiction. The application shall contain, in addition to such other matters as may be required, a statement that the developer proposes to undertake large scale development.

(2) The Land Development Agency shall treat each application to undertake development which would constitute large scale development under the procedures for special

development permits as set forth in § 2-201 of this Code and shall comply with the following additional requirements

(a) the notice of hearing shall state that the proposed development would be large scale development;

(b) the notice shall be given at least four weeks in advance of the hearing; and

(c) notice shall be given to the State Land Planning Agency.

(3) The State Land Planning Agency shall publish each week, and mail to any person upon payment of a reasonable charge to cover costs of preparation and mailing, a list of all notices of applications for large scale development that have been filed with the State Land Planning Agency.

NOTE

Unlike Part 3, which gives the developer the option to choose whether or not he wishes to claim its benefits, this Part 4 places the obligation on both the developer and the Land Development Agency to insure that the procedures and standards of this Part are followed for all development applications which meet the definition of large scale development. This is necessary because the standards of this Part, unlike those of Part 3, do not always operate to the benefit of the developer, so he cannot be relied upon to assert them. Therefore, both the developer and the Agency are placed under an obligation to see that the requirements of this Article are observed.

In many cases the persons who would be entitled to assert rights under this Part might be far removed from the site of the development proposal and unlikely to receive notice of it; *e.g.*, the users of water downstream from a new industrial plant. Because it would be very difficult to determine with precision the persons who might be affected by the large scale development, this section requires the Land Development Agency to send notice to the State Land Planning Agency four weeks in advance of the hearing, and requires the State Land Planning Agency to publish a weekly report of all notices of large scale development and to make the report available at a reasonable charge. In this way any person, group or agency that believes it may be potentially affected by

future large scale development has an opportunity to keep himself informed of any applications that may be filed.

The State Land Planning Agency is also empowered under § 8-204 to adopt rules enlarging the categories of persons entitled to appear as parties to hearings on applications for development permits under §2-304(5)(b). The agency might choose to designate various governmental agencies or private groups having state or regional interests as entitled to appear as parties for hearings on large scale development applications.

Section 7-404. Standards Applicable to Permits for Large Scale Development

A Land Development Agency shall grant a permit for large scale development if, and only if, it finds that

(1) the probable net benefit from the development exceeds the probable net detriment measured under the standards of Part 5 of this Article; and

(2) the development does not substantially or unreasonably interfere with the ability to achieve the objectives of an applicable Land Development Plan or State Land Development Plan; and

(3) the development is consistent with the local development ordinance or, if it is inconsistent, the departure from the ordinance is reasonably necessary to enable a substantial segment of the population of a larger community of which the local government is a part to obtain reasonable access to housing, employment, educational or recreational opportunities.

NOTE

The Land Development Agency is required to decide all applications for development which would constitute "large scale development" in accordance with the standards of this section. If all of these standards are met the Agency must grant the permit; conversely, if any of the standards is not met the Agency must deny the permit. The standards are threefold:

(1) Because large scale development may either benefit or harm the region beyond the boundaries of the local government it is appropriate that consideration be given to both potential benefit and potential detriment in deciding applications for large scale development permits. A developer seeking a permit for large scale development must show that it meets the benefit-detriment test set forth in Part 5.

(2) If there is an applicable local Land Development Plan or State Land Development Plan, the Land Development Agency must make a finding that the large scale development does not substantially and unreasonably interfere with the ability to achieve the objectives set forth in the Plan. While this test gives to the community that has adopted a Land Development Plan a substantial advantage in being able to prevent unwanted large scale development, it can only do so on the basis of cogent reasons set forth in a Plan and subject to challenge in the courts. The community's power is also subject to being overridden by the State Land Planning Agency under § 8-502(3) if a State Land Development Plan for the area has been approved.

(3) In addition, if the developer seeks to build facilities not permitted under the local ordinances he must show they are needed to provide "reasonable access" to housing, jobs, schools or recreation. If the facilities to be provided by the developer merely duplicate what is already available and do not open substantial new opportunities, there is little cause to override a local land development ordinance. Thus, for example, the developer of luxury apartments could not meet the reasonable access test unless he could show there was a substantial shortage of housing opportunities for his expected clientele in the area, and the developer of a regional shopping center could not prevail unless he could show that there was a substantial shortage of similar shopping opportunities in the area.

It should be carefully noted that these tests merely supplement the standards and criteria set forth in the local land development ordinance but do not replace them. Thus, if the developer proposed to construct an office building that was consistent with the standards of the local development ordinance in every respect except that the building would be ten stories high while the maximum permitted under the ordinance would be three stories, the developer could not prevail under the test of paragraph (3) unless he could show that the additional height was necessary to allow a substantial segment of the community to obtain "reasonable access to housing, employment, education or recreational opportunities;" *i.e.*, that such access could not reasonably be provided in a lower building.

Section 7-405. Additional Standards Applicable to Large Scale Development Substantially Increasing Employment

Notwithstanding § 7-404, no Land Development Agency shall grant a permit for large scale development that will create more than [100] opportunities for full-time employees that did not previously exist within the jurisdiction of the local government, unless the Land Development Agency also finds that

(1) adequate and reasonably accessible housing for prospective employees is available within or without the jurisdiction of the local government; or

(2) the local government has adopted a Land Development Plan designed to make available adequate and reasonably accessible housing within a reasonable time; or

(3) a State Land Development Plan shows that the proposed location is a desirable location for the proposed employment source.

NOTE

If the large scale development will create more than 100 new job opportunities, this section prohibits the issuance of a development permit unless housing will be available for the persons employed. The local government that seeks to attract industry to improve its tax base but refuses to provide the housing that is a necessary concomitant to the new jobs is throwing an unreasonable burden on neighboring communities that should not be permitted lightly.

In determining whether housing will be available, the Land Development Agency may rely on a State Land Development Plan if one is available. If the State Land Development Plan shows the proposed location as a desirable site for a major employment source it is conclusively presumed that housing is or will be available because the State Land Planning Agency will have taken this factor into consideration in the preparation of its Land Development Plan.

The Land Development Agency may also look to a local Land Development Plan for assurance that housing will be available within a reasonable time. If no plan has been adopted the agency must make a finding that adequate and reasonably accessible housing is presently available.

The housing for the prospective employees need not be within the boundaries of the local government. The only standards are that the housing be adequate (*i.e.*, the housing is not deteriorated or dilapidating and is available at a cost or rental within the means of the employees), and that it is "reasonably accessible" to the job opportunity. The determination of reasonable accessibility would, of course, vary with the availability of transportation facilities and the ability of the worker to afford the type of transportation facilities available.

The operation of §§ 7-404 and 7-405 can be seen from the following illustrations:

Illustration (a): A steel company seeks to locate a new mill in a rural area. The local government having jurisdiction over the area has adopted a development ordinance but no Land Development Plan. No State Land Development Plan is applicable to the area. The regulations of the local development ordinance would permit the construction of the steel mill. In order to obtain the development permit the steel company need only show that the mill would not create harm to the public exceeding the benefits it would generate, and that standard housing within the means of its prospective employees is available within a reasonable commuting trip from the proposed mill. The other tests of this section are met by compliance with the local development ordinance and by the absence of a State or local Land Development Plan.

Illustration (b): A developer seeks to build 500 units of federally-subsidized housing for low-income persons in high-rise apartments on the outskirts of a local community. No State Land Development Plan is applicable to the area but the local government has adopted a development ordinance and local Land Development Plan. The development ordinance designates the area for development with single family homes on half-acre lots. The Land Development Plan similarly designates this area for low-density development and projects future water, sewer and highway facilities on the basis of such densities. The Plan states as its objective the desirability of reserving this area for the substantial segment of the population that prefers to live in single family homes on relatively large lots. The developer might be able to meet the tests of § 7-404

(1) and (3) but he cannot meet the test of § 7-404 (2) because his development is clearly inconsistent with the local Land Development Plan. If he believes the Plan is unconstitutional he can challenge it in court or seek to have that part of the local plan overridden by the adoption of an inconsistent State Land Development Plan.

Part 5

Analysis of Overall Impact of Development

Section 7-501. Balance of Detriments and Benefits

Whenever under this Article the Land Development Agency is required to determine whether the probable net benefit from proposed development will exceed the probable net detriment it shall prepare a written opinion setting forth the findings on which the decision is based.

NOTE

In Parts 3 and 4 of this Article Land Development Agencies are required to make determinations based on the balancing of the detriments and benefits that proposed development will create. Such decisions are required when the developer alleges that his development will be of "State or Regional Benefit" as defined in Part 3 and whenever the development is "Large Scale Development" as defined in Part 4. These decisions of the local Land Development Agency are reviewable by the State Land Adjudicatory Board.

This section requires that the Land Development Agency set forth the findings on which its decision is based in a written opinion. These decisions may be appealed to the State Land Adjudicatory Board on the record made before the Land Development Agency, and the record must contain substantial evidence to support the Agency's findings.

Section 7-502. Areas and Factors to be Considered

In reaching its decision the Agency shall not restrict its consideration to benefit and detriment within the local jurisdiction, but shall consider all relevant and material evidence offered to show the impact of the development on

surrounding areas. Detriments or benefits shall not be denied consideration on the ground that they are indirect, intangible or not readily quantifiable. In evaluating detriments and benefits under § 7-501 the Agency may consider, with other relevant factors, whether or not

(1) development at the proposed location is or is not essential or especially appropriate in view of the available alternatives within or without the jurisdiction;

(2) development in the manner proposed will have a favorable or unfavorable impact on the environment in comparison to alternative methods;

(3) the development will favorably or adversely affect other persons or property and, if so, whether because of circumstances peculiar to the location the effect is likely to be greater than is ordinarily associated with the development of the type proposed;

(4) if development of the type proposed imposes immediate cost burdens on the local government, whether the amount of development of that type which has taken place in the territory of the local government is more or less than an equitable share of the development of that type needed in the general area or region;

(5) the development will favorably or adversely affect the ability of people to find adequate housing reasonably accessible to their place of employment;

(6) the development will favorably or adversely affect the provision of municipal services and the burden of taxpayers in making provision therefor;

(7) the development will efficiently use or unduly burden public or public-aided transportation or other facilities which have been developed or are to be developed within the next [5] years;

(8) the development will further, or will adversely affect, the objectives of development built or aided by governmental agencies within the past [5] years or to be developed in the next [5] years;

(9) the development will aid or interfere with the ability of the local government to achieve the objectives set forth in any Land Development Plan and current short-term program; and

(10) the development is in furtherance of or contradictory to objectives and policies set forth in a State Land Development Plan for the area.

NOTE

No restriction is placed on the extent of the geographical area that may be taken in consideration in weighing detriments and benefits. The local Land Development Agency may examine the effect of the proposed development not only on its own jurisdiction but on a larger area. In addition to considering the evidence offered by the parties, the Agency may, but is not required to, call its own witnesses and introduce its own evidence under § 2-304.

In directing the Agencies to balance the detriments and benefits of proposed development, the Reporters wish to make it clear that consideration should not be limited only to those factors that can be easily translated into dollar figures. The long-range social and environmental effect of development may be of far greater importance than any immediately measurable costs or benefits, and the Agency is empowered to consider these longer-range impacts. To illustrate the nature of the factors that should be considered this section sets forth a list of factors which, though not intended to be exclusive, will give local land development agencies an idea of the range of factors which should go into the making of their decisions.

Illustrative factors:

(1) Some types of development have very specialized site requirements, *e.g.*, mineral extraction, power plants, etc. For development of this type the available alternatives may be few. More common types of development can often be selected from a variety of sites. The extent to which such sites are available should certainly be given weight in determining the benefits generated by a development proposal.

(2) Frequently, the same development purpose can be accomplished in a number of different ways, some of which will have substantially greater environmental impact than others. Consideration of alternative means of accomplishing the same purpose should be an important factor in determining the desirability of a proposal.

(3) In addition to weighing the favorable and beneficial effects that a development proposal would have on other persons or property the agency should measure these effects against the norm for development of that type. Has the developer carefully screened his high-rise apartments with a buffer zone to protect property values and surrounding areas of single family homes? Or, on the other hand, has the shopping center developer laid out his property so that the truck loading dock is right next to his neighbor's property line?

(4) Many types of development are thought to have adverse affects on local tax revenue. This is particularly true of housing units that produce substantial numbers of children. The local jurisdiction that already has more than its fair share of development of any particular type is justified in considering that fact in weighing proposals for additional development.

(5) When people are unable to find housing that is reasonably accessible to their job, it increases their cost of transportation and the burden on the taxpayers for providing transportation facilities and causes hardships for employers as well. The extent to which any development application will improve the geographic relationship between housing and jobs is an important factor to be considered.

(6) The extent to which a development will require municipal services is a commonly considered factor in weighing the desirability of a development application.

(7) Typically, a local government plan for streets or sewer and water facilities is based on certain assumptions as to the type of land use to be developed in the area. The extent to which a proposed development will fit in efficiently with the existing and planned public facilities is an important factor in weighing its desirability.

(8) If the development proposal is a part of an overall plan for development of an area by or with the assistance of other governmental agencies this factor should be taken into consideration. Conversely, if the proposal conflicts with such a plan, this conflict is also relevant.

(9) If the local government has adopted a Land Development Plan the development proposal's consistency with this Plan is clearly one of the most important factors to be taken into consideration.

(10) If a State Land Development Plan is applicable to the area, the local agency has a responsibility to consider the effect of any development proposal on the state plan.

The way in which the process of weighing benefits and detriments might operate can be seen in the following illustrations:

Illustration (a): § 7-301(1) requires a Land Development Agency to use benefit-detriment analysis in considering a metropolitan waste disposal agency's proposal to locate a sanitary landfill on land within the boundary of a particular municipality. The development will remove land from the tax rolls and thus will adversely affect the revenues of the municipality. The traffic and odors generated by the facility will cause annoyance and discomfort to some nearby residents. On the other hand, the only other available sanitary landfill sites are so far from populated areas that the increased cost of waste disposal would be a substantial burden on taxpayers throughout the metropolitan area. The only other feasible method of waste disposal is incineration which at any available site would create air pollution problems. Balancing the costs and benefits the Land Development Agency concludes that the permit should be granted.

Illustration (b): § 7-301 (3) requires a Land Development Agency to use cost-benefit analysis in considering an electric utility's proposal to construct overhead high-voltage transmission lines along the outskirts of a community. The community had planned the area for potential residential development of low density and has prohibited the construction of overhead transmission lines. The cost to the utility of using underground lines would be very great and the cost of relocating the line through areas further removed from potential development would also be substantial. On the other hand, the presence of the line would make it impossible to sell surrounding property for low density residential development and would require the local community to change its plans in order to provide a greater degree of service for some alternative use of the area. In addition, many existing residents near the area would find the overhead lines visually offensive. On balance, the Land Development Agency concludes that the permit should be denied.

63-902 O - 71 - 32

Part 6

Official Map Reserving Land for Governmental Agencies

Section 7-601. Adoption of Official Map

(1) The State Land Planning Agency may by rule designate land shown on a map as reserved for future acquisition by governmental agencies. Any land so designated must be within a region for which a State Land Development Plan has been adopted. The rule shall specify the development, if any, that may be permitted on the designated land by the local Land Development Agency.

(2) Areas designated for future public acquisition may include land for

(a) streets, roads or other public ways proposed for construction or alteration;

(b) proposed schools, airports or other public buildings or works;

(c) proposed parks, nature preserves and other open spaces; and

(d) areas to be acquired for any other public purposes.

(3) Designation of sites under this Section shall be consistent with the State Land Development Plan for the area.

NOTE

The designation process under this section is similar to that used by local governments under § 3-301, and much of the commentary thereto is applicable here.

Section 7-602. Development Permission in Designated Areas

(1) No person shall undertake any development on land designated under § 7-601 unless

(a) the land is within the jurisdiction of a local government that has adopted a development ordinance under this Code, and except after compliance with the requirements of this Part; or

(b) the land is not located within the jurisdiction of a local government that has adopted a development ordinance under this Code, but the State Land Planning Agency has appointed a Land Development Agency under § 8-205 which has complied with the requirements of this Part, or has failed to appoint a Land Development Agency within 90 days after the developer gave notice under § 8-205 that he proposed to undertake development in the designated area.

(2) Any application for a grant of development permission on land designated for future acquisition under this Part shall be treated under the procedures applicable to applications for special development permission under § 2-201 of this Code and notice of the hearing thereon shall be given to the State Land Planning Agency in addition to any other persons entitled to receive such notice under § 2-304.

NOTE

To the extent any development is to be permitted in areas designated for future acquisition the criteria governing such development are to be established by the State Land Planning Agency but administered by the local Land Development Agencies. If no local development ordinance has been adopted the State Land

Planning Agency may appoint a Land Development Agency under § 8-205.

Section 7-603. Expiration of Designation

No rule designating land for future acquisition under this Part shall be applicable beyond the period of validity of the short-term program of specific public actions contained in a State Land Development Plan covering the area in question, but the land may be again designated.

NOTE

Because the reason for the designation assumes that there is a plan for future development of the area in question the designation is to be effective only as long as the plan is effective.

Part 7

Appeals to State Land Adjudicatory Board

Section 7-701. State Land Adjudicatory Board

(1) There is created a State Land Adjudicatory Board to decide appeals from orders of Land Development Agencies under this Article. The Board shall consist of [5] members to be appointed by [the Governor] [the highest court of the state]. The Board shall annually elect one of its members to serve as chairman. The term of office of each member of the Board shall be [5] years and until his successor is appointed and qualified, except that various terms may be designated for some of the members first appointed so that no more than one term expires in any one year. A member appointed to fill a vacancy shall serve only for the unexpired term of the member whom he succeeded. Any member may be reappointed. No member of the Board shall also be a member of a local Land Development Agency.

(2) The Board may delegate to any group of [3] mem-

bers any powers conferred on it. The Board may appoint assistants for each of its members.

[(3) The Board shall be an independent Board within the Department responsible for overall planning.]

NOTE

The volume of operations of the State Land Adjudicatory Board would greatly depend on the size of the state. A large state with much development activity would undoubtedly need a full-time board with a substantial staff. A small state might need only a part-time board and a smaller staff. Because of the great differences among the states the Reporters have not attempted to prescribe in any detail the makeup and operation of the Board.

It is important that the Board be independent of the State Land Planning Agency so that the Board may examine the position taken by all parties on an impartial basis without being subject to undue influence by the Agency. If, however, the State Land Planning Agency is created as a division of a larger department or bureau of state planning it might be desirable to place the State Land Adjudicatory Board in a separate division of the same department for budgetary purposes.

Section 7-702. Appeals

(1) An order of a Land Development Agency may be appealed to the State Land Adjudicatory Board if it involves a substantial issue arising under this Article 7.

(2) An appeal may be made by any person having standing to seek judicial review as of right under § 9-103.

(3) No appeal may be taken unless a notice of appeal is transmitted to the Land Development Agency whose order is challenged within four weeks after notice of the order has been given under § 2-306.

(4) The appellant shall furnish a copy of the notice of appeal to all parties to the proceeding before the Land

Development Agency and to the local government that created the Land Development Agency.

(5) The State Land Adjudicatory Board shall establish rules designating the contents of appeals and all other matters relating to the procedures for appeal.

(6) The parties shall be entitled to make written submissions on the record and propose findings and conclusions. The State Land Adjudicatory Board may grant oral argument on any appeal.

NOTE

The same parties have the right to appeal a local decision to the State Land Adjudicatory Board as have the right to appeal the decision to court. This avoids the problem of separate classes of litigants choosing separate routes of appeal.

The Reporters have not established detailed procedures for the operation of the State Land Adjudicatory Board. If a state administrative procedure act is in effect it may be made applicable to the State Land Adjudicatory Board. See § 7-704.

Section 7-703. Decisions of State Land Adjudicatory Board

(1) A State Land Adjudicatory Board shall grant or deny development permission on the record made before the Land Development Agency or may modify the local decision or remand the matter to the Land Development Agency for further proceedings or the taking of evidence. In issuing a decision the State Land Adjudicatory Board shall have all powers that a Land Development Agency had in issuing the initial decisions including the power to attach conditions and restrictions.

(2) All decisions of the State Land Adjudicatory Board shall contain a statement of the reasons for the decision.

(3) Parties to the proceeding shall be given notice of the decision, and the State Land Adjudicatory Board shall enter proof of performance of this duty in the record of the case.

NOTE

The State Land Adjudicatory Board is given considerable flexibility in issuing decisions. It is not the intent, however, to authorize the taking of additional evidence by the Board. If additional evidence is needed the proceeding should be remanded to the Land Development Agency with directions to hear such evidence. In this way the State Land Adjudicatory Board remains merely an appellate body and need not set up the rather complex and expensive administrative machinery necessary to hold hearings and take evidence.

Section 7-704. Procedure for Rules and Orders

Rules or orders of the State Land Adjudicatory Board, other than rules concerning its internal organization and affairs, shall be adopted or issued in accordance with [the procedures of the state administrative procedure act for adoption of rules or regulations or issuance of orders after a hearing].

NOTE

The State Land Adjudicatory Board should follow the same general procedures for rulemaking and the issuance of orders as the State Land Planning Agency. See § 8-201.

ARTICLE 8. STATE LAND DEVELOPMENT PLANNING

COMMENTARY ON ARTICLE 8

This Article authorizes a State Land Planning Agency to undertake a comprehensive process of statewide or regional land planning. Planning, like development regulation, is a subject of renewed interest at the state level. This Article is designed to aid the states in designing an effective framework for the state planning functions that deal directly with land development.

State planning in the United States originated with the federal public works legislation of the 1930's which required the states to prepare public works plans before the federal government would undertake construction projects. After World War II many state planning agencies shifted their emphasis to industrial development and played a key role in the extensive competition among the states to attract new industries. As the proliferation of federal grant programs increased during the 1950's and 1960's it became increasingly apparent that these programs needed coordination at the state level, and many state planning agencies became active in program coordination, spurred by federal funds made available for state planning under the Housing Act of 1961.

The new availability of federal funds for state planning has caused a substantial increase in the attention paid to state planning and a change in the type of planning activities undertaken. Whereas the early state plans concerned themselves primarily with the location of public works projects, state planners of the '60's increasingly recognized the need for social and economic planning as they wrestled with the problem of coordinating a myriad of federal grant programs for education, health and welfare. It became fashion-

able to criticize mere "physical planning" as inadequate to cope with social and economic needs.

At the same time, however, we have become increasingly aware of the environmental deterioration and the social and racial segregation that have resulted from our past patterns of land development. It is apparent that the physical planning of the past has been not only insufficient in scope, but has been ineffective in promoting patterns of physical development that meet the nation's needs.

A viable state or regional program of physical planning can help achieve those social and environmental goals on which the country's future depends. Other types of "non-physical" planning are also necessary or desirable at the state level, but the Reporters have concluded that a Model Land Development Code should contain only authorization for land development planning and not attempt to prescribe the other subject areas the state planning agency should also consider. This should by no means be read as implying an opinion that state planning agencies should restrict themselves to land development planning. It reflects only a judgment that a Code primarily concerned with land development is not a suitable vehicle for establishing standards for the full range of state planning activities. The term "State Land Planning Agency" is being used in the Code to describe the entity that will undertake the planning authorized under Article 8 because the Reporters wish to make clear that they are dealing only with land development planning, not proposing a comprehensive catalogue of the responsibilities of a state planning agency.

The Reporters recommend that the State Land Planning Agency be part of an office of state planning that serves as a staff agency within the Governor's office. As shown in the Note to § 8-101 there is a current trend toward assigning state planning to a staff agency in the office of the Governor, but some states have created a separate

"line" department to handle planning and, in some cases, other functions. This Article is adaptable to any of these systems.

Under Article 7 the State Land Planning Agency has been given important responsibilities in connection with state regulation of land development. It is authorized to review the local land development regulations in "districts of critical state concern" that it designates (Article 7, Part 2), to participate in local hearings when a developer alleges that he is proposing "development of state or regional benefit" (Article 7, Part 3), and to establish criteria for large scale development and participate in hearings on proposals for such development (Article 7, Part 4). In each of these cases the Agency's function is as a rulemaker or advocate. Decisions of specific cases involving proposed development under Article 7 are appealable to a separate agency, the State Land Adjudicatory Board.

This Article 8 contains the authorization for the preparation of state and regional plans by the State Land Planning Agency. Part 4 of this Article specifies the general content of the plan and the procedures for its adoption, but gives the planning agency complete discretion in choosing the geographical boundaries to be used for the preparation of plans. Any plan prepared by the State Agency is referred to as a State Land Development Plan if it meets these requirements, which follow quite closely the requirements for local Land Development Plans in Article 3. If a State Land Development Plan is applicable only to a region it would be referred to as, *e.g.,* the "State Land Development Plan for the Southeast Region." The Reporters have rejected, however, the idea that the adoption of a State Land Development Plan should be a pre-condition for state regulation. The social and environmental problems demanding state action are so urgent and important that the delay inherent in requiring formal adoption of an of-

ficial state plan outweighs any gains that would be achieved. But an ongoing planning process is clearly a prerequisite to satisfactory performance of the regulatory functions authorized in Article 7.

The State Land Planning Agency is authorized to set up Regional Planning Divisions which may administer any of the Agency's functions within specific regions of the state. The Reporters recommend that all planning for areas larger than a single local government be undertaken by a State Land Planning Agency, or regional divisions of such an agency, rather than by a series of independent Regional Planning Agencies responsible primarily to constituent local governments or interposed between local government and state government. The creation of a new series of independent governmental agencies creates a new problem of lack of coordination, this time between regions rather than local governments. To the extent that the lack of coordination under the existing systems of local planning is created by local prejudices and fears of neighboring communities, a regional planning agency created by the same local governments (if they can agree upon the creation of one at all) is unlikely to accomplish the objective.

Because of the important political and economic functions which planning agencies larger than local governments are expected to perform under this Code, it is important that any regional or statewide plan be as close to statewide political decisions as possible. This Code rejects the idea of creating another level of governmental agency between the state government and the local governments. See, generally, the Note to § 8-102.

It may be politically wise and economically sound for the state planning activity to be divided into districts or regions. In the proposed Code the creation of a planning region is made an administrative function of the state planning agency; to produce coordination and consistency

among regions, each regional planning agency is by this Code made a division of the state planning agency. Thus the plan for a particular region, although it might in the circumstances of a particular state be prepared by a regional staff with regional advisory committees, would be a State Land Development Plan as the term is used in this Code.

Under Part 5 the State Land Planning Agency is authorized to assist local communities in their own land planning. The Agency is to review local plans and note any inconsistency between them and any state plans that have been adopted.

Part 6 of this draft contains a new proposal for a separate Long Range Planning Institute. The Reporters believe that the substantial involvement of the State Land Planning Agency in individual land development decisions may make it difficult for that agency to find time for the extensive long range planning that would be helpful for guiding major governmental decisions. The Institute has no day-to-day responsibilities other than to undertake studies and prepare reports relating to long range planning matters.

The division of state land planning and state land regulation into two Articles makes it possible for a state to adopt either Article without being required to adopt the other. However, the Articles are intended to operate in complementary fashion to provide a consistent system for state participation in the planning and regulation of development.

As an Appendix to this Article there is printed an article on state planning by Robert M. Cornett from the *Book of the States 1970-71* by the Council of State Governments. This article provides a concise summary of the recent history of state planning.

ARTICLE 8. STATE LAND DEVELOPMENT PLANNING

Part 1

State Land Planning Agency

Section 8-101. Organization of State Land Planning Agency

(1) There is hereby created a State Land Planning Agency which is authorized to exercise the powers granted to it by this Code.

(2) The State Land Planning Agency shall be an office of land planning within the Governor's Office. The Governor shall appoint the Director of the Agency.

(3) The Director may employ any subordinate personnel necessary to exercise the powers conferred upon the Agency within the limits of available funds and in accordance with [the law relating to employment of state personnel].

NOTE

The nature of state planning has changed rapidly over the last decade, evolving from a process concerned primarily with public works projects in the depression and with industrial development after World War II, into a staff service to state government with a scope as broad as state government itself; the change is evidenced by a dramatic shift in the location of the state planning function in the organization chart of state government:

Location	1960	1965	1967	1969
Governor's office	3	11	18	20
Department of Administration or Finance	2	2	6	7
Department of Community Affairs	0	0	2	3
Department of Commerce, Development, or Planning and Development Agencies	23	27	15	13
Independent planning agency	5	7	6	5
Other agencies	4	1	2	2
Total state planning agencies	37	48	49	50

(Robert M. Cornett, "State Planning" in Council of State Governments, *The Book of the States 1970-71* 438-42 (1970).)

Although state planning agencies are taking on many new functions, only in very recent years has there been a resurgence of interest in land development planning. For example, a 1968 study showed that only 20 agencies had the responsibility for preparing an overall land use plan, and only one—in the State of Hawaii—prepared a zoning plan for the state. Institute on State Programming for the 70's, *State Planning: A Quest for Relevance* 164 (1968). Increasingly the trend is to assign state planning agencies new responsibility for coordination of programs administered by other state agencies. As a recent ASPO study has shown, "In the current theory of state planning, program coordination occupies a central spot." Leopold A. Goldschmidt, *Principles and Problems of State Planning*, American Society of Planning Officials, Planning Advisory Service No. 247, p. 9 (June 1969).

This Code deals only with the planning responsibilities that relate to land development planning, not with the whole range of state planning functions. There is no doubt that land planning should be treated as only a part, albeit an important part, of the overall state planning process, and that earlier philosophies that equated planning with land planning need revision. On the other hand, it is essential that the new concentration on the coordination of government programs should not cause the land planning function to be left in a backwater, because much more state participation in land planning is needed to effectively control the problems of urban growth.

Therefore, the Reporters recommend that the state land planning functions proposed by this Code be assigned to a state land planning agency which will function as an integral part of, but a separate division of, the overall state planning agency. In this way the agency will obtain a full-time staff to deal with the very important responsibilities given to it under this Code but its performance of these responsibilities will also be coordinated with the other aspects of state planning. If the significant aspects of state planning are located in the Governor's office, as is increasingly the case, state land planning should also be located in that office, and the director of the State Land Planning Agency should be appointed by the person primarily responsible for overall planning. If, on the other hand, planning is the responsibility of a line department, then the land planning agency should be part of the department charged with overall planning responsibilities. The Reporters believe that "the actual position occupied by the state planning agency is not as important as the function itself . . . . The important consideration is that the Governor have confidence in and make regular use of his state planners." Steiss, *A Frame-*

work for Planning in State Government 9 (Council of State Governments, 1968).

Because state planning must be so closely coordinated with the other functions of state government the Reporters do not recommend the use of an independent or semi-autonomous planning agency to undertake the responsibilities delegated by this Code. Although such agencies often provide a degree of objectivity value and freedom from political influence, these are far outweighed by the need to insure that the state planning agency has the confidence of the Governor and is therefore influential in guiding other state programs. In order to provide a separate and independent forum for an overview of the state's plans and problems Part 6 of this Article recommends the creation of a separate long-range planning institute which would have no responsibilities for short-range planning but could concentrate on providing a long-range view of the state as a whole.

Section 8-102. Regional Planning Divisions

(1) The State Land Planning Agency may by rule create one or more Regional Planning Divisions, designate the boundaries of the region in which each Division is to operate, and assign to a Division any of the functions granted to the State Land Planning Agency under this Code with regard to its region, subject to such review by the Agency as it deems appropriate. In addition to the requirements for adoption of rules under § 8-202, the State Land Planning Agency shall give notice to every local government which has jurisdiction over some portion of the territory in the proposed region and it shall hold at least one hearing at a convenient place within the region. The Agency may by rule revoke any assignment of functions or revise the boundaries of any region.

(2) Upon the written petition of at least [2] local governments, or of at least [————] residents of the state requesting the creation of a Regional Planning Division or requesting a change of the boundary of an existing Division, the State Land Planning Agency shall consider

the desirability of issuing the requested rule and shall prepare and issue a written statement of its conclusions and grant or deny the request within 120 days of its receipt. No request for a boundary change shall be acted upon until [6] months has expired since the last designation of that boundary was adopted.

NOTE

To emphasize the statewide interest in coordinating development in specified regions of the state, even without the consent of local governments, this Code creates a state planning agency with power to divide itself into divisions which are the equivalent of regions for the more effective performance of its planning and administrative functions. This section empowers the state planning agency to designate planning regions and to assign personnel to a regional agency that will act as a division of the state agency. Any regional plan prepared by the regional division remains the responsibility of the state planning agency and is called the "State Land Development Plan for the _____ Region." See § 8-401(1). Although the state planning agency may rely on its divisions to perform its functions in the territory assigned, the underlying source of the division's power is the parent agency.

There are other methods of creating regional agencies with advisory and sometimes with administrative functions. The SPEA and many early state enabling acts authorized local governments to band together for the purpose of creating and financing a regional planning agency and these acts also enabled the participating local governments to agree to submit development proposals and proposed zoning legislation to that agency for comment. Submission was voluntary, however, and the comments did not affect directly the validity of any local action taken either without comment or after receipt of adverse comments.

More recently "Councils of Governments" have been created by cooperating governments to coordinate planning in an area on a voluntary basis. And in a number of states the state legislature has created a special regional planning district for an area, defined its boundaries and specified its advisory functions. In some states a specified number of local governments within an area have been permitted to petition the Governor to establish a regional planning agency for the area; after a hearing and an executive order the agency comes into existence to perform planning functions in the territory included in the executive order, including territory of nonconsenting local governments.

It follows, therefore, that the organization of existing so-called "regional" or "metropolitan" planning agencies is varied. In general the agencies created more than a decade ago tended to follow the independent commission model that had been typical of local planning commissions since the beginning of the planning movement in the early 1900's. Often the independent commission consisted of leading citizens appointed by the Governor and by the local governments in the metropolitan area.

More recently the influence of the federal government has commenced to produce changes in the make-up and powers of many metropolitan planning agencies. Considerable criticism has been leveled against the independent commissions because of their lack of "political legitimacy" in the eyes of local governments. See *Advisory Commission on Intergovernmental Relations, Governmental Structure, Organization and Planning in Metropolitan Areas* (1961); Beckman and Ingraham, Planning Legislation, 1964-1965, 32 AIP JOURNAL 300 (1966); Haar, *The Growth of the Federal Role in Planning* in American Institute of Planners, Planning and the Federal Establishment (1967); Zimmerman, *Metropolitan Ecumenism: The Road to the Promised Land?* 4 J. of URBAN LAW 433 (1967). Beginning in the mid-60's the Department of Housing and Urban Development began urging the creation of regional councils consisting of representatives from each of the local governments in the area. See *Advisory Commission on Intergovernmental Relations, Metropolitan Councils of Governments* (1966); Joseph Zimmerman, *Metropolitan Ecumenism: The Road to the Promised Land?* 4 J. of URBAN LAW 433 (1967).

Beginning in the late 1960's the federal government became increasingly interested in relating its own developmental activities and grants-in-aid programs to comprehensive state, metropolitan, or regional planning. While for some years many types of developmental projects financed in part by the United States required a showing that the project was in accordance with an overall plan for the local area in which the project was located, a requirement of consistency with or comment by an agency having a broader view of the total situation was added in the 1960's. Thus Section 204 of the Demonstration Cities and Metropolitan Development Act of 1966 required some thirty federal grant and loan programs to be submitted to an areawide agency for review and comment. Congress also gave its consent, in the Housing Act of 1966, to agreements or compacts of two or more states for cooperative separate and mutual assistance in comprehensive planning for the growth and development of interstate metropolitan urban areas.

The Housing Act of 1968 extended eligibility for planning assistance to metropolitan and multigovernment planning agencies.

63-902 O - 71 - 33

The Intergovernmental Cooperation Act of 1968 gave further incentive to state or metropolitan planning by directing the Bureau of the Budget to coordinate responsibility to review programs so as to give preference to grants consistent with areawide planning. In the 91st Congress there were almost 100 bills providing for the development of national urban growth policies and for encouraging state and regional planning.

The more that metropolitan agencies have been asked to review functions that bring them into potential conflict with local governments, however, the more the structural weakness of most commissions have become apparent. The late Dennis O'Harrow pointed out that they seemed "to be plagued by political Golden Rulism: I'll vote for whatever you want in your county because I expect you to vote for whatever I want in my county." 33 ASPO NEWSLETTER 14 (1967). Too often the agency avoids making a suggestion among competing alternatives and shuns potentially embarrassing matters and ticklish issues. The dependence of many metropolitan planning agencies on local governments for a large share for their financial support accentuates their hesitancy to take strong action that might offend a source of contributions. See, Joan Aron, THE QUEST FOR REGIONAL COOPERATION (1969); Melvin Levin, "Planners and Metropolitan Planning," 33 AIP JOURNAL 78-79; O'Harrow, *op. cit.*, at 13; Charles Haar, "What We Are Learning About Metropolitan Planning," PLANNING 1969, 33, 39.

An even more serious source of friction, however, has been the fact that, with a few exceptions, the passage of federal laws requiring that metropolitan planning agencies review applications for federal grants has not resulted in any significant change in the state legislation defining the responsibility of such agencies. As a result most metropolitan planning agencies have no official status whatsoever in relation to public works projects by state agencies except when consultation is required by federal statute, and there is often a virtual absence of coordination between state and metropolitan planning agencies, often accompanied by substantial friction and duplication of effort.

> "What many state program planning operations are ill-equipped to consider are the details of local and substate regional planning efforts. State programs are planned and coordinated in a near vacuum of knowledge about activities in both comprehensive and functional planning by the Federal and local governments and private enterprise. The need for 'vertical' communication in order to effectively chart and allocate state program resources has prompted several states to devise intelligence operations to identify the developmental program activities, trends, goals and objectives of the Federal

and local governments and private enterprise, and determine a general development consensus for the state and its various substate regions. This in reality is a comprehensive regional planning process by state government to serve its own particular program planning needs and should be conducted with an understanding that the regional programs defined by the state government may not have acceptance or official sanction by local regional interests, if indeed such interests are expressed." (Vincent J. Moore, "The Structure of Planning and Regional Development," in American Institute of Planners, *Emerging Regional Cities of America* 1, 10 (1965).)

In some states the problems inherent in metropolitan agencies of the Independent or Council of Governments' type have caused the state government to revise the structure of metropolitan planning to bring it into a closer relationship with the state planning agency. One method involves the designation of planning regions by the state planning agency and the appointment of regional planning boards for each region. See, *e.g.*, Vt. Stat. Ann. Ch. 151 §§ 6001, *et seq.* (Supp. 1970); Minn. Stat. Ann. Ch. 473B (Supp. 1971). New York State Office of Planning Coordination, *Planning for Development in New York State* 32-33 (1970).

The Reporters believe this type of system is the most likely to provide a harmonious and effective method of providing a regional view of major land development issues. The State Land Planning Agency is to be given the authority to create Regional Planning Divisions, and to designate their functions and personnel. This establishes a clear line of authority between the metropolitan planning function and the state government.

Under proposed § 8-102 the state agency may create as many planning divisions as it desires, and may assign to each of the divisions as many of the state agency's functions as it feels appropriate. The Code does insist, however, that the basic land planning power remain at the state level to be delegated by the State Land Planning Agency to the regional divisions or withdrawn therefrom as the state agency sees fit. This is essential to enable the coordination of regional land planning with other state activities and to insure that the regional land planning carries the weight and authority of the state government. This should eliminate the "key defect" of most present metropolitan agencies, the absence of close ties to a governing body and "a strong chief executive who is able to override the contenders and force resolution of disagreements." Levin, *op. cit.*, 80.

The boundaries of each Regional Planning Division are at the discretion of the State Land Planning Agency. While it is assumed

that most state agencies will create a single division for each metropolitan area, it has been thought best to leave this purely to the discretion of the state agency. Regional Planning Divisions may also be used, for example, to coordinate planning for an underdeveloped rural area, an area where a new town is proposed, or an area of major recreational significance. See Norman Beckman and Page Ingraham, *The States and Urban Areas,* 30 LAW & CONTEMP. PROB. 76, 83 (196).

While the Reporters believe the model proposed in this section is likely to be the most desirable for the great majority of states, there are a number of states where peculiar political or geographic conditions may outweigh the general principles discussed above. In addition, although most of the nation's metropolitan areas are located wholly within one state, some of the largest (*e.g.*, New York, Washington, Philadelphia, Chicago, St. Louis) are divided among two or more states. In such areas consideration should be given to the creation of interstate planning agencies by compact. Such interstate agencies would obviously need to be independent of the State Land Planning Agency of each of the respective state governments, but § 8-104 contains provisions relating the functions of State Land Planning Agencies to those of interstate planning agencies.

Section 8-103. State and Regional Advisory Committees

(1) The Governor may designate a state advisory committee consisting of no more than [11] members to be appointed by him and to serve at his pleasure.

(2) For any region created under § 8-102, the Governor may designate a regional advisory committee consisting of no more than [11] members to be appointed by him and to serve at his pleasure.

(3) A state or regional advisory committee shall convene at the call of the Director of the State Land Planning Agency and shall advise him concerning any matters upon which he may seek its advice. Before submitting to the Governor any proposed State Land Development Plan or Report specifically relating to a region, the Director shall

submit the Plan or Report for recommendation and comment to any regional advisory committee that has been designated for all or part of the region. The Director shall also submit for recommendation and comment a State Land Development Plan to any state advisory committee. Whenever a State Land Development Plan or Report is submitted to the Governor it shall be accompanied by the written recommendations and comments of the appropriate advisory committees.

(4) Members of a state or regional advisory committee shall be entitled to reimbursement for expenses and, if the Governor so directs, to compensation within the appropriations therefor.

NOTE

The authorization for the designation of state and regional advisory committees is an effort to preserve a useful function which the older "independent commission" served. The independent commission under the SPEA and other similar acts usually consisted of prestigious citizens and often heads of departments having significant operating or public works functions. The actual preparation of the plan was, however, done by a professional staff. This Code envisages that the planning will be done by the professional staff of a State Land Planning Agency but it authorizes the use of formal advisory committees if the Governor deems it desirable to establish them. If a committee is established, subsection (3) prescribes its duties—to make comments and recommendations on plans submitted to it, and otherwise advise in regard to planning problems in the region.

The function of the committee is to give general advice rather than to bring to bear special "expertise" on the plan prepared by a group of experts. Therefore, no special qualification is provided for membership on the advisory committee. In some cases it might be advantageous to appoint members of a pre-existing regional agency to the newly-created advisory committee in order to take advantage of their experience. Officials of other state agencies or local governments as well as private citizens could also be appointed.

Section 8-104. Interstate Planning

If an interstate planning agency is created by interstate compact, the State Land Planning Agency has the powers assigned to it by the compact. If the functions of the interstate planning agency duplicate those of the State Land Planning Agency, the State Land Planning Agency may

(1) negotiate with the interstate agency an understanding as to the relationship of the functions to be performed by the two agencies;

(2) suspend by rule the performance of any functions granted to the State Land Planning Agency by this Code which duplicate the functions of the interstate agency; and

(3) cooperate with the interstate agency in the performance of its functions.

NOTE

Congress has given blanket authorization to interstate agreements and compacts concerning planning for the growth and development of interstate, metropolitan urban areas. See 40 U.S.C.A. 461(F). The purpose of this section is to grant to the State Land Planning Agency any powers which the compact or agreement assign to such an agency. If the compact results in an interstate agency, the section directs the State Land Planning Agency to avoid duplication of effort by suspending its activities as to matters over which the interstate agency is exercising jurisdiction.

Part 2

General Powers

Section 8-201. Power to Adopt Rules and Issue Orders

(1) The State Land Planning Agency is authorized to adopt rules and issue orders concerning any matter within its jurisdiction.

(2) Rules or orders of the State Land Planning Agency, other than rules concerning its internal organization and affairs, shall be adopted or issued in accordance with [the procedures of the State Administrative Procedure Act for adoption of rules or regulations or issuance of orders after a hearing].

NOTE

Throughout this Code the terminology of the Federal Administrative Procedure Act and the Model State Administrative Procedure Acts is used. A "rule" is the term used for matters sometimes called "regulations," *i.e.*, administrative actions having force of law governing future conduct of, at the moment of the adoption of the rule, unascertained persons. "Order" is the term used for administrative action applicable to ascertained persons named in the order. See Definitions in T.D. #2, § 1-201(11) and (16).

The draftsman of legislation modeled after this Code should incorporate by reference the appropriate provisions of the state administrative procedure act on issuing orders after a hearing and on adoption of rules. If there is no state administrative procedure act applicable to issuance of orders or rules, then the draftsman must prepare an additional section governing this matter. A useful model is that contained in § 2-304 of this Code (T.D. #2). However, a major change in the notice provisions of that section is required. As this Code is structured, orders of the State Land Planning Agency, unlike orders of a local Land Development Agency, apply to the plans and ordinances of local governments and not to applications for particular development. Thus in § 8-502 a State Land Planning Agency is empowered to issue an order disapproving a particular local plan conflicting with a State Land Development Plan. Notice of a hearing on this proposed order should obviously be given to the local government involved and may well also be given to the same persons and groups entitled to notice of the adoption of the local plan. See § 3-106 of T.D. #2.

Section 8-202. Educational Programs

The State Land Planning Agency may conduct or arrange for educational programs related to land development and the need for coordinated planning thereof.

NOTE

The educational function is one of the most important that a state planning agency can perform. This section grants broad authority to the State Land Planning Agency to engage in educational activities to increase the awareness of governmental officials and the public of the interrelated nature of private land development and governmental programs and of the need for coordinated planning.

Section 8-203. Intervention in Judicial and Administrative Proceedings

(1) In a judicial or administrative proceeding in which a controversy has arisen regarding the meaning or validity of a State Land Development Plan or Report, of any provision of this Code, or of any rule adopted or order issued by the Agency, the Agency is entitled to intervene and may, in its discretion, exercise its right of intervention. The Agency shall intervene in any judicial or administrative proceeding before a court or agency where the court or agency has requested that it intervene. With the consent of the court or agency, the Agency may intervene in any other proceeding.

(2) Upon intervention, the Agency shall have all the rights of a party, including a right to appellate review, to the extent necessary for a proper presentation of the facts and law relating to any matter for which intervention was permitted.

NOTE

This section treats with three aspects of intervention in judicial or administrative proceedings in which the land planning agency is not a party. It provides that in some circumstances the agency may intervene "as of right"; it provides that the agency "shall intervene" at the request of a court or other administrative agency; and it provides that in all other situations it may intervene with the consent of the court or agency. Subsection (2) gives the land planning agency the status of a "party" for the matters for which it was permitted to intervene.

This section is intended to give the agency an important responsibility in protecting and preserving the interpretation and operations under this Code. It is for this reason that it is given a right to intervene if a lawsuit in which a central issue is the validity of a provision of this Code is brought into question in circumstances in which the agency is not a party. Thus it is possible in a suit between vendor and purchaser that the resolution of that controversy may turn on the validity of a rule issued under this Code. The agency is not a party to that litigation and it is given a right to intervene.

Section 8-204. Designation of Persons Who May Appear at Local Administrative Hearings

The State Land Planning Agency may by rule specify additional classes of persons who shall have the right to receive notices of and participate in local administrative hearings under § 2-304.

NOTE

The persons who are entitled to receive notice of, and participate in, hearings on applications for special development permits are specified in § 2-304. Included are persons who may be designated by the State Land Planning Agency. This authority enables the State Land Planning Agency to designate "watchdog" agencies or groups in regard to specific types of development. For example, it may require that on any application for industrial permits notice must be given to the Air Pollution Control Board. This power may be particularly useful as an adjunct to the state regulation authorized by Article 7.

Section 8-205. Appointment of Local Land Development Agency

Wherever in this Code the State Land Planning Agency is required to appoint a local Land Development Agency, it shall appoint one or more persons who shall have all of the powers under Article 2 and Article 7 necessary to accomplish the functions for which they are appointed. Upon subsequent creation of a Land Develop-

ment Agency by a local government having jurisdiction of the area, the appointed Land Development Agency shall decide any matters then pending before it unless within 30 days it transfers by order to the newly appointed Land Development Agency any or all of the pending matters.

NOTE

Under Article 7 there are three instances in which the State Land Planning Agency may appoint a local Land Development Agency if the local government has chosen not to adopt a development ordinance: (a) if the area has been designated a District of Critical State Concern, § 7-204(3); (b) if a developer applies for a permit for large scale development, § 7-402; and (c) where an official map has been adopted designating land for future acquisition by governmental agencies, § 7-602.

This section gives the State Land Planning Agency the same flexibility in designating a local Land Development Agency that is given to the local government. (See §§ 2-102, 2-301.) Thus, for example, it might appoint the local building commissioner, a local employee of the State Land Planning Agency, or a board of three local citizens. In each case, however, the appointed agency serves only until the local government adopts a development ordinance and designates its own Land Development Agency. It is expected that the local government will choose to adopt such an ordinance in almost every instance, so the appointed Agency will serve only the function of providing immediate control of development during an interim period.

Part 3

Applications for Federal or State Loans or Grants

Section 8-301. Designation of Areawide Planning Agency

The State Land Planning Agency is designated as the agency authorized to comment upon and make recommendations with respect to any application for loans or grants from the federal government required by federal law to be submitted for review by an areawide agency designated

to perform metropolitan or regional comprehensive planning.

NOTE

The Intergovernmental Cooperation Act of 1968 requires comment by an areawide planning agency on applications for aid under a number of federal loan and grant programs. See 42 U.S.C. § 4231 (1970). This section designates the State Land Planning Agency as the areawide planning agency for this purpose. Note that under § 8-102 that Agency may delegate this function to a regional planning division.

Section 8-302. Review of Applications

(1) A copy of every application by a governmental agency to the federal government or to any other governmental agency for a grant or loan in aid of any development, or for financial support for any of the powers conferred by this Code, shall be submitted to the State Land Planning Agency no later than the filing of the application.

(2) The State Land Planning Agency may transmit to the applicant and to the governmental agency with which the application has been filed comments on the relative priorities it believes should be used in evaluating any competing applications.

(3) If a State Land Development Plan has been adopted the State Land Planning Agency may transmit to the applicant and to the governmental agency with which the application has been filed comments and recommendations with respect to the consistency of the application with the State Land Development Plan.

(4) If the application seeks a grant or loan from a state governmental agency the agency shall not approve the application if the State Land Planning Agency has

determined that the approval would be inconsistent with a State Land Development Plan.

(5) Any application submitted to the State Land Planning Agency for comment shall be deemed approved unless the Agency has transmitted comments and recommendations with respect to it within [5] weeks after the date of its submission.

(6) The State Land Planning Agency may by rule exempt classes of applications, described by the amount or purpose of the assistance sought, or by any other relevant criteria, from the requirement imposed by this Section.

NOTE

Every application for state or federal aid for development is to be reviewed by the State Land Planning Agency. The Agency may suggest relative priorities for considering competing applications. If a State Land Development Plan has been adopted the agency may comment on the application's consistency with the Plan. If the application is found to be inconsistent with the Plan, and the application is directed to a state governmental agency, subsection (4) directs the state governmental agency not to approve the application.

Part 4

State Land Development Plans

Section 8-401. State and Regional Land Development Plan

(1) A statement (in words, maps, illustrations or other media of communication), prepared and adopted as provided in this Article, setting forth objectives, policies and standards to guide public and private development of land within the state as a whole or within a region designated by rule and including a short-term program of public actions as defined in § 8-404, is referred to in this Code as

a "State Land Development Plan" or "State Land Development Plan for the ———————— Region."

(2) Whenever this Code requires a State Land Development Plan as a requisite to the exercise of any governmental power or requires it to be taken into consideration, "State Land Development Plan" means a statement, and any required studies and programs covering matters appropriate to the region for which the Plan is prepared, that has been adopted under § 8-405.

NOTE

The counterpart of this § 8-401 for state plans is § 3-101 in Article 3 on the Land Development Plans and Powers of Local Governments. The State Land Development Plan is defined in the same way as a statement of "objectives, policies and standards" regarding the future development of the state or of a portion of the state designated as a region. This section is definitional.

This section is also designed to give the State Land Planning Agency flexibility in selecting the areas for which plans are to be prepared. It may prepare plans for the state as a whole or for any region within the state that it defines by rule. Under § 8-102 the State Land Planning Agency may create regional planning divisions and delegate to them the power to create plans for their regions, or it may choose to prepare the regional plan itself. Under § 8-104 and an interstate compact plans may be prepared for interstate areas. All plans, whether interstate, statewide or regional, are referred to and have the force of State Land Development Plans. For example, if the plan covers only the "Southeast Region" it would be described as the "State Land Development Plan for the Southeast Region."

The impact of an adopted State Land Development Plan is reflected in a number of different Sections of the Code:

Section 7-201 provides for designation by rule of areas defined as "Districts of Critical State Concern"; once the designation has been made, development in the designated area must be in accordance with state objectives. Under § 8-404 State Land Development Plans may set forth areas which should be designated as "Districts of Critical State Concern." While a State Land Development Plan is not a prerequisite to the designation of most Districts of Critical State Concern, it is a prerequisite

for the use of a District of Critical State Concern to designate the site of a proposed new community.

Section 7-404—Certain projects which are defined as "large scale development" may not be undertaken if the permit-granting agency finds that the large scale development interferes with the ability to achieve the objectives in a State Land Development Plan that has been adopted for the area. Section 7-405 also waives the need for certain findings if the development is in accordance with a State Land Development Plan.

Section 7-501—Article 7 in its entirety calls for an adjudicatory process whereby development contrary to a local regulatory system can be authorized or prohibited on the basis of a statewide interest. The basic factor to be adjudicated is the cost and benefit of the proposed development. If the benefit to the state from certain types of development outweighs the cost to the local area the local Land Development Agency is to grant the development permit notwithstanding the local ordinance. Similarly, if the cost to the state of certain proposed development exceeds the benefit to the state, the local agency may be required to deny a development permit even though the local land development law permits issuance of the permit. Section 7-502 lists a number of factors to be considered in the making of these determinations, and one is whether "the development is in furtherance of, or contradictory to, objectives and policies set forth in a State Land Development Plan for the area."

Section 7-601—The State Land Planning Agency is empowered to designate described parcels of land in the state as reserved for future governmental use for various public development within the control of the state government. Thus an expansion or creation of a state or regional park contemplated by the state's park or conservation agency can be assured in part by a designation of the land area to be occupied by the park as "reserved land" to be held without any development until the state agency in charge of parks determines to acquire the land for park purposes. This designation system can be used only if there is an approved State Land Development Plan and only if the designation is "consistent with the State Land Development Plan." (There will also be a provision giving the landowner a right to claim compensation for the loss sustained by the reservation of his land and, of course, if his land is ultimately taken he is entitled to the normal eminent domain valuation procedures.)

Section 8-302 requires any application by a local government or other governmental agency for state or federal financial aid for development to be reviewed by the State Land Plan-

ning Agency. If the application is made for state aid and the Agency finds it would be inconsistent with a State Land Development Plan it must be rejected.

Section 8-502 requires comment by the State Land Planning Agency on local plans; if the State Land Planning Agency finds the local plan inconsistent with a State Land Development Plan, and if the local government nevertheless persists in its plan, the probative weight of the local plan in support of local action taken is reduced or eliminated.

Section 8-402. Objectives, Policies and Standards of State Land Development Plan

(1) A State Land Development Plan shall include statements of objectives, policies and standards regarding proposed or foreseeable changes in each of the factors enumerated in subsection (3) that are relevant to the geographical area covered under § 8-401. The Plan shall also include statements coordinating the objectives, policies and standards stated, analyzing their probable social, environmental and economic consequences, and evaluating to the extent feasible alternative objectives, policies and standards with respect to probable social, environmental and economic consequences.

(2) The statements shall also identify the present conditions and major problems relating to development, physical and environmental deterioration, and the location of land uses and the social, environmental and economic effects thereof. The statement shall show the projected nature and rate of change in present conditions for the reasonably foreseeable future based on a projection of current trends and the probable social, environmental and economic consequences which will result from the changes.

(3) The statements shall be based on studies as comprehensive as feasible concerning matters found by the State Land Planning Agency to be important to future development including

(a) population and population distribution, which may include analysis by age, education level, income, employment, race, or other appropriate characteristics;

(b) amount, type, level and general location of commerce and industry;

(c) amount, type, quality and general location of housing;

(d) general location and extent of existing or currently planned major transportation, utility, recreational and other community facilities;

(e) geological, ecological and other physical factors that would affect or be affected by development;

(f) amount, general location and interrelationship of different categories of land use;

(g) areas, sites or structures of historical, archeological, architectural, recreational, scenic or environmental significance;

(h) extent and general location of blighted, depressed or deteriorated areas and factors related thereto; and

(i) natural resources, including air, water, forests, soils, rivers and other waters, shorelines, subsurfaces, fisheries, wildlife and minerals.

(4) The State Land Planning Agency may utilize studies made by others and may undertake or contract for any additional studies necessary or useful in preparation of the State Land Development Plan. Every governmental agency shall furnish the State Land Planning Agency any data, reports or records in its control required by the Land Planning Agency for these statements and studies.

(5) The State Land Planning Agency may prepare, or

contract for the preparation of, and publish planning studies and reports, interim plans and functional plans that it considers useful in advancing state or regional planning, but none of these studies, reports or plans has the effect of a State Land Development Plan under this Code.

NOTE

This section is a direction to the state planning agency both as to the method of preparation of the plan and as to its content. Whether all of the factors are specifically dealt with in the plan depends on whether the factors are relevant to the area for which the plan is a development plan. Section 8-401 and § 8-402, unlike many statutes concerning administrative agencies, do not specify in detail the purpose of the plan. The function of the plan is to set forth objectives, policies and standards to guide public and private development. Obviously the agency will prepare these matters with the public interest or general welfare in mind. The agency is directed in § 8-402 to include in its statements an analysis of the social, environmental and economic consequences of its various objectives. "Environmental" is intended to include matters of ecology in the broadest sense of the word.

This section is substantially similar to Article 3 of T.D. #2 in content, but in Article 3 local planning agencies are given substantial discretion to determine the content of land development plans. See § 3-103. The state agency is given less discretion. To qualify as a state land development plan consideration must be given to all of the factors required by this Part and § 8-402 in particular, unless such factors are irrelevant to the area covered by the plan.

The state agency is granted power to impose territorial limits on its plan. Of course the state agency may also prepare separate plans or studies dealing with single functions (*e.g.*, transportation) but these plans or studies are not entitled to the legal significance accorded a State Land Development Plan.

Section 8-403. Consideration of Local and Agency Plans

In the preparation of a State Land Development Plan consideration shall be given to Land Development Plans of local governments in order that each local government having a Land Development Plan may pursue its development policies to the maximum extent feasible consistent

63-902 O - 71 - 34

with the general welfare of the people of this state. Consideration shall also be given to plans of other governmental agencies that have been transmitted to the State Land Planning Agency.

NOTE

This section is an admonition to the state planning agency to give due weight to local land development plans with the objective of permitting local governments having a land development plan to pursue their development policies to the maximum extent feasible consistent with the general welfare of the state. The State Land Planning Agency would also want to consider the plans of other state and federal agencies or special districts in the preparation of its comprehensive plan.

Section 8-404. Short-Term Program

(1) A State Land Development Plan shall include a short-term program of specific public actions to be undertaken within a period stated in the Plan in order to achieve objectives, policies and standards contained in the Plan. This short-term program may concern, among other matters

(a) development or development-related programs to be undertaken by federal, state, local or other government agencies;

(b) areas to be designated as Districts of Critical State Concern under § 7-201.

(2) A short-term program shall also contain statements in regard to

(a) the estimated amounts, types, characteristics and general locations of land to be acquired or reserved in order to carry out the short-term program;

(b) the transportation, utility and community facilities to be provided or aided by the state or other

governmental agency to meet the needs of development resulting from the short-term program;

(c) the number of persons and land uses estimated as being displaced by the short-term program and also a statement regarding the probable economic and social consequences of the displacement;

(d) the relocation and other adjustment programs to be undertaken by governmental agencies as a result of the displacements estimated in subsection (c);

(e) any regulatory measures that should be adopted within the period of the short-term program in order to achieve the objectives, policies and standards of the State Land Development Plan;

(f) an estimate of any additional trained personnel required to administer the recommendations of the short-term program;

(g) the estimated cost of carrying out the short-term program and the sources of the public funds available or potentially available;

(h) the estimated overall social and economic consequences of the short-term program including the impact of the program on population distribution, employment, economic and environmental conditions, and an evaluation to the extent feasible of alternative short-term programs.

(3) After adoption of a State Land Development Plan, the State Land Planning Agency shall prepare at least once during every [5-year] period since adoption of the Plan a State Land Development Report. The interval between Reports may be specified in the Plan but shall not be for a period of less than [2] years. Each Report shall contain a new short-term program of specific public actions and

shall contain statements regarding the following matters in addition to the statements required under subsection (2)

(a) the major problems relating to development, physical deterioration, and the location of land uses and the social, environmental and economic effects thereof;

(b) the extent to which the previous short-term program has accomplished its objectives;

(c) the extent to which there have been significant changes in the assumptions upon which the State Land Development Plan was based.

(4) A State Land Development Report may also suggest changes in the State Land Development Plan including reformulation or change in objectives, policies and standards.

(5) A State Land Development Report becomes effective in accordance with the procedures in § 8-405. A State Land Development Plan is amended on adoption of a State Land Development Report to the extent specified in the Report.

NOTE

This section parallels § 3-105 and § 3-107 of T.D. #2 for local land development plans and comments to those sections are relevant here. As those comments indicate, the idea of a "short-term program" and a periodic report is a key planning proposal of the Code. It is an effort to separate the longer range objectives of the plan from the specific or what might be called "incremental" programs designed ultimately to achieve the long-range objectives. The initial land development plan must contain a short-term program at the time it is submitted for adoption. Subsection (3) requires that subsequent short-term programs be submitted at least every five years and that the subsequent short-term program called "a report" must be adopted in the same way as the initial plan and may, if the planning agency chooses, include modifications of the initial plan.

Section 8-405. Adoption of State Land Development Plan

(1) Adoption of a State Land Development Plan requires the following procedures

(a) the State Land Planning Agency shall transmit a copy of the proposed State Land Development Plan to any advisory committee for the area covered by the Plan and to any governmental agency in this state that has filed with the State Land Planning Agency a written request for copies of proposed plans;

(b) the State Land Planning Agency shall also make available copies of the proposed plan to the public upon payment of a reasonable charge to cover printing costs;

(c) not less than [4] months after the transmittal required by this Section, the State Land Planning Agency shall consider the comments received;

(d) after making of any revisions, copies of the plan shall be transmitted to the Governor with the recommendation of the Agency that it become a State Land Development Plan and he shall transmit a copy to each House of the Legislature if he approves it.

(2) The State Land Development Plan becomes effective

(a) on the expiration of [90] legislative days or at the end of the session, whichever is earlier, if the Plan was transmitted by the Governor to each House at least [90] days prior to the end of the session, unless prior to its becoming effective either House passes a resolution stating in substance that the House does not favor the Plan; or

(b) on approval of the Plan at any time in ac-

cordance with the procedures for enactment of general legislation.

NOTE

A State Land Development Plan is defined in § 8-401 as a "guide" for future public and private development of land within the state or some described region thereof. Section 8-402 emphasizes the planning nature of the work of the State Land Planning Agency by requiring the Plan to include statements of "objectives, policies and standards" and requiring the Plan also to include statements "coordinating" these matters and to include an evaluation of the "probable social, environmental and economic consequences" of development. Section 8-402 further requires that the statements in the Plan be based on "studies as comprehensive as feasible" concerning the matters enumerated in the section. Section 8-404 also requires the Plan to include "short-term" programs designed to further the broader objectives of the Plan. All of this is done by the staff of the State Land Planning Agency.

Section 8-405 describes the procedure by which the statements prepared by the Agency become the "official" or approved State Land Development Plan. Subsection (1) requires the Agency to transmit copies of the proposed Plan to various groups and persons throughout the state for comment and recommendation and subsection (2) prescribes how the Plan, revised on the basis of the comments, becomes "adopted" or approved. Essentially, this section requires that the Agency transmit the Plan to the Governor with a recommendation that it become an official State Land Development Plan and the section further provides that the Governor, if he approves the Plan, is to transmit it to each house of the legislature. Thereafter the Plan becomes effective either on specific legislative approval or after expiration of 60 legislative days without an expression of disapproval by one of the houses. Thus this section calls for political consideration of the plan in the same way that Article 3 calls for political consideration of local land development plans. This conclusion both in Article 3 and here differs from the SPEA which called only for approval by an "independent commission" of citizens.

This section raises a number of important issues. The initial question is whether there should be any legal significance attached to a plan and if so, by whom the plan should be approved. If no legal significance is to be attached to the plan, the system used by SPEA, then the plan is at most a "prestigious" recommendation to legislators and to government officials making land development decisions as to how they ought to make decisions which significantly

affect the development of the area being planned. A "prestigious recommendation" obviously can become a factor in any political debate or controversy concerning the desirability of an appropriation for a particular public development of the location of such a development made administratively or legislatively, and of any proposed regulation of private development and even of public development.

As presently drafted the Code gives the plan more significance than that arising simply from a "prestigious recommendation." The proposed legal significance of the State Land Development Plan is described in the Note to § 8-401. Assuming that a State Land Development Plan should have the legal significance assigned to it (or at least some legal significance which the legislature has seen fit to attach to it) and assuming that the plan is entitled to a prestigious position in political discussion, the basic question is whether the significance just described should attach simply from the State Land Planning Agency's certification that this is now the "state land development plan," or, if additional political participation is desirable, the nature of that participation. From the drafting and policy point of view the alternatives are as follows:

(1) A land development plan becomes the official plan on the certification of the director of the land planning agency.

(2) The land development plan becomes the official plan on the approval of the Governor.

(3) The land development plan becomes the official plan a specified time after submission to the Governor unless he disapproves or modifies it.

(4) The land development plan becomes the official plan after formal legislative approval by both houses of the state legislature and the Governor (or an override of the Governor's veto).

(5) The land development plan becomes the official plan on the expiration of a period of time after submission to the legislature unless both houses by concurrent resolution disapprove of the plan.

(6) The land development plan becomes the official plan on the expiration of a period of time unless either house of the legislature has expressed disapproval within the specified time.

Section 8-405(2) proposes that the plan become the official State Land Development Plan unless within a specified time either house of the legislature disapproves it—alternative (6) of the above.

Examples of each of the six possible methods of approval may be found in the legislative machinery in both the states and the federal government today. The first method described is the standard method today whereby an administrative agency adopts its own "rules" or "regulations." State administrative procedure laws frequently assume that the agency will adopt its own regulations and prescribe procedure for the adoption. It should be recalled that even this system permits legislative intervention or "oversight" as the situation is frequently described. Some individual or group may initiate and obtain successful legislative action which repeals or modifies the previously adopted regulation of the administrative agency or reduces its appropriation as "punishment" for an erroneous regulation.

Legislative oversight of administration is a familiar and well-grounded assumption of responsible government. It is frequently an ideal of administration that the policy decisions should be made by the political forces of government and the administrative detail filled in by the executive. Throughout administrative law it has been difficult to make this clean-cut separation of policy from administration. This difficulty is accentuated in preparing a plan to guide future land development in the state, and for this reason, among others, the Reporters have selected a procedure which calls for direct legislative intervention into the policy aspect of the plan by an expression of its disapproval.

A second reason for oversight by the political forces of government lies in the fact that Article 8 does not have built into it any criteria or statements of policy regarding land development other than that implied from the fact that government is intended to promote the general welfare. This decision not to put into the statute criteria for the contents of the plan is a conscious decision based in part on the experience with the SPEA and the SZEA. The SPEA, for example, cannot specify criteria for the content of the plan at a lower level of abstraction than a number of phrases which add up to "promote the public interest." The plan does involve a high expression of political policy and it is for this reason that the Reporters believe that the plan must be consciously related to the political forces of government. Even with respect to matters which legally are related to the plan only in the sense that the plan is a "prestigious recommendation," it is clear that the prestige of the recommendation is more powerful if the recommendation is "approved" by someone other than the staff which prepared it.

It is frequently argued in connection with policy considerations of the whole problem of administrative law that no specialized procedure for legislative oversight of the rules and regulations is

necessary for the simple reason that the political process can easily express its disapproval of a particular regulation by a repeal of the regulation. The Reporters think that participation by the Governor and the houses of the legislature in the process of planning is important. The plan is a combination of expertise, detail and high policy, and while it is better to have the initial formulation of the policy conclusions made by the planner, the Reporters think legislative participation is more meaningful if it is directed to those matters brought to the attention of the legislature for purposes of disapproval as distinguished from approval.

In the list of six methods of dealing with the policy issue concerning adoption of the plan, the first, third, fifth and sixth rely on the political fact that if there is significant objection to the policy embodied in the plan, the normal political processes for repeal and amendment are adequate for rejection of the policy which the political arm does not want. The second and fourth possible solutions make an opposite assumption. They conclude that the matter is so important that it should not have official approval until the legislature (or the Governor) speaks affirmatively on the plan.

The solution proposed in this section is not unusual in the legislative process. In recent years the federal government has used the disapproval method in several types of legislation:

(1) The Federal Rules of Civil Procedure after adoption by the Supreme Court do not take effect until 90 days after the rules have been submitted to Congress. 28 U.S.C.A. § 2072.

(2) Reorganization plans for the executive branch of the federal government become effective after the expiration of 60 days after submission to the Congress unless "either house passes a resolution stating in substance that the house does not favor the reorganization." 5 U.S.C.A. § 906.

(3) If the Attorney General suspends a deportation order for a person or class of aliens who have been ordered to be deported, he is required to submit his action to Congress and the suspension order becomes *ineffective* if "either the Senate or the House of Representatives" passes a resolution stating that it does not favor the suspension of the deportation order. 8 U.S.C.A. § 1254. (If the Attorney General denies an application for suspension of deportation, he is required to submit that also to Congress and the Congress may order suspension of the deportation order only if both houses act.)

(4) No refund or credit for overpayment of certain federal taxes such as income tax, estate tax and the like in excess of $100,000 are to be paid or made until expiration of 30 days after a report by the Secretary of Treasury has been submitted to the Joint Committee of Congress on Internal Revenue. 26 U.S.C.A. § 6405.

(5) In the Atomic Energy Act of 1946, 60 Stat. 755, 764 (repealed by the Atomic Energy Act of 1954) licenses for use of fissionable material for nonmilitary purposes were not to be issued by the Atomic Energy Commission until a period of time after a report had been submitted to Congress. The report was required to state the Commission's estimate "of social, political, economic, and international effects" of such nonmilitary use.

There have been other federal statutes of this type which provide that a rule or action becomes effective on the expiration of a period of time unless one or both houses of Congress disapproves the proposed action. Some statutes are silent on the power of the legislature to disapprove the regulation, such as the Internal Revenue refund procedure in item (4) above, but since the legislature clearly has such power without expressed statement, that type of legislation serves the same purpose. The difference between that type and the proposal suggested in this section is that concurrent action by both houses is required there, whereas in § 8-405 disapproval by either house is sufficient.

There are also examples in state legislation of the procedure recommended in § 8-405. In the states, the requirement of disapproval by both houses seems more common than disapproval by one. There are also examples in the state legislation of disapproval by the Executive Department. Among the state examples are the following:

(1) The "Little Hoover" Executive Reorganization Act modeled after the Federal Act of 1949 referred to in federal illustration number (2) above. See, *e.g.*, Executive Department Reorganization Act of Pennsylvania, Title 71, § 750-7 (disapproval of either house sufficient).

(2) Wisconsin Administrative Procedure Act Chapter 227.041. A legislative review committee of the House and Senate is created to which all rules and regulations must be submitted. The committee by vote of at least six of its nine members may suspend any administrative rule. The committee then must submit the rule to the next session of the legislature together with a bill; on submission of a bill to repeal the proposed rule, if the bill is

defeated, the rule thereupon becomes effective. This form in effect provides that if one house favors the administrative action by voting against its repeal, the rule becomes effective. This is a variant of the six systems presented above.

(3) The Virginia Administrative Procedure Act, Virginia Code 1950, § 9-6.9(d) (1964 Replacement Volume) provides that a rule of an administrative agency shall become void "after the time when either house of the General Assembly adopts a resolution declaring . . . void." See also Conn. Gen. Stat. Ann. § 4-48a and § 4-49.

The legislative "oversight" or "laying" procedure as this is called has been most well developed in the British Parliament. See Carr, *Parliamentary Supervision in Britain*, 30 N.Y.U.L. REV. 1045 (1955). Beginning in 1947 the Town and Country Planning Acts have required plans which call for compulsory acquisition of certain lands such as "national trust lands" to be subjected to special Parliamentary procedure. See Town and Country Planning Act, 1962, § 5, 10 and 11 Eliv. 2 c. 38 (Halsbury Statutes of England, 2d ed., Vol. 42).

For a general consideration of American experience see Ginnane, *The Control of Federal Administration by Congressional Resolution and Committees,* 66 HARV. L. REV. 569 (1953); Schwartz, *Legislative Control of Administrative Rules and Regulations*, 30 N.Y.U.L. REV. 1031 (1955); Hedy, *Administrative Procedure Legislation in the States*, Michigan Governmental Study No. 24, pages 49 to 62 (1952).

A corollary of the principle of legislative oversight of administration in responsible governments is the principle that the need for such oversight increases with executive initiative in policy and the delegation of discretion under the broad terms of statutes. Of necessity, there is a broad delegation of power for the preparation of a land development code. The control of that delegation, it is submitted, can be obtained by the system of adoption proposed in § 8-405.

Part 5

Local Planning Assistance

Section 8-501. Planning Assistance to Local Governments

The State Land Planning Agency may furnish to local governments and other governmental agencies assistance

in the exercise of the land planning, development and regulatory powers conferred upon them by this Code.

NOTE

Many present state planning agencies devote a large portion of their activities to furnishing planning assistance to local governments. See Institute on State Programming for the 70's, *State Planning: A Quest for Relevance* (1968). Such assistance can be invaluable to small communities operating on limited budgets. This section gives the State Land Planning Agency blanket authorization to undertake planning assistance programs.

Section 8-502. Review and Comment on Local Land Development Plans

(1) Within [6] weeks, or any longer period to which the local governing body has agreed, after a local government has transmitted a proposed Land Development Plan or Report to the State Land Planning Agency, the Agency shall transmit to the local governing body its comments on the proposed Plan or Report. If the State Land Planning Agency objects to the proposed Plan or Report it shall specify its objections and may make recommendations for modification. If the State Land Planning Agency transmits objections to the Plan the local governing body shall within [4] weeks transmit a written statement in reply thereto. Any comments, recommendations or objections of the State Land Planning Agency and any reply thereto shall be public documents admissible in any proceeding in which the Land Development Plan is in issue.

(2) If an applicable State Land Development Plan has been adopted, the State Land Planning Agency in making its comments under the preceding subsections shall compare the proposed local Land Development Plan or Report with the State Land Development Plan and shall transmit objec-

tions to any aspect of the local Plan or Report that is inconsistent with the State Land Development Plan.

(3) If any local Land Development Plan is adopted by a local government which is inconsistent with the applicable State Land Development Plan, the State Agency shall by order specify the aspects of the local Plan or Report which are inconsistent with the State Plan and after issuance of the order no aspect of the local Plan or Report so specified shall be entitled to any weight in support of the validity of any action of the local government under this Code.

NOTE

Section 3-106(1)(a) of T.D. #2 requires the local government, before it adopts a Land Development Plan, to transmit a copy of the Plan to the State Land Planning Agency. This section prescribes that the State Land Planning Agency is to transmit to the local government its comments on the Plan and specify its objections, if any, to the Plan. The comment of the State Planning Agency is, by subsection (2), given some weight in considering the validity of a local Land Development Plan, whether or not a State Land Development Plan has become effective.

Subsection (3), however, provides that if a State Land Development Plan has become effective, the state agency should also comment on those aspects of the local Plan which are inconsistent with the state Plan. If, notwithstanding the comment concerning inconsistency, the local government proceeds to adopt its Land Development Plan inconsistent with the state Plan, the state agency under subsection (4) shall by order specify the aspects of the local Plan which are inconsistent with the state Plan and thereafter no aspect of the local Plan so specified shall be entitled to any weight in support of the validity of action of the local government. Thus, for example, a local Land Development Agency could not grant a special development permit under § 3-202 if it based its grant on a finding under § 3-202(3)(b) that the permit was consistent with the local Plan if that finding of consistency rested on an element of the Plan that had been disapproved by the state agency. See also § 3-301(3).

Since the tougher provision in subsection (4) comes into play only after the state agency has issued an "order," the procedure available for judicial review of administrative orders is available

to a local government that objects to the order of the State Land Planning Agency. Judicial review of administrative orders is set forth in Article 9.

Cross Reference: Adoption of Land Development Plans. § 3-106.

Section 8-503. Specification of Data and Projections

The State Land Planning Agency may by rule specify particular data, projections or forecasts that governmental agencies are to use in preparing development plans and projects upon which the State Land Planning Agency is required to comment upon or approve by this Code or other law. If a governmental agency chooses to use data or projections or forecasts contrary to those specified by the State Land Planning Agency, it shall include in the Plan or Report a statement of any difference in conclusions or recommendations that would result if the Agency's data, projections or forecasts had been used, and of its reasons for not following the rule.

NOTE

There are many places, both in this Code and elsewhere in state and federal legislation, where the State Land Planning Agency or some similar agency is required to relate a project to a plan and the plan, of necessity, must be based on forecasts or assumptions concerning future population, future employment and the like. This section of the Code is designed to permit the state agency to standardize throughout the state the forecasts of future population growth and the like which are used in preparing plans for various projects. Thus, the United States Census Bureau has three or four different forecasts of future population in the year 2000 or 2020 and a local government in preparing a local plan could conceivably vary its project on the basis of whether it projects its future population under one assumption rather than another. The State Planning Agency considering the special circumstances of the state or of areas in the state can under § 8-504 specify the projection which should be used for the area. The local government or the governmental agency preparing the specific project plan is by this section given freedom to use different forecasts, but if it does so it must specify differences in conclusions or recommendations that result from the different forecast used.

Part 6

Long Range Planning Institute

Section 8-601. Creation of Institute

There is hereby created a Long Range Planning Institute to [be affiliated with the State University in some appropriate fashion] [be an independent entity within the state planning agency].

NOTE

In its 1969 study, "State Planning and Federal Grants," the Public Administration Service recommends that responsibility for state planning be divided between two separate agencies—one to perform independent long range planning free from the political pressures inherent in day-to-day decisions; the other to perform planning immediately relevant to executive policy decisions (pp. 56-62).

The State Land Planning Agency is likely to become so involved in decisions having immediate impact that it will have difficulty finding time for truly long range planning. Any Governor faces considerable pressure to devote the major part of his efforts toward programs that will see fruition during his term of office. This Part would create an independent planning institute and authorize it to take a broad overview of long range development within the state. It is suggested that the institute be affiliated with the state university, but an independent institute could be created if this were felt to be more desirable.

Section 8-602. Functions of Institute

(1) The Long Range Planning Institute may undertake or contract for any research and analysis useful or necessary in the examination of long range policies for the development of land within this state. Every governmental agency shall furnish any data, reports, records in its possession required by the Institute for these studies.

(2) The Institute may issue reports, conduct seminars or other educational programs and otherwise bring to the

attention of government officials and the public the effects of current trends of land development in the state and the alternatives available for future land development policies.

(3) The Institute may cooperate with and assist the State Land Planning Agency in performing any of the functions delegated to the State Land Planning Agency under this Code, including the conduct of studies necessary for the preparation of State Land Development Plans.

NOTE

Only the functions of the Institute relating to land planning are spelled out in this Code. Other planning functions may be delegated by other statutes. The responsibilities of the Institute are based in part on the "criteria for a public dimension" proposed in the Public Administration Service report *State Planning and Federal Grants:*

1. The development, proposal, or advocacy of long-range, comprehensive, public goals and objectives should be undertaken separately and independently of the policy sphere of incumbent officials.
2. The public dimension of planning should concentrate on the future which begins beyond the end of current terms of elected officers to minimize current political policy controversy.
3. The public dimension of planning should (a) anticipate what the future might be, (b) describe the possible futures, and (c) be free to advocate "preferred futures" publicly in a nonpartisan, nonpolemic manner.
4. Public, comprehensive plans extending beyond current terms of office should be proposed and advocated by the public dimension of state planning.
5. Society and the nonpartisan public interest should be viewed as the primary client of the public component of state planning (p. 60).

No specific authority to prepare comprehensive plans (see item 4, above) has been given to the Institute. The danger of public confusion surrounding competing plans prepared by two state agencies would outweigh the value of this approach. However, the Institute is free to criticize plans prepared by the State Land Planning Agency and to present alternatives.

Art. 8. Land Development Planning

Appendix to Article 8

"STATE PLANNING" by Robert M. Cornett*, from **The Book of the States 1970-71,** by the Council of State Governments (1970), at pp. 438-42.

The role of planning state government has changed fundamentally. From a function concerned primarily with public works projects in the depression and with industrial development after World War II, planning has become an important, broad-purpose professional staff aid to Governors and Legislatures. Although this remarkable change of role has been described incrementally in previous editions of *The Book of the States,* a brief review of state planning's history is useful.

HISTORY

City planning efforts and the late nineteenth century emphasis upon conservation have influenced state planning, but the state planning movement is usually considered to have started in the early 1930s under the impetus of the Public Works Administration (PWA), which was authorized to make grants to the States to establish and staff planning boards. As a result of these grants, virtually all States established planning boards during the 1930s. The boards were, as might be expected, structured according to the Public Works Administration and its National Planning Board: the boards usually were semi-autonomous and were staffed through federal sources (the National Resources Board and relief agencies). The functions undertaken by the boards generally followed the guidelines of the PWA; i.e., public works planning was of primary concern and was undertaken in anticipation that federal construction priorities would be selected from the plans.

With the end of the depression and the demise of the PWA, the remaining state planning boards were searching for a new role. They found one in the postwar emphasis upon industrial development. The 1954-55 *Book of the States,* taking cognizance of this reorientation of state planning to industrial development, cites as the most significant development of the mid-fifties the increasing number of States which had enacted laws to provide financial aid for new industries. The 1962-63 *Book of the States* refers to the popularity of new industries: "Perhaps because of the quick tangible results, or the economic competition between the states, the aggregate state appropriations for industrial and tourist promotion during the fiscal year 1960 was roughly six times the amount appro-

* Mr. Cornett is Director of Special Projects for the Council of State Governments and Secretary of the Council of State Planning Agencies.

63-902 O - 71 - 35

priated in support of state and local planning."[1] By the early 1960s, all fifty States were operating economic development agencies.[2] In 1960, only thirty-seven States had agencies empowered by law to carry out statewide planning; twenty-three of these planning agencies were located in economic development agencies and had as a primary function the support of economic development activities.[3]

Corollary to the reorientation of state planning toward industrial development was a major increase in state and federal assistance for urban planning. Urban planning has been an established function for at least a half-century, but the U.S. Housing Act of 1954 provided funds for the function (and provided that funds for nonmetropolitan communities be channelled through the States). Most Governors and Legislatures designated the economic development agencies to administer these urban planning activities.

From this heritage—an emphasis upon federal public works projects to an emphasis upon economic development and influenced by the injection of planning assistance to local governments—state planning is now being viewed, to use language from a paper commissioned by the Council of State Planning Agencies, as being "... as broad as state government itself."[4]

The Causes of Change

Such a fundamental shift in direction has necessarily been accompanied by powerful forces, as well as by stress and controversy. An enumeration of causes is at best speculative—some of the forces relate to changes in state government itself and only indirectly to planning; and the forces are highly complex, particularly in their interrelationships—but there would be general agreement upon several of the forces.

Federal Funds. Federal funds have been available since 1961, through the "701" program of the Federal Housing Act, for state planning (as distinct from the urban planning assistance which utilizes most of the funds authorized under this program). In addition, funds for planning have been made available as adjuncts to various categorical federal grant programs. A few examples are

[1] The Council of State Governments, *The Book of the States,* 1962–1963 (Lexington, Kentucky: The Council of State Governments), p. 451.

[2] The Council of State Governments, *The Book of the States,* 1964–1965 (Lexington, Kentucky: The Council of State Governments), p. 486.

[3] American Institute of Planners, *Journal of the American Institute of Planners* (Baltimore: American Institute of Planners, September 1969), p. 335.

[4] John A. Bivens, Jr., "Planning and State Government, Council of State Planning Agencies Conference," *The Council of State Planning Agencies Third Annual Meeting Summary.*

the comprehensive state health planning programs financed by the Department of Health, Education, and Welfare; the outdoor recreation development programs administered by the Department of the Interior; the Water Resources Planning Act administered by the Water Resources Council; the law enforcement assistance program administered by the Department of Justice; and certain economic development programs administered by the Department of Commerce.

Proliferation of Federal Categorical Grants. The January 1969 "Catalog of Federal Domestic Assistance," published by the Office of Economic Opportunity, lists 581 domestic assistance programs. While not all of these programs go to state and local governments, nearly all of them have some relationship to state and local activities. These programs, although providing needed services, have aggravated an already serious problem of coordination in the States. Governors and Legislatures tend to be bypassed, programs sometimes overlap and are duplicative, and state budgets are distorted and made inflexible. One response to this proliferation has been to strengthen planning staffs at the central level of state government.

Complexity of State Government. Even aside from the proliferation of federal categorical grants, States have grown rapidly and have undertaken complex new functions. The machinery to cope with these responsibilities is inadequate due to outmoded constitutions, fragmented administrative organizations, an insufficient supply of trained personnel and other factors. Planning and planning staffs have been viewed as at least a partial compensation for these inadequacies.

Search for Relevance by Planners. Members of the planning profession concerned with state government have sought ways to make planning more useful to state governments. They have recognized that this objective could be accomplished by making planning relevant to policy-makers and they have actively sought to achieve such relevance.

Formation of the Council of State Planning Agencies. The Council of State Planning Agencies (CSPA), which was formed in 1964 and which became an affiliate of the Council of State Governments in 1968, has been an influential force. CSPA's basic commitment is to state government as an entity and, although CSPA's membership draws heavily upon the tools of the planning profession, this basic commitment influences the tools which are used. Tools relevant to state decision-making are used; those not relevant (for example, some aspects of local land-use planning) tend to be discarded. CSPA has established effective liaison with other organizations concerned with central state decision-making, principally

the National Association of State Budget Officers; has provided valuable staff assistance to the National Governors' Conference and the Council of State Governments on substantive issues facing state government; and has effectively represented state interests in dealing with federal agencies on a wide variety of issues, many of which have little or no relationship to planning as traditionally defined. This CSPA concern for state government is exerting pressure upon individual planning agencies to move to the center of state decision-making processes.

Educational and Promotional Efforts. Educational and promotional efforts related to planning have had a definite impact. A few of these efforts are summarized here.

1. The Carnegie Corporation financed a temporary *Institute on State Planning for the 70's.* The institute, which now has gone out of existence as planned, performed valuable research in the field of state planning and, probably more significant, the institute, which was headed by former Governor Jack M. Campbell of New Mexico, promoted effectively the use of planning among Governors and insisted that planning be made relevant to Governors.

2. The National Governors' Conference established a committee to promote state planning. This committee, which issued an influential report (*Strategy for Planning*, October 1967), was instrumental in making Governors aware of planning's potential in state policy processes.

3. The potential relevance of planning to state government has been emphasized in publications. The Journal of the American Institute of Planners has been a major source of influence, as has the Council of State Governments' *Planning Services in State Government.* The Council document, although published in 1956, presented much of the conceptual framework for state planning as it is being viewed today.

Stress and Controversy

The inevitable stress and controversy, while having many elements, centers on two issues: (1) the organizational arrangement for planning; and (2) the incompatability between the needs of state policy-makers and some of the tools and techniques associated with the planning profession.

A planning function "as broad as state government itself" cannot have as its principal client a department of economic development or any other individual agency of state government; and yet, as has been indicated, most planning agencies have been located in economic development agencies. The most obvious and direct solution to this organizational dilemma has appeared to be to transfer, or establish, planning agencies into Governors' offices.

Art. 8. Land Development Planning

That such a change in organizational location has in fact been occurring is seen on the chart below.[5]

Most departments of finance or administration provide staff support to the Governor in making government-wide policy decisions; planning agencies located in these departments, therefore, presumably have a role similar in breadth to that of the agencies located in Governors' offices. Twenty-seven States, thus, now have planning agencies which, at least from the standpoint of organizational location, are concerned with state government generally and are not restricted to industrial development and other limited-purpose functions.

While too much meaning should not be attached to organizational location—some of the planning agencies in Governors' offices in fact have a limited-purpose role, while some of the agencies in departments of community affairs and of development in fact provide broad services of a central staff character—the organizational changes offer clear evidence of planning's move into the central decision arena.

Location of State Planning Agency

Location	*1960*	*1965*	*1967*	*1969*
Governor's office	3	11	18	20
Department of Administration or Finance	2	2	6	7
Department of Community Affairs	0	0	2	3
Department of Commerce, Development, or Planning and Development Agencies	23	27	15	13
Independent planning agency	5	7	6	5
Other agencies	4	1	2	2
Total state planning agencies	37	48	49	50

This is a strange role for some planning agencies, and the adjustment is difficult. It is a role which affects, actually or potentially, the autonomy of operating agencies of state government. And it is a role which relates to and has some effect upon other organizations and processes involved in central decisions. The fact that stress is acompanying these changes is no surprise.

Some of the traditions of planning—principally the physical and land-use orientations—have little relevance to the policy functions of Governors and legislators. Other traditions are directly incompatible with the function of the central policy-makers. One aspect of traditional planning, for example, is a public document purporting to be a "long-range comprehensive plan." Such a document, unless tailored specifically to the circumstances in a particu-

[5] Thad L. Beyle, Sureva Seligson, and Deil S. Wright, "New Directions in State Planning," *Journal of the American Institute of Planners* (September 1969), p. 335.

lar State, can easily affect adversely a Governor's (and/or a Legislature's) political and policy objectives. Another example of planning office practice is the public advocacy of policies. A planning agency shielded by a board or by a limited-purpose role, as is frequently the case in cities and historically in States, may perform a highly useful service by pressing for particular decisions and policies. Without appropriate constraints, however, such public advocacy can make a planning agency a competitor of and an embarrassment to, rather than a staff resource for, Governors and legislators.[6]

The stresses are not behind. Some States have yet to regard planning as having relevance to central policy-making. Some States have established a planning agency in the Governor's office but have relegated it to "data bank" maintenance or some other support function which may be related to, but is not, planning. Some States have saddled the planning agency with so many non-planning functions—such as serving as federal "grantsmen" and providing assistance to local governments—that they cannot do planning. Some States have yet to achieve an effective relationship between planning and budgeting agencies. And some of the irrelevant aspects of planning tradition are still in the way.

Trends

These stresses can be expected to produce continued changes. While the patterns of these changes cannot be predicted as they apply to individual States, some broad trends are discernible, based partly upon changes actually made to date and based partly upon the opinions of leaders in the state planning field.

- The States which have not discovered the potential relevance of planning to the central policy functions of state governments will gradually do so.
- The rationale guiding organizational arrangements will become more sophisticated. Instead of the rather simplistic reasoning that, since planning should be "as broad as state government itself" the planning agency should be located in the Governor's office, the focus will be upon the central policy function, not the organization chart. Many States will continue to locate planning agencies directly in Governors' offices. Others will choose alternative arrangements. In this connection, the needs of the Legislatures, which have been given little emphasis in the literature, will be of considerable concern.
- There will tend to be a separation of the essentially "staff"

[6] For a fuller discussion of the problems associated with the advocacy function of planning agencies, see *State Planning and Federal Grants,* published by the Public Administration Service in 1968, particularly pages 56 to 69.

functions which supply factual and analytical support for policy decisions from essentially "line" functions such as providing technical assistance to local governments. This distinction, however, is not likely to be a sharp one. The personnel performing staff functions will continue to help initiate new programs and, in some cases, to operate these programs until they can appropriately be assigned to an operating agency.

- There will tend to be a blurring of the distinction between staff functions which are peculiarly "planning" and other staff functions (particularly budgeting) which provide analytical and factual support for decision-making. This blurring will, in some cases, result in organizational integration of staff functions; in others, the result will be integrative systems such as Planning, Programming and Budgeting systems (PPB); and in still others, the product will be simply closer informal cooperation among the staff units.
- The traditional tools of planning will continue to be tested. Those not useful to state decision-making will be abandoned. Those that are relevant will be sharpened and adapted to state government needs.

Although these trends do not define for us precisely the future role of planning in state government, they clearly point to a significant involvement in the key issues facing the central state decision-makers. And they point to a continuing role—planning as a vital force in state government is here to stay.

ARTICLE 9. JUDICIAL REVIEW

COMMENTARY ON ARTICLE 9

This Article provides a method of judicial review of the types of governmental action authorized under this Code. The Code in Articles 2 and 3 authorizes a local government to adopt *ordinances* controlling the development of land within its jurisdiction. The Code also authorizes, in Articles 7 and 8, a State Land Planning Agency to adopt *rules* in certain cases which serve a comparable purpose to ordinances. Under Articles 2 and 3, local governments are authorized to establish Land Development Agencies with power to make *rules* which supplement the ordinances regulating land development. Ordinances and rules authorized by this Code are legislative or regulatory in nature.

A local government is authorized to adopt a development ordinance which prescribes public and private development permitted as of right. Orders granting or denying development permission for such development (called "general development permits") are issued without a hearing, simply on the basis of a comparison of the application with the legislative standards. The development ordinance may also empower the Land Development Agency to grant "special development permits" if certain statutory and administrative standards are met. Development for which a special development permit is required is authorized only after an administrative hearing on the basis of criteria contained in the Code, in the ordinance, or in the rules of the agency. In Article 7, the local Land Development Agency is required to treat certain matters of state or regional interest as matters for special development permission and to grant or withhold development permission on the basis of the statewide standards established in Article 7 or by rules of the State Land Planning Agency adopted pur-

suant thereto. In this situation the Code authorizes an administrative appeal from the local Land Development Agency to a State Land Adjudicatory Board.

Thus the Code provides for ordinances of local governments, for rules of local Land Development Agencies, for rules of the State Land Planning Agency, for orders of a local Land Development Agency issued without a record based on a hearing, for orders of a local Land Development Agency issued on the basis of a record made at an administrative hearing, for orders of the State Land Planning Agency, and for administrative appeals from certain kinds of orders described in Articles 2, 3, 7 and 8 affecting a private or public developer of land.

Under existing law there is no standardized method of reviewing the governmental actions described above. While there is no doubt that a municipal ordinance will be examined by a court to determine whether it offends any constitutional limitation or whether the ordinance exceeds the powers delegated to the local legislative authority by the state enabling act or other authority, the form or method of review is varied and sometimes confusing. There is almost no statutory specification of the form of this review. Thus the validity of an ordinance may be challenged in an action for declaratory judgment, in a writ for mandamus, or in an injunction. If a landowner has applied to the Board of Adjustment for a variance or permission to undertake a "special use," the courts are divided whether he can attack the validity of the ordinance under which the administrative agency acted in an appeal or certiorari proceeding to review the administrative decision. Some courts appear to require a request for administrative determination as a condition precedent to a challenge to the validity of the ordinance.

On the other hand administrative decisions relating to zoning, planning and subdivision control are in all but a

very few states subjected to judicial review in a manner specifically set forth in the enabling statute. The SZEA, which created a Board of Adjustment (usually called a Board of Zoning Appeals), provided that this Board could correct errors in the action of the building commissioner in granting or denying a building permit, could "make special exceptions" in the application of the ordinance as specified in the ordinance and could "authorize . . . variances from the terms of the ordinance" where literal enforcement would result in unnecessary hardship. This same section 7 provided for judicial review of these administrative decisions by "any person aggrieved" by any decision of the Board, or by "any taxpayer" or "any officer, department, board or bureau of the municipality" presenting a petition to a court of record claiming that the administrative decision was illegal. "The court may allow a writ of certiorari . . . to review" the administrative decision.

This statutory scheme found in the enabling acts was not the exclusive method of reviewing administrative decisions. Thus mandamus is available in some circumstances to require administrative action, such as requiring a building or zoning commissioner to issue a permit which is being wrongfully withheld. While it is frequently stated that a petitioner must exhaust his administrative remedies by seeking administrative review or permission in the board of adjustment, this requirement is not imposed if it is found that the administrator's action is purely ministerial or that the facts and law are so clear that administrative appeal is a "useless" act. Injunctive relief is also sometimes available. An injunction has been successfully sought in some jurisdictions to enjoin the board of appeals from enforcing its order, or to enjoin action by a landowner on the basis of a development permit issued by the board. Finally a declaratory judgment may sometimes be used to challenge administrative action.

See, generally on the subjects described above, 3 Anderson, AMERICAN LAW OF ZONING, Chapters 21-24 inclusive.

The confusion described above began before the advent of state administrative procedure acts. In most states the administrative procedure act was adopted after the planning acts were adopted, and is not applicable to review of administrative decisions of agencies of local government. Illinois is one of the few states which provides that "all final decisions of the board of (zoning) appeals shall be subject to judicial review" under the Administrative Procedure Act. ILL. REV. STAT. Ch. 24 § 11-13-13. In New York review is "by a proceeding under article seventy-eight of the civil practice law" which governs judicial review of the conduct of administrative boards generally. N.Y. Gen. City L. § 82. Even if the administrative procedure act is applicable to administrative decisions on applications for development permission, the act is not applicable to proceedings to obtain judicial review of legislative as distinguished from administrative action. Thus the remedies available to challenge ordinances remain available notwithstanding the administrative procedure act.

The distinction between local legislative and local administrative action is not as clear cut as is the distinction between an act of Congress and a decision of the Federal Power Commission. In a number of local ordinances and enabling acts, the decision of the Board of Adjustment in granting a variance or special exception is not final until the local legislative body approves it. A number of subdivision acts provide for "appeal" from an adverse decision of the planning commission to the local legislative body who may approve a plat notwithstanding rejection by the planning commission. Frequently local ordinances or enabling acts require requests for changes in zoning classification of a parcel to be presented to the plan commission and, if approved, adopted thereafter as an "amendment" to the zon-

ing ordinance. For this and other reasons the distinction between legislative and administrative conduct is frequently ignored or blurred in judicial proceedings and often in court opinions. Thus refusal of a legislative body to rezone one or more parcels of land has been reviewed as if review was review of a decision of the Board of Adjustment. See, *e.g.*, *Montgomery County v. Ertter*, 233 Md. 414, 197 A.2d 135 (1964); *Westminster Presbyterian Church v. City of Jackson*, 253 Miss. 495, 176 So. 2d 267 (1965); *Lillions v. Gibbs*, 47 Wash. 2d 629, 289 P.2d 203 (1955). Indeed in some cases a person seeking judicial review of a particular zoning classification has been held not to have exhausted his "administrative remedies" if he failed to apply for an amendment reclassifying his property.

Certain problems seem to be recurrent under each of the existing forms of judicial relief. These problems are specifically dealt with in Article 9 and the solution is made applicable to the other methods of review. The problems may be summarized as follows:

(1) Exhaustion of administrative remedies. No provision for exhaustion is provided in this Article. Section 9-111 (1) provides that in certain cases the court may stay action until an application for a development permit has been acted on. The basic test is whether an "order" is essential to define the controversy.

(2) The persons entitled to initiate proceedings to review an administrative order are limited and described in § 9-103. Those entitled to review rules and ordinances where no order has been issued are similarly limited and described in § 9-104.

(3) The persons entitled to review an order must proceed to challenge the order, if ever, within 30 days of its issuance. § 9-106. Procedural defects must be challenged within 12 weeks of the effective date of an ordinance. Challenges to the validity of an ordinance may, unless laches

is applicable in the circumstances, be initiated at any time. § 9-106.

(4) If earlier Articles of the Code require that an order be issued after an administrative hearing, judicial review of that order is to be made on the basis of the administrative record. § 9-101(3); § 9-108.

(5) The person who initiates judicial review must give notice to the local government, to the parties to the administrative hearing and to certain other persons such as adjacent property owner. § 9-107.

(6) The grounds for review, such as unconstitutionality or abuse of administrative discretion are made the same regardless of form of action. § 9-109.

This Article prescribes a method of judicial review of all of the actions that may be taken under this Code: legislative ordinances, administrative rulemaking, and administrative orders issued with and without an adjudicatory type of hearing. As additional Articles of the Code are drafted it will undoubtedly be necessary to add new material to this Article.

ARTICLE 9. JUDICIAL REVIEW

Part 1

Judicial Review of Orders, Rules and Ordinances

Section 9-101. General Provisions

(1) The validity, and effect of orders, rules and ordinances under this Code may be determined in a civil proceeding [for a declaratory judgment] but subject to this Article. The Supreme Court may make rules of procedure supplementary to this Article and may modify the applicability of the rules of procedure of this Code and the civil practice act. The power to make rules of procedure under this Article is in addition to any other power of the Supreme Court to make rules of procedure.

(2) Proceedings denominated review by extraordinary writ or equity proceedings such as mandamus, certiorari, or injunction are also subject to this Article as to basis for review, standing, intervention, the record on review, time for commencement of the action, stays, permissible court orders and parties.

(3) Judicial review shall be conducted by the court without a jury and, if an administrative hearing was held, on the basis of the record made before the agency under § 2-304.

(4) A court entitled to review orders, rules and ordinances under this Article may stay the effectiveness of the governmental action complained of and may issue preliminary restraining orders and other orders deemed appropriate by it.

(5) Commencement of a proceeding under this Article

does not operate as a stay of the effectiveness of the governmental action complained of but the operation of an order of an agency may be stayed by the agency.

(6) For purposes of this Article an order granting development permission subject to conditions may be treated as either a grant or denial of development permission at the option of the person challenging the order.

(7) For purposes of this Article an amendment to a land development ordinance subject to § 2-312 on special amendments shall be treated as an order.

NOTE

The language in subsection (1) that review "may" be had in a civil proceeding does not attempt to provide that the method of review provided in this Article is exclusive. The existing and model state Administrative Procedure Acts do not point to a clear resolution of this problem. The model act provides that the statutory scheme "does not limit utilization of or the scope of judicial relief available under other means of review, redress, relief, or trial de novo provided by law." (Section 15, Model State Administrative Procedure Act). Some states, such as Illinois, provide that the statutory method of judicial review is exclusive. ILL. REV. STAT. Ch. 110 § 265.

The bracketed language, for a declaratory judgment, should be used in states which have several types of civil proceedings. If a state has a single "civil action" which embraces injunctive relief, declaratory relief, and other forms it may be that the specific reference to declaratory relief is unnecessary.

Subsection (2) is an attempt to provide that if a person seeking judicial review denominates his action under some other name such as certiorari or injunction, the rules of this Code are nevertheless applicable.

Section 9-102. Place for Judicial Review

Proceedings for judicial review of orders, rules, and ordinances under this Code may be instituted only in the court of general jurisdiction for the place where any part of the land involved is located [or where the governmental

agency whose action is being challenged has its principal office].

NOTE

This is basically a venue section, although it is also a jurisdiction section in the sense of granting jurisdiction only to the court of general jurisdiction. It modifies or limits some civil practice act venue provisions by requiring the venue to be in the place where the land is located or where the governmental agency has its office. It does not permit review in the place where the complainant resides. Where the government action complained of is that of a local government, the land and the place where the agency has its principal office will normally be the same place.

Where review is sought against actions of the State Land Planning Agency or the State Land Adjudicatory Board, the bracketed language would give the complainant a choice of bringing his proceeding in the place where the land involved is located or in the place where the governmental agency has its principal office, such as the state capital. Since neighboring property owners have a vital interest in the regulatory scheme applicable to a particular parcel of land, it does not seem proper to permit a landowner to select the place where he resides and thereby increase the onerousness of the burden on the neighboring landowners by requiring them to defend or proceed in a location other than the place where the land is located. The word "place" is used rather than "county" or "town" to deal with variations in state court systems which may make the jurisdiction statewide but provide that it sits in particular locations.

Section 9-103. Persons Entitled to Initiate Judicial Proceedings to Review Orders

(1) A judicial proceeding concerning an order of a local Land Development Agency granting or denying development permission may be commenced only by

(a) the owner of land involved in the order, or the applicant for the development permit involved;

(b) the local government which created the Land Development Agency; or

(c) a person to whom subsection (2), (3), (4) or (5) is applicable.

(2) If an order was required to be issued on the basis of a record after an administrative hearing, a judicial proceeding may be commenced by a person who became a party to the administrative hearing in the manner provided in § 2-304(5).

(3) If an order was issued without an administrative hearing, a judicial proceeding may be commenced by

(a) the owner of any land within [500] feet of the parcel on which development is proposed; or

(b) any neighborhood organization qualified under § 2-307 by the Land Development Agency if the boundaries of the organization include any part of the parcel on which development is proposed or of any land within [500] feet of that parcel.

(4) Notwithstanding the limitations on persons entitled to commence judicial proceedings in the preceding subsections, a person who was improperly denied an opportunity to participate in a required administrative hearing may pursue a proceeding to review.

(5) The court may grant leave to pursue an action to review an order to a person not entitled under the preceding subsections who establishes that he has a significant interest that has been injured by an order and that the interest was not adequately represented in the administrative proceeding.

(6) A judicial proceeding to determine the validity of an order of the State Land Adjudicatory Board under Part 6 of Article 7 may be commenced only by a person who was a party to the proceeding before the Board or by the local government in which the land involved is located.

63-902 O - 71 - 36

(7) For the purpose of determining the persons entitled to initiate judicial proceedings to determine the validity of an order of the State Land Planning Agency, the order shall be treated as if it were a rule of that Agency.

NOTE

This section and the next following section on standing to review rules and ordinances are a departure from existing law. Section 7 of the SZEA provided that "any person . . . aggrieved by any decision of the board of adjustment, or any taxpayer, or any officer, department, board or bureau of the municipality, may present to a court of record" a petition for review of zoning administration by writ of certiorari. Case law concerning injunctive and declaratory relief and some of the extraordinary writs developed the concept that a person suffering "special damage" could seek injunctive and other relief.

While the concept of an "aggrieved person" and that of a person suffering "special damage" are not identical in application, for drafting purposes it is assumed that these two ideas are tending toward a common denominator. They are being given very broad meanings. See, *e.g., Association of Data Processing Service Organizations v. Camp,* 397 U.S. 150 (1970) and *Arnold Tours, Inc. v. Camp,* CCH Supreme Ct. Bull. B-138 (Nov. 23, 1970). See also Davis, *Standing: Taxpayers and Others,* 35 U. CHI. L. REV. 601 (1968).

The purpose of the two sections on standing (§§ 9-103 and 9-104) and the section on time limitations in seeking review is therefore twofold: to *limit* the persons who can challenge an order, rule and ordinance and, where possible, to eliminate the disputes involved in such phrases as "aggrieved" and "special damage." Thus in certain cases landowners within 500 feet of the land in dispute are given a right to seek judicial review without showing any "special damage" or "aggrievement."

Basically, if an order is involved, the persons entitled to initiate judicial review are the owner of the land involved in the application for a development permit, the local government whose Land Development Agency issued the order, and a person who, if an administrative hearing was not held, is a person who owns land near the land involved or is a neighborhood organization. Neighboring landowners and organizations are, under this section, entitled to initiate a proceeding without showing "special damage" or whatever is required to show they are "aggrieved." If the petitioner is an adjacent landowner, whether or not his land is in

the same "district" as the applicant's land, he may challenge the order. Other persons such as civic organizations or taxpayers who do not own land near the land in question can initiate a proceeding only with leave of court.

Under § 9-106, judicial review of an order must be sought within 30 days after the order is issued. Thus if a developer obtains a development permit in November for development which he intends to commence in April or May, neighbors and citizens groups who do nothing until the bulldozer appears on the parcel are foreclosed from commencing a proceeding to review the order. The policy of Article 2 and of these sections on standing and on time limitations is to push controversies, to the extent possible, into the legislative and administrative arena and to limit judicial review to those participants in the administrative process who fail to get satisfaction there. It is believed that there is merit in reaching an end to a dispute involving a development permit (or its refusal) at the earliest possible time and developers, official planners and the market place need to know, in order to do physical and financial planning, at some point of time that the specified development is firmly permitted. Thirty (30) days after an unappealed development order is the time chosen. If a person entitled to initiate a proceeding does so, the advantages of speed and certainty have already been lost and there is no important interest to be served other than orderly procedure in preventing other persons from entering a proceeding already commenced. See § 9-105 on intervention.

The question of standing is being dealt with in the same terms as the question of parties for the administrative hearing. A summary of the relevant section in Article 2 should be set forth again. Section 2-304(2) requires that where the local Land Development Agency is permitted to make a decision upon a record after a hearing, notice of the hearing on the application for development shall be given by publication in a newspaper of general circulation and also by mailing notice to a number of specified persons: The landowner or developer whose land is involved in the hearing; owners of land within 500 feet of the subject land; a qualified neighborhood organization whose territory includes the land in question; any person who filed a request to receive notices of hearings; any other person designated by the ordinance; and any person designated by a rule of the State Planning Agency. Of course, the published notice may inform a far wider list of persons but unfortunately in a large urban area there will be some people who do not get notice until "visual notice" is given by the presence of bulldozers, tree-cutters, wreckers, etc. The section on time for review may eliminate these people.

Assuming that some of the persons to whom notice is given by § 2-304(2) desire to do more than attend the hearing and they desire to participate in the hearing, some rule is needed to control the number of active participants in a process which requires both findings of fact and the making of policy judgments. This control is achieved by § 2-304(5). A person desiring to participate in a hearing in the sense of presenting evidence, examining witnesses and making arguments must become a "party" and he becomes a party by entering an appearance of record. But § 2-304(5) does not permit anyone to become a party "as of right." The persons entitled to become parties to the administrative hearing "as of right" are: (a) the developer or landowner; (b) owners of land within 500 feet of the land in question; (c) a qualified neighborhood organization; (d) a person qualified by reason of the terms of the local ordinance or by a rule of the state land planning agency. Any other person can become a "party" to the administrative hearing only after permission is specially granted by the officer presiding over the hearing and that officer is directed, by § 2-304(5) to grant permission when he is satisfied that the claimant has a significant interest in the subject matter.

Failure to become a "party" has many consequences for a person interested in the outcome of a hearing on an application for a development permit. First, a non-party cannot participate in the administrative hearing as provided in § 2-304. Secondly, under the present section he cannot initiate judicial review of any decision adverse to his interest. Thirdly, this Article also provides that if a judicial proceeding has been commenced by a person entitled to commence a proceeding, a person who was not a party to the administrative proceeding can intervene in the court proceeding only with leave of court. Finally it is the purpose of this Article to prevent a non-party (to the administrative hearing) from starting an independent judicial proceeding to challenge the validity of the administrative order. He cannot, when the bulldozer appears, seek an injunction against the development.

Finally a word should be said about what the sections of this Article and § 2-304 on "standing" do for interested parties. A person, including a neighborhood organization, who meets the statutory requirements is entitled to participate in the administrative hearing; the person is, if he participated, entitled to *initiate* a judicial proceeding to determine the validity of the administrative action; and if a judicial proceeding has been commenced by another, he is entitled to intervene in that proceeding; in each case without factual proof of any specific, special or unique damage to himself or his property.

Section 9-104. Persons Entitled to Initiate Judicial Proceedings Where No Order is Involved

In the absence of an order, a proceeding to review a rule of the State Land Planning Agency or a rule or ordinance of a local government may be commenced only by

(1) an owner of land subject to the rule or ordinance;

(2) an owner of land within [500] feet of any land subject to the rule or ordinance even though his land is in the same or a different zoning classification;

(3) a neighborhood organization qualified under § 2-307 by the local Land Development Agency if the boundaries of the organization include any part of the land subject to the rule or ordinance, or any land within [500] feet of any land subject to the rule or ordinance;

(4) any governmental agency other than an agency created solely by the local government which adopted the ordinance or rule;

(5) a person claiming that the ordinance or rule deprives him or persons he represents of rights given him by the constitution or laws of the United States or of his State;

(6) any other person satisfying the court that he has a significant interest that has been injured by the ordinance or rule.

NOTE

The note to § 9-103 is applicable to this section also. Here no landowner has applied for a development permit so the attack is on the ordinance or rule itself. Under this section two additional categories of persons are permitted to attack the ordinance or rule: "a governmental agency," that is, a neighboring municipality or an independent "authority" not created solely by the local government, and a person claiming that the ordinance deprives him of

rights other than his rights as a landowner. In the former category would fall an "independent school district" or a regional "airport authority."

If a general development ordinance so restricts the development of land that certain persons are excluded from the community, it is difficult under existing standing rules for members of that class to secure a determination of their claim. Clearly a landowner who wants to develop his land contrary to such a restriction can litigate the restriction by claiming his standing under subsection (1) or by seeking a development permit and proceeding under § 9-103. Unless a landowner has the same claim, a person who claims that the ordinance unconstitutionally excludes him from the community has difficulty finding a sponsor for his claim under existing rules which tend to limit those who have standing to neighboring property owners or landowners aggrieved about a restriction on their own land or, at the most, "taxpayers" in the jurisdiction. Subsection (5) is designed to give a person who does not reside on land in an area to challenge the onerousness of the restriction, even though the landowners do not wish to challenge. Thus if there is a constitutional basis to assert that "large acreage zoning" results in economic or racial segregation, subsection (5) permits a person who claims that he is thereby excluded to litigate the validity of the restriction. If a person, which under the definition in Article 1 includes an organization, is given standing, it is believed that no special rules concerning "class actions" are needed. The normal rules of civil procedure concerning class actions would be applicable. Since "persons" includes an organization this section would permit the NAACP and other organizations to challenge ordinances excluding their membership.

Section 9-105. Intervention in Judicial Proceedings

In any proceeding to determine the validity of an order, rule or ordinance, a person entitled to commence a proceeding as of right may intervene as of course by filing not later than the time fixed for response to the petition a notice of intervention and proof of service of a copy of the notice of intervention upon each party of record in the proceeding. All other intervention shall be governed by the rules of civil procedure relating to intervention in civil proceedings.

NOTE

This section authorizes any person entitled to initiate a judicial proceeding to review governmental action subject to this Code "as of course" without any special permission. All other intervention is subject to the discretion of the court. Section 9-107 requires the complainant in an action to give notice of his action to the persons entitled to seek review and in subsection (4) specifies a procedure for intervention.

Section 9-106. Time Limitations on Challenges to Validity of Orders, Ordinances and Rules

(1) The validity of an order of a Land Development Agency granting or denying development permission shall not be questioned in any legal proceeding whatsoever commenced more than [4 weeks] after notice of the order was given under § 2-306.

(2) The validity of an order of the State Land Adjudicatory Board shall not be questioned in any legal proceedings commenced more than [4 weeks] after notice of the order was given to the parties to the proceeding.

(3) No issue of alleged defect in the process of adoption of a rule or ordinance shall be raised in any proceeding commenced more than [12 weeks] after the date specified for the rule or ordinance to take effect unless the person raising the issue establishes that he was entitled to individual notice and that he failed to receive adequate notice of the adoption of the ordinance or rule. If complainant has succeeded to his interest after the sending of notice, adequate notice to his predecessor is to be regarded as adequate notice to the complainant.

(4) In all other cases time limitations otherwise provided by law including those arising from laches are applicable.

NOTE

If an ordinance or rule is being challenged and no application for a development permit has been filed or acted upon, there is no time limit in this Code on bringing a proceeding to challenge the validity of the ordinance or rule on matters other than the procedure of adoption. Thus if a landowner claims that an ordinance is unconstitutional as applied to his land, he is permitted to make this challenge at any time. Sometimes the landowner's claim is based on the fact of changed circumstances.

If, on the other hand, an application for a development permit has been made and an order concerning that application has been entered, subsection (1) requires the challenge to the validity of the order to be commenced within 4 weeks after the order has been formally entered. This prevents neighboring owners from waiting until the bulldozer appears on the property and then seeking to "enjoin" the enforcement of the building permit. Subsection (1) applies to cut off any person who "claims" that he did not receive actual notice of the development permit application. Under Article 2, development permits for which a hearing is required can be issued only after notice by publication and individual notice to a specified number of people. See § 2-304. If a development permit was issued without a hearing, as is permitted under Article 2 under the general development ordinance, the 30-day limitation is also applicable but it should be recalled that the permit, if granted, must also be advertised in the newspapers. See § 2-306.

Subsection (3) imposes a time limit on a proceeding to challenge the process of adoption of an ordinance or rule. This must be distinguished from a proceeding to challenge the substantive provisions of the ordinance or rule. This section is intended to make conclusive the issue of effective adoption after a relatively short period of time has expired since adoption of the ordinance or rule. Thus if an owner of vacant land waits five years after adoption of a development ordinance and then proposes to undertake development contrary to that ordinance, while he may challenge the validity of the ordinance on the merits, he may not now challenge the validity of the ordinance as far as adoption rules are concerned.

Subsection (4) is the catchall for the cases not dealt with in the preceding sections.

Section 9-107. Requirements for Commencement of Judicial Proceedings

(1) Judicial proceedings shall be commenced in the manner provided for proceedings for [declaratory] relief in civil actions. The complaint shall include a statement identifying the order being challenged or, if no order has been issued, the rule or ordinance being challenged, a concise statement of facts upon which jurisdiction and venue is based, a statement of the facts showing complainant is entitled to commence the proceedings and the grounds upon which petitioner contends he is entitled to relief. If complainant is a landowner complaining about the validity of a rule or ordinance applicable to his land he shall also state whether an order concerning his land has been issued during the preceding two years and the identity of any order so issued.

(2) The local government adopting the challenged ordinance, or whose agency issued the challenged order or rule and in the case of an order granting a development permit, the person in whose name the permit was issued, shall be named and served as party defendants. In the case of a rule of the State Land Planning Agency, the State shall be named and served as party defendant.

(3) If a rule is being challenged, notice of the proceeding accompanied by a copy of the complaint shall be given to the governmental agency adopting the rule within 10 days after filing the complaint.

(4) If an order is being challenged notice of the proceeding accompanied by a copy of the complaint shall be given to the agency issuing the order and the parties to the administrative hearing which resulted in issuance of the order, or, if the order was issued without a hearing, to the

persons entitled as of right to initiate a proceeding challenging the order under § 9-103.

NOTE

(1) This section is intended to modify the rules for commencement of civil proceedings generally only to the extent necessary. Thus if civil proceedings are commenced by filing the complaint in the court, that rule is applicable. But if civil proceedings are commenced by issuance of a summons first, that rule is applicable.

This section in the first instance attempts to describe matters which should be contained in a complaint brought to court under this Article 9. The governmental action being challenged must be identified; the complainant must state facts showing he is entitled to be a complainant; and the complainant must state the grounds on which he claims he is entitled to relief.

If the complainant is a landowner complaining about the validity of a rule applicable to his own land, he is required to state in addition whether an order concerning his land has been issued during the preceding two years. The purpose of this requirement is to facilitate a claim by other parties to the proceeding that a previously issued final order has disposed of the matter. Of course, a denial of an application for a development permit to undertake particular development does not become res judicata as to applications for any other type of development and in case of a dispute the court must determine whether the previously issued final order disposes of the matter at issue.

Subsection (2) makes clear that the defendant to be named in a proceeding challenging the validity of an order, rule or ordinance is the local government involved and not its Land Development Agency. Subsection (3) requires that notice be given also to the land development or adjudicatory agency but the party defendant is the government creating the administrative agency.

Subsections (3) and (4) require that if a rule or order is being challenged additional notice must be given to the agency issuing the order or adopting the rule, and moreover, if the proceeding concerns an order, notice must be given to the parties to the administrative proceeding which resulted in the issuance of the order or to the persons entitled to challenge an order where no adjudicatory hearing was held.

Section 9-108. Record in Proceeding Concerning an Order

(1) Within 6 weeks after service of a copy of the complaint upon the agency which issued the order being challenged, or within any further time allowed by the court, the agency shall file in the court the original or a certified copy of the record in the administrative proceedings which resulted in issuance of the order. The record shall consist of

(a) the entire proceedings; or

(b) such portions thereof as the agency and the parties may stipulate; or

(c) a statement of the case agreed to by the agency and the parties.

(2) The expenses of preparing the record shall be assessed as part of the cost in the case, and the court may, regardless of the outcome of the case, assess anyone unreasonably refusing to stipulate to limit the record, for the additional expenses of preparation caused by the refusal. The court may require or permit corrections or additions to the record.

(3) If the order being challenged was issued without an administrative hearing under § 2-304, or if upon motion it is shown that proper consideration of the complaint requires presentation of additional evidence, the court may receive evidence or remand the case to the agency for receiving evidence. In acting upon a motion to present additional evidence the court shall take into account the materiality of the evidence to the issues in the case and the reason for failure to present the evidence in a proceeding before the agency.

NOTE

Section 9-101(3) attempts to confine review to the record made before an administrative agency where such a record has

been made. Section 9-108 prescribes a method of getting that record before the reviewing court and in subsection (3) prescribes the method of making a record if the order being challenged was issued without an administrative hearing. If the matter being challenged is an ordinance or rule, there is, of course, no prior record to be brought before the court since the legislative hearings, if any, are not in the nature of factual determinations. In such a case the methods of producing evidence in a proceeding for declaratory relief are applicable.

Section 9-109. Basis for Judicial Relief

(1) The court may declare the order, rule or ordinance invalid and give the relief provided in this Article if it determines that

(a) the order, rule or ordinance is contrary to the Constitution of the United States or of this State;

(b) the order, rule or ordinance is in excess of statutory authority of the governmental agency adopting the order, rule or ordinance;

(c) the order, rule or ordinance was issued or adopted without observance of procedure required by law;

(d) the order or rule is arbitrary, capricious, an abuse of discretion or is otherwise not in accordance with law;

(e) the order is based upon an error of law;

(f) the order is not based on findings of fact which are supported by substantial evidence; or

(g) the order is unwarranted by the facts to the extent that the facts are subject to initial determination by the court or to amplification before the court.

(2) No substantial issue under Article 7 of this Code may be raised except on review of an order of the State

Land Adjudicatory Board. In a proceeding concerning an order of the State Land Adjudicatory Board under Article 7 the court shall give due weight to the discretionary and policy-making authority conferred upon the Board to determine whether the probable benefit exceeds the probable detriment under § 7-502.

(3) In a proceeding concerning the relationship of an order, rule or ordinance, to the public health, safety or welfare, the court shall give due weight to the fact that the order, rule or ordinance, was adopted by a local government having a Land Development Plan and to the consistency of the challenged action with the applicable state or local Land Development Plan.

NOTE

The bases for judicial relief stated in subsection (1) are essentially those found in the Model State Administrative Procedure Act for review of orders resulting from adjudicatory proceedings. See also the Federal Administrative Procedural Act, 5 U.S.C. § 706. The matters stated in subparagraphs (a) through (c) are equally applicable to ordinances and rules. The matters stated in subparagraphs (e), (f) and (g) are, in express language, made the basis only for a challenge to an order. Neither rules nor ordinances are adopted after hearings and findings of fact and are not required to be supported by evidence.

Subsections (2) and (3) are admonitions to the Court to give special weight to the matters there set forth. The sections are analogous to provisions in some administrative procedure acts requiring the court to "take into account" the expertise of the administrative tribunal. The sections do not require the court to sustain the validity of the governmental action complained of because of the matters set forth but do require the court to pay special attention to the facts. No negative implication is intended by calling attention to these facts. The court may, if it chooses, give special attention to other facts and may, in the matter dealt with in subsection (3), draw no adverse conclusion from the absence of a plan.

Section 9-110. Judicial Relief Available; Consolidation of Actions

(1) Except as limited by § 9-111, the Court may, in a proceeding which does not involve the validity of an order, sustain the rule or ordinance, declare the rule or ordinance to be invalid in whole or in part, or grant such other relief as the court deems appropriate.

(2) Except as limited by § 9-111, the Court may, in a proceeding involving an order, affirm the decisions of the agency, set aside the order, remand the matter for further proceedings before the agency in accordance with directions contained in the opinion or order of the Court, or enter an order which might have been entered by the agency issuing the order and which the court could order the agency to issue.

(3) If an application for a development permit is pending at the time a proceeding seeking a declaration as to the validity of an ordinance or rule as commenced and the court is satisfied that a judicial declaration as to any order issued on the application will dispose of the issues raised in the pending proceeding, it may stay the declaratory proceeding until final action on the application for a development permit has been taken. If a proceeding to review an order granting or denying a development permit is pending, the court may consolidate or stay other proceedings in the interest of a speedy determination of the issues.

NOTE

Subsections (1) and (2) are similar to the relief specified in the Model State Administrative Procedure Act, modified in subsection (1) to make the relief appropriate for ordinances and rules.

Subsection (3) gives the court broad latitude to stay proceedings or to stay proceedings in the interest of a speedy de-

termination of issues raised in several different proceedings. At the same time that an owner is applying for a development permit on his land other landowners in the community, perhaps not including those entitled to notice in the hearing on a permit, may be seeking a judicial determination that the ordinance classification is invalid. It may be desirable to stay one proceeding and then consolidate them for a speedy determination.

Section 9-111. Stay in Certain Cases

(1) A reviewing court may stay a proceeding seeking review of a rule or ordinance until an order on an application for a development permit or a declaratory order under § 2-308 has been issued, if the court determines that such an order is essential to define the controversy. An application for subdivision approval or for development consisting of a building is not necessary to define the controversy within the meaning of this Section when the challenge is addressed to a minimum lot size or maximum density requirement. If the challenge is confined to site planning or subdivision improvement matters, an application for development consisting of a building is not required. Nor shall an application for development consisting of subdivision be required when the challenge is confined to building or land use matters.

(2) In any proceeding involving an order, rule or ordinance the court may stay entry of an order of invalidity of the rule or ordinance if it finds that a revised rule or ordinance could probably be imposed and require the local government or its agency to consider amending the rule or ordinance in accordance with the opinion of the court. The local government or its agency shall be required to respond to the request within a time specified in the order of stay which shall not be more than 90 days after entry of the order of stay.

(3) If the complainant is a landowner challenging the

validity of an order, rule or ordinance applicable to his land and if the court is satisfied that as applied to his land the order, rule or ordinance constitutes a taking of his property without just compensation, the court shall retain jurisdiction if it further determines that the limitation on development could be lawfully imposed if compensation were paid and request the local government to determine whether it wishes to institute proceedings under Article 6 to pay compensation. If the governmental agency making the order, rule or ordinance fails to respond within 90 days, the court shall enter an order of invalidity. If a proceeding to determine compensation is commenced, the court shall continue the proceeding until compensation has been determined.

(4) If the challenged order, rule or ordinance is being appealed to the State Land Adjudicatory Board under § 7-702 the court may stay proceedings pending action by the Board.

(5) If the court determines to proceed under one of the preceding subsections it shall retain jurisdiction until the time specified in its order. For purposes of further judicial review a court order under the preceding subsections may be treated as a final order.

NOTE

In subsection (1) the court is given statutory authority to abstain from determining the validity of an ordinance or rule where it finds that the existence of a development order would help it define the controversy. This seems to be the essential part of the "exhaustion" doctrine. In some states a landowner who is challenging the validity of a zoning restriction limiting his land use to single-family residences is required to file a detailed application for a development permit for apartments before he is permitted to challenge the validity of the zoning classification. On the other hand where the landowner is challenging a small detail of a restriction which the land development agency has power to

modify under Article 2, it would seem proper to require the landowner to find out from the administrative agency whether it would approve his project. Rather than state an exhaustion requirement, it seems better to permit the court to control the necessity of making an application. A detailed application for a complicated building is an expensive item in the construction of a building and a landowner should not be required to make such an expenditure if it is likely to be useless.

In subsection (2) statutory authority is given for a practice which many courts engage in now—finding the ordinance invalid but not thereby permitting development until the local government has an opportunity to enact a valid ordinance. This section makes it possible for a "willful" local government whose five-acre minimum lot size ordinance is held invalid to turn around and enact a four and a half-acre ordinance and so on in successive situations thereby effectively preventing development. Since the court retains jurisdiction, its ordinary power to find that the substituted local action is not in good faith should be sufficient to permit the court to control the attempt to thwart the validity of the court's original position.

In subsection (3) the court is given a third choice. If it finds that the development restriction as applied to complainant's land would result in a taking of his property without compensation, the court may stay entry of an order of invalidity to give the local government time to determine whether it wishes to continue the restriction by paying compensation under Article 6 (not yet drafted). Thus a number of counties with highway beautification programs have prohibited development within 500 or 1,000 feet of the highway in order to protect the view from the highway. Such a restriction may result in an unconstitutional taking of complainant's land. It is also true, however, that if development is permitted on the parcel in question the whole highway beautification program may be in jeopardy. This section permits the court to ask the county to determine whether it wishes to condemn the development rights or the fee simple of the land in order to protect the beautification plan. If the local legislative body elects not to pay compensation the court will then enter an order of invalidity of the restriction on development. If the local government proceeds to pay compensation, the restriction would continue. Other Articles of the Code will prescribe when the local government has the power to pay compensation and the measure of compensation in some cases.

Subsection (4) permits a stay pending an appeal to the State Land Adjudicatory Board under Part 7 of Article 7.

63-902 O - 71 - 37

Section 9-112. Effect of Court Order

(1) In any proceeding in which the court enters an order granting development permission, the court order shall be treated as the development permit for the development specified in the order and shall be entered in any records required or authorized for development permits as if it were an order of the Land Development Agency. Any court order sustaining the validity of a development permit or granting development permission shall be construed to be a grant subject to compliance with all other valid development requirements for which permission was not sought in the application under review.

(2) In any proceeding in which the court declares that a rule or ordinance is invalid and the declaration has become final, the rule or ordinance shall be regarded as if the invalid provisions were not in the rule or ordinance. Unless the court specifically reinstates the provisions which had been deleted or modified in enactment or adoption of the invalid rule or ordinance, invalidity does not reinstate the earlier provisions.

(3) If an order granting development permission for particular land subject to the rule or ordinance challenged has become final and the time for commencement of judicial proceedings for review of the order has expired, a challenge to the validity of the rule or ordinance in another proceeding does not affect the validity of the order as applied to the land for which a permit was sought and finally obtained.

NOTE

Subsections (1) and (2) are designed as a rule of construction for court orders. A court order which has the effect of ordering the local government to permit development is by subsection (1) made the development permit rather than introducing an additional step—that of requiring the successful complainant to go back and obtain a permit from the Land Development Agency

which had previously denied it to him. Subsection (1) further provides that the permit obtained grants development permission subject to compliance with all other valid development requirements for which permission was not sought. Thus a court order directing the community to permit residential development on a one-acre lot requirement instead of the five acres specified in the ordinance does not order the community to permit the residential development to be located anywhere on the lot. Setback rules would still be applicable. Subsection (2) is designed to specify what invalidity means. It means that the provisions is deleted from the ordinance and if the provision was an amendment to an earlier ordinance, it does not result in reinstatement of the earlier provision unless the court specifically reinstates it.

Subsection (3) treats with a problem which can arise where one landowner applies for a development permit and neighboring landowners or other landowners in the district seek a judicial declaration that the ordinance is invalid. By accidents of timing and decisions as to whether to appeal an order to court it is possible that one parcel of land will obtain a development permit shortly before a court in a declaratory judgment proceeding declares the ordinance provisions invalid. Subsection (3) provides that an unappealed grant of development permission for the lot in question survives against a subsequent declaration that the ordinance under which the permit was issued is invalid.

Section 9-113. Appeals

A party to the judicial proceeding for relief under this Article who is aggrieved by the decision may appeal to [————————————] in the manner provided by law for appeals from the court of general jurisdiction in other civil cases.

NOTE

Once a proceeding is commenced under Article 9 it is the intention of this Code that the ordinary rules or civil procedure including those on appeal be applicable to judicial proceedings thereafter conducted. This section provides that the rules of appeal are applicable but it does require the enacting state to specify whether the appeal should be to the Supreme Court or to an intermediate court depending on its own constitutional and statutory provisions.

SHORE PROTECTION PROGRAM

DEPARTMENT OF THE ARMY
OFFICE, CHIEF OF ENGINEERS

SHORE PROTECTION PROGRAM

Information on Assistance by the Corps of Engineers in Shore Protection

TABLE OF CONTENTS

Preface	i
Introduction	1
Corps of Engineers Programs	3
Project Development	5
Local Cooperation	8
Public Laws	Appendix 1
Addresses of Corps of Engineers Officers	Appendix 2
Coastal Engineering Research Center Publications	Appendix 3

DEPARTMENT OF THE ARMY
OFFICE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20314

July 1970

PREFACE

Wide, sandy beaches are one of America's most popular and prized attractions. They provide outdoor recreation for millions of all ages and interests and from all walks of life. But they do more than this; they also provide the best natural defense against storm and hurricane-induced flooding.

The sands of the beaches are constantly moving. The same winds, waves, tides, and currents that carry sand away from one area of shore replace it with sand from another area unless and until other influences interfere. Near shoreline structures essential to the well being of society may interrupt the flow of sand along the shore, and structures on tributary rivers may reduce or eliminate supplies of sand. When the natural equilibrium is upset -- whatever the cause -- erosion of some beaches results.

The restoration and protection of America's shoreline are everyone's concern. Congressional recognition of national concern has produced legislation which permits the Corps of Engineers to join local forces in the fight against beach erosion. Today, as much as 70 percent of the cost of protecting publicly owned shores may come from Federal funds if certain conservation, development, and use requirements are satisfied. Projects not meeting these requirements may still be as much as 50 percent federally funded. Shore protection may be structural -- groins, seawalls, bulkheads, jetties, sand replenishment, -- or natural -- sand conservation, vegetation. Careful study must precede selection of method.

The Corps of Engineers has been developing methods of shore protection since 1930. Continuing investigations by the Corps' Coastal Engineering Research Center expand knowledge and understanding of the physical phenomena, principles, techniques, and procedures related to the protection and restoration of our beaches and shores. Continuing construction of shore protection and restoration facilities reinforces the technical and construction "know-how" that produces sound economical solutions.

Division and District Engineers of the Corps of Engineers stand ready with their professional staffs to advise and assist agencies of local and State governments at all times. Engineer experts with long experience in shore protection and beach restoration will provide technical advice upon request and will provide guidance and advice on procedures and programs when Federal construction effort is needed.

INTRODUCTION

Beach and shore erosion is one of the Nation's pressing problems. The United States' shorelines, including those of the Great Lakes, total about 94,000 miles. The number of Americans using these shorelines is steadily increasing. At present, 75 percent of the population of the United States lives in States bordering on the oceans and Great Lakes; and 12 of our 13 largest cities are located in the coastal zone. The unrelenting pressures generated by this growing population and its demand for shoreline land for homes, industries, transportation terminals, recreation and marine foods quicken interest and concern in the protection and restoration of beaches and shores. At the Federal level, this interest and concern have led to increasing involvement in shore protection. The increasing Federal interest has been paralleled by expanding interest on the part of the coastal States.

Before 1930, Federal interest in shore problems was limited to the protection of Federal property and improvements for navigation. At that time, an advisory "Board on Sand Movement and Beach Erosion" appointed by the Chief of Engineers was the principal instrumentality of the Federal Government in this field. In 1930, the Congress assumed a broader role in shore protection by authorizing creation of the Beach Erosion Board. Four of the seven members of the Board were Corps of Engineers officers and the other three were from State agencies. It was empowered to make studies of beach erosion problems at the request of, and in cooperation with, cities, counties, or States. The Federal

Government bore up to half of the cost of each study but did not bear any of the construction costs unless federally owned property was involved.

In 1946, the Corps was given additional authority, and Federal contributions to construction costs were permitted when projects protected publicly owned shores. In 1956, further amendment of the basic beach erosion legislation authorized Federal involvement in the protection of private property if such protection was incidental to the protection of publicly owned shores, or if such protection would result in public benefits. The Federal role was again expanded in 1962 when legislation was enacted to increase the proportion of construction cost borne by the Federal Government and to make the total cost of studies a Federal responsibility. Recent legislation (in 1968) directs the Chief of Engineers to make an appraisal, investigation and study of the erosion problems of the coasts of the United States and the shorelines of the Great Lakes, including estuaries and bays thereof. This study is not expected to generate recommendations for construction to protect specific problem areas, but it will appraise coastal erosion problems from the national viewpoint, will array the problem areas in meaningful priority order, will inventory the shoreline, an increasingly valuable resource, and will provide sound information for planning and action at all governmental levels.

Hurricane protection is closely related to shore erosion control and protection. After the great hurricanes of 1954 and 1955 caused the

loss of 200 lives and flood and wave damage totaling more than $1 billion, Congress directed the Corps of Engineers and other concerned Federal agencies to develop protective measures. This legislation led to improved hurricane forecasting and warning services, and to authorizations for the construction by the Corps of Engineers of projects for hurricane protection. The Federal Government pays 70 percent of the construction cost of such projects. In many locations, broad comprehensive planning develops multiple-purpose projects providing shore protection, beach restoration, and hurricane protection which benefit public recreation and navigation, and protect and preserve fish and wildlife.

CORPS OF ENGINEERS PROGRAMS

As the Federal interest in shore protection and beach restoration has increased, so has the involvement of the Corps of Engineers. By various legislative actions, the Congress has directed the Chief of Engineers to carry out the policies and programs established to protect and restore the Nation's shorelines.

Under these legislative authorities, the Corps of Engineers researches the causes of beach erosion, investigates and studies specific beach erosion problems, and constructs -- or, in certain cases, reimburses local and State governments for constructing -- shore protection and beach restoration projects.

In the early 1930's the Corps of Engineers began investigations of the various forces at work along coasts and shores. Today, the Corps'

Coastal Engineering Research Center is deeply involved in investigations of shore processes, storm frequencies, and storm-tide elevations. Research into remedial measures is accomplished at the Center by its engineers and scientists; in addition, many significant programs are carried out by universities and private research organizations under contracts with the Center. Much of the field work essential to these research efforts is accomplished by staff members of the various Corps of Engineers Districts. The results of this research are published and widely disseminated in the United States, and are also supplied on an exchange basis to foreign institutions and agencies. As a result of this exchange, the Coastal Engineering Research Center is well informed of world-wide research progress. Appendix 3 lists some of the publications of the Coastal Engineering Research Center.

The research program is the base on which the planning and construction programs depend. Without research, the effectiveness of completed projects might be uncertain and costly overdesign or failure might be common. But the shore protection programs are the payoff in terms of preservation of natural beaches and recreational areas as well as the protection of life and property. Here the battle with the relentless sea is actually fought.

Shore protection and beach restoration projects may be categorized in a number of ways. For the purposes of this discussion it is convenient to group projects in two programs - one consisting of projects specifically and individually authorized by Congress and the second

consisting of projects for which individual authorization by Congress is not required. Hereafter in this discussion these programs will be referred to as the regular project program and the small project program. The latter program is limited to projects for which the Federal share of the construction cost will not exceed $½ million. In addition, if the erosion is attributable to Federal navigation works, mitigating measures costing not more than $1 million can be constructed entirely at Federal cost without specific Congressional authorization.

PROJECT DEVELOPMENT

Shore protection and beach restoration projects begin with a local request for help. Any person or group of persons desiring assistance in combating beach erosion can obtain information and advice from any Corps of Engineers District or Division office. Eroded publicly owned shores and shores eroded because of Federal navigation works are eligible for Federal assistance; privately owned shores may be eligible for Federal assistance if there is public benefit such as that arising from public use. Parties desiring information, advice, and assistance in combating beach erosion can usually be most effective by acting through and in cooperation with the State, county, or city agency concerned with beach and shore use and management. The agency, in turn, can reinforce its effectiveness by early consultation with the appropriate District or Division Engineer to explore any question of eligibility and applicability of the small project program, or the program for mitigating erosion caused by Federal navigation works. If either of these programs is applicable, the Secretary of the Army can authorize a beach erosion study at the request of the responsible local agency. If the study shows

the project to be justified and the local interests involved are willing and able to cooperate as required by law, the Secretary of the Army can authorize construction of the project and allot funds for that purpose from available civil works appropriations.

Beach erosion studies for the regular project program must be individually authorized by the Congress. Usually, the study authorization is granted by a resolution approved by the Public Works Committee of either the Senate or the House of Representatives; less frequently, it is included in a River and Harbor Act adopted by the Congress and approved by the President. If consultation with the District or Division Engineer indicates that the small project program is inapplicable, the local interests involved, acting through the community's elected representatives in the Congress, should request the Congress to authorize and fund a beach erosion investigation and study. The District or Division Engineer will begin the study as soon as the necessary authorization and funds are provided.

Normally, the local interests sponsoring the study and the District or Division Engineer responsible for its prosecution will continue consultations, exchange information, and make plans for conducting the study while the authorization and fund allocation actions are in progress.

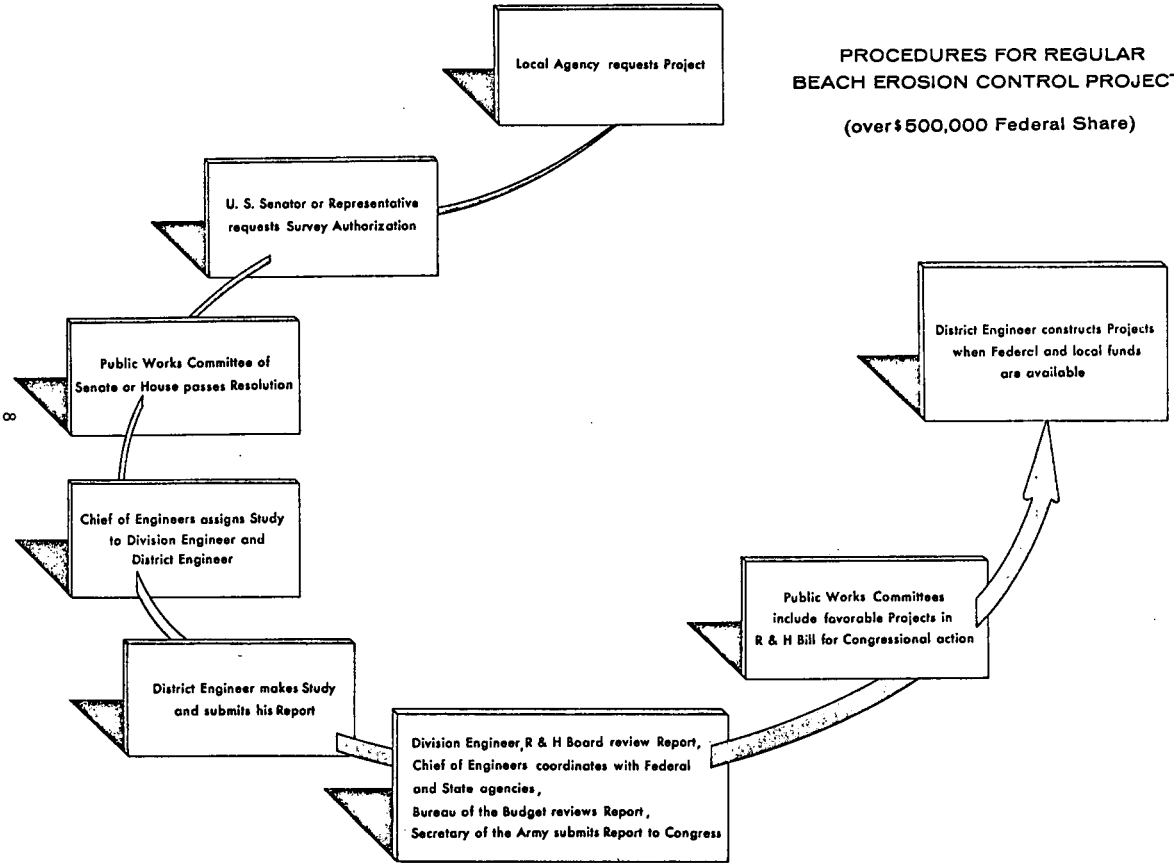
The investigation and study are intended to determine whether a Federal project is justified and, if so, whether its construction is feasible. One of the early concerns of the Engineer Officer directing the study is the ascertainment of the desires and opinions of all parties

affected by, or having an interest in, the protection, improvement, and use of the shore area concerned. To this end, he holds a public hearing at the beginning of the study; if the situation warrants, he holds additional hearings as the study progresses. The study thoroughly examines the problem and identifies the causal factors. After careful analyses of the impacts of all applicable remedial measures on the erosion problem, on other shore areas, on the regimen of the coastal waters, on areal shore processes, on marine life, on ecological values, and on shore uses, a general plan for shore protection and beach restoration is devised. If comparisons of the costs of construction and the benefits resulting from the construction show the project to be a sound and prudent public investment, and if the local sponsoring agency affirms willingness and ability to provide the required cooperation, the report on the study recommends adoption of the project. Before the report is submitted to the Congress, it is reviewed by the Board of Engineers for Rivers and Harbors, the Chief of Engineers, the Governors of affected States, and all interested Federal departments.

Projects authorized for construction by the Congress are considered by the Congress as it formulates the annual appropriation bill. (As previously mentioned, funds for constructing the small project construction program are allotted by Secretary of the Army and are not specifically appropriated for individual projects.) As soon as funds are provided, the responsible District Engineer carries out the detailed engineering work essential to construction and prepares construction

PROCEDURES FOR REGULAR BEACH EROSION CONTROL PROJECTS

(over $500,000 Federal Share)



drawings and specifications. Contractors submit bids based on these drawings and specifications and a construction contract is awarded to the successful bidder. The District Engineer continues to consult and coordinate with the local sponsoring agency while engineering and construction are underway. Upon completion, the protective works are turned over to the sponsoring local interests for operation and maintenance in accordance with the authorizing legislation. Section 215 of Public Law 90-483 permits local interests to expedite construction of authorized projects for which Federal funds are not immediately available. Under certain circumstances if local interests proceed with construction at their expense, the Federal share of the cost of that construction can be reimbursed from later appropriations. Such reimbursement cannot exceed $1 million.

LOCAL COOPERATION

The State or political subdivision faced with shore protection and beach restoration problems usually selects one of its agencies to represent local interests and cooperate with the Corps of Engineers. This agency becomes an integral part of the Federal-local team and works with the responsible District or Division Engineer during the investigation, planning, engineering, and construction phases of project development. Often, this same agency operates and maintains the completed project.

The legislation establishing the Federal shore protection and beach

restoration programs declares it to be "the policy of the United States to assist in the construction, but not the maintenance, of works for the improvement and protection against erosion by waves and currents of the shores of the United States, its territories and possessions." In its present form, the legislation spells out the conditions for, and the extent of, Federal participation. Basically, it relates Federal participation to public benefit and requires the active participation of the sponsoring local interests. Under this concept, Federal participation is greatest where the protected shore areas are publicly owned and appropriate facilities to encourage full public use are provided. As much as 70 percent of the construction cost can be borne by the Federal Government in such cases. At the opposite end of the scale, where the protected shore area is privately owned and there is no public use, no Federal funds can be provided. Between these extremes, Federal participation in providing protection is proportional to public use and benefit. The remaining costs are borne by the sponsoring local interests. Additionally, local interest are normally required to provide all necessary lands, easements, and rights-of-way, hold and save the United States free from claims for damages, prevent water pollution which would affect the health of bathers, maintain the completed works, and assure continued public use of the protected area. Other legislation provides that the Federal Government bear the entire cost of protecting federally owned shore areas and of mitigating or preventing shore damages attributable to Federal navigation works.

63-902 O - 71 - 38

APPENDIX 1

PUBLIC LAW 520, 71ST CONGRESS
Approved July 3, 1930

Be it enacted by the Senate and the House of Representatives of the United States in Congress assembled, that ----------

SEC. 2 . . . . . The Chief of Engineers of the United States Army, under the direction of the Secretary of War, is authorized and directed to cause investigations and studies to be made in cooperation with the appropriate agencies of various States on the Atlantic, Pacific, and Gulf coasts and on the Great Lakes, and the Territories, with a view to devising effective means of preventing erosion of the shores of coastal and lake waters by waves and currents; and any expenses incident and necessary thereto may be paid from funds appropriated for examinations, Surveys and Contingencies for Rivers and Harbors: Provided, That the War Department may release to the appropriate State agencies information obtained by these investigations and studies prior to the formal transmission of reports to Congress: Provided further, That no money shall be expended under authority of this section in any State which does not provide for cooperation with the agents of the United States and contribute to the project such funds and/or services as the Secretary of War may deem appropriate and require; that there shall be organized under the Chief of Engineers, United States Army, by detail from time to time from the Corps of Engineers and from the engineers of State agencies charged with beach erosion and shore protection, a board of seven members, of whom four shall be officers of the Corps of Engineers and three shall be selected with regard to their special fitness by the Chief of Engineers from among the State agencies cooperating with the War Department. The board will furnish such technical assistance as may be directed by the Chief of Engineers in the conduct of such studies as may be undertaken and will review the reports of the investigations made. In the consideration of such studies as may be referred to the board by the Chief of Engineers, the board shall, when it considers it necessary and with the sanction of the Chief of Engineers, make, as a board or through its members, personal examinations of localities under investigation: Provided further, That the salary of the civilian members shall be paid by their respective States, but the traveling and other necessary expenses connected with their duties on the board shall be paid in accordance with the law and regulations governing the payment of such expenses to civilian employees of the Engineer Department.

PUBLIC LAW 409, 74TH CONGRESS
Approved August 30, 1935

SEC. 5. Every report submitted to Congress in pursuance of any provisions of law for preliminary examination and survey looking to the improvement of the entrance at the mouth of any river or at any inlet, in addition to other information which the Congress has directed shall be given, shall contain information concerning the configuration of the shore line and the probable effect thereon that may be expected to result from the improvement having particular reference to erosion and/or accretion for a distance of not less than ten miles on either side of the said entrance.

PUBLIC LAW 166, 79TH CONGRESS
Approved July 31, 1945

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in addition to participating in cooperative investigations and studies with agencies of the various States as authorized in Section 2 of the River and Harbor Act, approved July 3, 1930, it shall be the duty of the Chief of Engineers, through the Beach Erosion Board to make general investigations with a view to preventing erosion of the shores of the United States by waves and currents and determining the most suitable methods for the protection, restoration, and development of beaches; and to publish from time to time such useful data and information concerning the erosion and protection of beaches and shore lines as the Board may deem to be of value to the people of the United States. The cost of the general investigations herein authorized shall be borne wholly by the United States. As used in this Act, the word "shores" includes the shore lines of the Atlantic and Pacific Oceans, the Gulf of Mexico, the Great Lakes, Lake Champlain, and estuaries and bays directly connected therewith.

SEC. 2. All provisions of existing law relating to examinations and surveys and to works of improvement of rivers and harbors shall apply, insofar as practicable, to examinations and surveys and to works of improvement relating to shore protection; except that all projects having to do with shore protection shall be referred for consideration and recommendation to the Beach Erosion Board instead of to the Board of Engineers for Rivers and Harbors.

SEC. 3. The Beach Erosion Board, in making its report on any cooperative investigation and studies under the provisions of Section 2 of the River and Harbor Act, approved July 3, 1930, relating to shore protection work shall, in addition to any other matters upon which it may be required to report, state its opinion as to (a) the advisability of adopting the project; (b) what public interest, if any, is involved in the proposed improvement; and (c) what share of the expense, if any, should be borne by the United States.

SEC. 4. Any expenses incident and necessary in the undertaking of the general investigations authorized herein may be paid from funds hitherto or hereafter appropriated for examinations, surveys, and contingencies for rivers and harbors.

PUBLIC LAW 727, 79TH CONGRESS, Approved August 13, 1946
as amended by
PUBLIC LAW 826, 84TH CONGRESS, Approved July 28, 1956
PUBLIC LAW 874, 87TH CONGRESS, Approved October 23, 1962, and
PUBLIC LAW 298, 89TH CONGRESS, Approved Octover 27, 1965

Be it enacted by the Senate and House of Representatives of the United States of American in Congress assembled, That (a) with the purpose of preventing damage to the shores of the United States, its Territories and possessions and promoting and encouraging the healthful recreation of the people, it is hereby declared to be the policy of the United States, subject to the following provisions of this Act to assist in the construction but not the maintenance, of works for the restoration and protection against erosion, by waves and current, of the shores of the United States, its Territories and possessions.

(b) The Federal contribution in the case of any project referred to in subsection (a) shall not exceed one-half of the cost of the project, and the remainder shall be paid by the State, municipality, or other political subdivision in which the project is located except that the costs allocated to the restoration and protection of Federal property shall be borne fully by the Federal Government, and, further, that Federal participation in the cost of a project for restoration and protection of State, county, and other publicly owned shore parks and conservation areas may be, in the discretion of the Chief of Engineers, not more than 70 per cent of the total cost exclusive of land costs, when such areas: Include a zone which excludes permanent human habitation; include but are not limited to recreational beaches, satisfy adequate criteria for conservation and development of the natural resources of the environment; extend landward a sufficient distance to include, where appropriate, protective dunes, bluffs, or other natural features which serve to protect the uplands from damage; and provide essentially full park facilities for appropriate public use, all of which shall meet with the approval of the Chief of Engineers.

(c) When in the opinion of the Chief of Engineers the most suitable and economical remedial measures would be provided by periodic beach nourishment, the term 'construction' may be construed for the purposes of this Act to include the deposit of sand fill at suitable intervals of time to furnish sand supply to project shores for a length of time specified by the Chief of Engineers.

(d) Shores other than public will be eligible for Federal assistance if there is benefit such as that arising from public use or from the protection of nearby public property or if the benefits to those shores are incidental to the project, and the Federal contribution to the project shall be adjusted in accordance with the degree of such benefits.

(e) No Federal contribution shall be made with respect to a project under this Act unless the plan therefor shall have been specifically adopted and authorized by Congress after investigation and study by the Beach Erosion Board under the provisions of Section 2 of the River and Harbor Act approved July 3, 1930, as amended and supplemented, or, in the case of a small project under Section 3 of this Act, unless the plan therefor has been approved by the Chief of Engineers.

SEC. 2. The Secretary of the Army is hereby authorized to reimburse local interests for work done by them, after initiation of the survey studies which form the basis for the project, on authorized projects which individually do not exceed $1,000,000 in total cost: Provided, That the work which may have been done on the projects is approved by the Chief of Engineers as being in accordance with the authorized projects: Provided further, That such reimbursement shall be subject to appropriations applicable thereto or funds available therefor and shall not take precedence over other pending projects of higher priority for improvements.

SEC. 3. The Secretary of the Army is hereby authorized to undertake construction of small shore and beach restoration and protection projects not specifically authorized by Congress, which otherwise comply with section 1 of this Act, when he finds that such work is advisable, and he is further authorized to allot from any appropriations hereafter made for civil works, not to exceed $10,000,000 for any one fiscal year for the Federal share of the costs of construction of such projects: Provided, That not more than $500,000 shall be allotted for this purpose for any single project and the total amount allotted shall be sufficient to complete the Federal participation in the project under this section including periodic nourishment as provided for under section 1(c) of this Act: Provided further, That the provisions of local cooperation specified in section 1 of this Act shall apply: And provided further, That the work shall be complete in itself and shall not commit the United States to any additional improvement to insure its successful operation, except for participation in periodic beach nourishment in accordance with section 1(c) of this Act, and as may result from the normal procedure applying to projects authorized after submission of survey reports."

(b) All provisions of existing law relating to surveys of rivers and harbors shall apply to surveys relating to shore protection and section 2 of the River and Harbor Act approved July 3, 1930, as amended (33 U.S.C. 426), is modified to the extent inconsistent herewith.

(c) The cost-sharing provisions of this Act shall apply in determining the amounts of Federal participation in or payments toward the costs of authorized projects which have not been substantially completed prior to the date of approval of this Act, and the Chief of Engineers, through the Beach Erosion Board, is authorized and directed to recompute the amounts of Federal contribution toward the costs of such projects accordingly.

SEC. 4. As used in this Act, the word 'shores' includes all the shorelines of the Atlantic and Pacific Oceans, the Gulf of Mexico, the Great Lakes, and lakes, estuaries, and bays directly connected therewith.

PUBLIC LAW 71, 84TH CONGRESS
Approved June 15, 1955

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in view of the severe damage to the coastal and tidal areas of the eastern and southern United States from the occurrence of hurricanes, particularly the hurricanes of August 31, 1954, and September 11, 1954, in the New England, New York, and New Jersey coastal and tidal areas, and the hurricane of October 15, 1954, in the coastal and tidal areas extending south to South Carolina, and in view of the damages caused by other hurricanes in the past, the Secretary of the Army, in cooperation with the Secretary of Commerce and other Federal agencies concerned with hurricanes, is hereby authorized and directed to cause an examination and survey to be made of the eastern and southern seaboard of the United States with respect to hurricanes, with particular reference to areas where severe damages have occurred.

SEC. 2. Such survey, to be made under the direction of the Chief of Engineers, shall include the securing of data on the behavior and frequency of hurricanes, and the determination of methods of forecasting their paths and improving warning services, and of possible means of preventing loss of human lives and damages to property, with due consideration of the economics of proposed breakwaters, seawalls, dikes, dams, and other structures, warning services, or other measures which might be required.

SEC. 3. There are hereby authorized to be appropriated such sums as may be necessary to carry out the provisions of this Act.

PUBLIC LAW 874, 87TH CONGRESS, Approved October 23, 1962
as amended by
PUBLIC LAW 298, 89TH CONGRESS, Approved October 27, 1965

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled . . . . .

SEC. 101. (Authorizes certain navigation and beach erosion projects).

SEC. 102. That the Secretary of the Army is hereby authorized to reimburse local interests for such work done by them on the beach erosion projects authorized in Section 101, and in other sections of this Act, subsequent to the initiation of the cooperative studies which form the basis for the projects: Provided, That the work which may have been done on these projects is approved by the Chief of Engineers as being in accordance with the projects herein adopted: Provided further, That such reimbursement shall be subject to appropriations applicable thereto or funds available therefor and shall not take precedence over other pending projects of higher priority for improvements.

SEC. 103. (Amends Public Law 727, 79th Congress as amended by Public Law 826, 84th Congress).

SEC. 110. The Secretary of the Army is hereby authorized and directed to cause . . . . . Surveys of the coastal areas of the United States and its possessions, including the shores of the Great Lakes, in the interest of beach erosion control, hurricane protection and related purposes: Provided, That surveys of particular areas shall be authorized by appropriate resolutions of either the Committee on Public Works of the United States Senate of the Committee on Public Works of the House of Representatives.

PUBLIC LAW 172, 88TH CONGRESS
Approved November 7, 1963

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Board established by Section 2 of the River and Harbor Act approved July 3, 1930, as amended (33 U.S.C. 426), referred to as the Beach Erosion Board, is hereby abolished. There shall be established under the Chief of Engineers, United States Army, a Coastal Engineering Research Center which, except as hereinafter provided in Section 3 hereof, shall be vested with all the functions of the Beach Erosion Board, including the authority to make general investigations as provided in Section 1 of the Act approved July 31, 1945 (59 Stat. 508), and such additional functions as the Chief of Engineers may assign.

SEC. 2. The functions of the Coastal Engineering Research Center established by Section 1 of this Act, shall be conducted with the guidance and advice of a Board on Coastal Engineering Research, constituted by the Chief of Engineers in the same manner as the present Beach Erosion Board.

SEC. 3. All functions of the Beach Erosion Board pertaining to review of reports of investigations made concerning erosion of the shores of coastal and lake waters, and the protection of such shores, are hereby transferred to the Board established by Section 3 of the River and Harbor Act approved June 13, 1902, as amended (33 U.S.C. 541), referred to as the Board of Engineers for Rivers and Harbors.

PUBLIC LAW 483, 90TH CONGRESS
Approved August 13, 1968

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled . . . . .

SEC. 106. (a) The Chief of Engineers, Department of the Army, under the direction of the Secretary of the Army, shall make an appraisal investigation and study, including a review of any previous relevant studies and reports, of the Atlantic, Gulf, and Pacific coasts of the United States, the coasts of Puerto Rico and the Virgin Islands, and the shorelines of the Great Lakes, including estuaries and bays thereof, for the purpose of (1) determining areas along such coasts and shorelines where significant erosion occurs; (2) identifying those areas where erosion presents a serious problem because the rate of erosion, considered in conjunction with economic, industrial, recreational, agricultural, navigational, demographic, ecological, and other relevant factors, indicates that action to halt such erosion may be justified; (3) describing generally the most suitable type of remedial action for those areas that have a serious erosion problem; (4) providing preliminary cost estimates for such remedial action; (5) recommending priorities among the serious problem areas for action to stop erosion; (6) providing State and local authorities with information and recommendations to assist the creation and implementation of State and local coast and shoreline erosion programs; (7) developing recommended guidelines for land use regulation in coastal areas taking into consideration all relevant factors; and (8) identifying coastal areas where title uncertainty exist. The Secretary of the Army shall submit to the Congress as soon as practicable, but not later than three years after the date of enactment of this Act, the results of such appraisal investigation and study, together with his recommendations. The views of concerned local, State, and Federal authorities and interests will be taken into account in making such appraisal investigation and study.

(b) There are authorized to be appropriated such amounts, not to exceed $1,000,000, as may be necessary to carry out the provisions of this section...

SEC. 111. The Secretary of the Army, acting through the Chief of Engineers, is authorized to investigate, study, and construct projects for the prevention or mitigation of shore damages attributable to Federal navigation works. The cost of installing, operating, and maintaining such projects shall be borne entirely by the United States. No such project shall be constructed without specific authorization by Congress if the estimated first cost exceeds $1,000,000...

SEC. 215. (a) The Secretary of the Army, acting through the Chief of Engineers, may, when he determines it to be in the public interest, enter into agreements providing for reimbursement to States or political subdivisions thereof for work to be performed by such non-Federal public bodies at water resources development projects authorized for construction under the Secretary of the Army and the supervision of the Chief of Engineers. Such agreements may provide for reimbursement of installation costs incurred by such entities or an equivalent reduction in the contributions they would

otherwise be required to make, or in appropriate cases, for a combination thereof. The amount of Federal reimbursement, including reductions in contributions, for a single project shall not exceed $1,000,000.

(b) Agreements entered into pursuant to this section shall (1) fully describe the work to be accomplished by the non-Federal public body, and be accompanied by an engineering plan if necessary therefor; (2) specify the manner in which such work shall be carried out; (3) provide for necessary review of design and plans, and inspection of the work by the Chief of Engineers or his designee; (4) state the basis on which the amount of reimbursement shall be determined; (5) state that such reimbursement shall be dependent upon the appropriation of funds applicable thereto or available therefor, and shall not take precedence over other pending projects of higher priority for improvements; and (6) specify that reimbursement or credit for non-Federal installation expenditures shall apply only to work undertaken on Federal projects after project authorization and execution of the agreement, and does not apply retroactively to past non-Federal work. Each such agreement shall expire three years after the date on which it is executed if the work to be undertaken by the non-Federal public body has not commenced before the expiration of that period. The time allowed for completion of the work will be determined by the Secretary of the Army, acting through the Chief of Engineers, and stated in the agreement.

(c) No reimbursement shall be made, and no expenditure shall be credited, pursuant to this section, unless and until the Chief of Engineers or his designee, has certified that the work for which reimbursement or credit is requested has been performed in accordance with the agreement.

(d) Reimbursement for work commenced by non-Federal public bodies no later than one year after enactment of this section, to carry out or assist in carrying out projects for beach erosion control, may be made in accordance with the provisions of section 2 of the Act of August 13, 1946, as amended (33 U S C. 426f). Reimbursement for such work may, as an alternative, be made in accordance with the provisions of this section, provided that agreement required herein shall have been executed prior to commencement of the work. Expenditures for projects for beach erosion control commenced by non-Federal public bodies subsequent to one year after enactment of this section may be reimbursed by the Secretary of the Army, acting through the Chief of Engineers, only in accordance with the provisions of this section.

(e) This section shall not be construed (1) as authorizing the United States to assume any responsibilities placed upon a non-Federal body by the conditions of project authorization, or (2) as committing the United States to reimburse non-Federal interests if the Federal project is not undertaken or is modified so as to make the work performed by the non-Federal Public body no longer applicable.

(f) The Secretary of the Army is authorized to allot from any appropriations hereafter made for civil works, not to exceed $10,000,000 for any one fiscal year to carry out the provisions of this section. This limitation does not include specific project authorizations providing for reimbursement.

APPENDIX 2

Addresses of Corps of Engineers Officers

Officer and Location	Address
Chief of Engineers	Department of the Army, Office of the Chief of Engineers, Washington, D.C. 20314
Division Engineer, Lower Mississippi Valley	U. S. Army Engineer Division, Lower Mississippi Valley Division, P. O. Box 80, Vicksburg, Mississippi 39180
District Engineer, New Orleans	U. S. Army Engineer District, New Orleans, P. O. Box 60267, New Orleans, Louisiana 70160
Division Engineer, New England	U. S. Army Engineer Division, New England 424 Trapelo Road, Waltham, Massachusetts 02154
Division Engineer, North Atlantic	U. S. Army Engineer Division, North Atlantic 90 Church Street, New York, New York 10007
District Engineer, Baltimore	U. S. Army Engineer District, Baltimore P. O. Box 1715, Baltimore, Maryland 21203
District Engineer, New York	U. S. Army Engineer District, New York, 26 Federal Plaza, New York, New York, 10007
District Engineer, Norfolk	U. S. Army Engineer District, Norfolk 803 Front Street, Norfolk, Virginia 23510
District Engineer, Philadelphia	U. S. Army Engineer District, Philadelphia U. S. Custom House, 2nd & Chestnut Street, Philadelphia, Pennsylvania 19106
Division Engineer, North Central	U. S. Army Engineer Division, North Central 536 South Clark Street, Chicago, Illinois 60605
District Engineer, Buffalo	U. S. Army Engineer District, Buffalo, 1776 Niagara Street, Buffalo, New York 14207
District Engineer, Chicago	U. S. Army Engineer District, Chicago 219 South Dearborn Street, Chicago, Illinois 60604
District Engineer, Detroit	U. S. Army Engineer District, Detroit, P. O. Box 1027, Detroit, Michigan 48231

District Engineer, St. Paul	U. S. Army Engineer District, St. Paul, 1210 USPO and Customhouse, St. Paul, Minn. 55101
Division Engineer, North Pacific	U. S. Army Engineer Division, North Pacific, 210 Customhouse, Portland, Oregon 97209
District Engineer, Alaska	U. S. Army Engineer District, Alaska, P. O. Box 7002, Anchorage, Alaska 99501
District Engineer, Portland	U. S. Army Engineer District, Portland, P. O. Box 2946, Portland, Oregon 97208
District Engineer, Seattle	U. S. Army Engineer District, Seattle, 1519 Alaskan Way, South Seattle, Washington 98134
Division Engineer, Pacific Ocean	U. S. Army Engineer Division, Pacific Ocean, Bldg. 96, Fort Armstrong, Honolulu, Hawaii 96813
District Engineer, Honolulu	U. S. Army Engineer District, Honolulu, Bldg. 96, Fort Armstrong, Honolulu, Hawaii 96813
Division Engineer, South Atlantic	U. S. Army Engineer Division, South Atlantic, 510 Title Bldg., 30 Pryor Street, S.W. Atlanta, Georgia 30303
District Engineer, Charleston	U. S. Army Engineer District, Charleston P. O. Box 919, Charleston, South Carolina 29402
District Engineer, Jacksonville	U. S. Army Engineer District, Jacksonville, P. O. Box 4970, Jacksonville, Florida 32201
District Engineer, Mobile	U. S. Army Engineer District, Mobile, P. O. Box 2288, Mobile, Alabama 36601
District Engineer, Savannah	U. S. Army Engineer District, Savannah, P. O. Box 889, Savannah, Georgia 31402
District Engineer, Wilmington	U. S. Army Engineer District, Wilmington, P. O. Box 1890, Wilmington, North Carolina 28401
Division Engineer, South Pacific	U. S. Army Engineer Division, South Pacific, 630 Sansome Street, San Francisco, California 94111

District Engineer, Los Angeles	U. S. Army Engineer District, Los Angeles, P. O. Box 2711, Los Angeles, California 90053
District Engineer, San Francisco	U. S. Army Engineer District, San Francisco 100 McAllister Street, San Francisco, California 94102
Division Engineer, Southwestern	U. S. Army Engineer Division, Southwestern, 1114 Commerce Street, Dallas, Texas 75202
District Engineer, Galveston	U. S. Army Engineer District, Galveston, P. O. Box 1229, Galveston, Texas 77550
Director, Coastal Engineeering Research Center	U. S. Army Coastal Engineering Research Center, 5201 Little Falls Road, N.W. Washington, D.C. 20016

APPENDIX 3

Single copies of the following publications are available from Publications Branch, U.S. Army Coastal Engineering Research Center, 5201 Little Falls Road, N.W., Washington, D.C. 20016. Since CERC printings are limited in number, the shelf supply is small.

All BEB and CERC publications are available from the Clearinghouse for Federal Scientific and Technical Information, 5285 Port Royal Road, Springfield, Virginia 22151. The price is $0.65 for microfiche or $3.00 for a hard copy. Request the AD Acquisition Number shown in parenthesis.

TM 101 (AD 150 543)	Dune Formation and Stabilization by Vegetation and Plantings, John H. Davis, 1957
TM 20 (AD 655 260)	Behavior of Beach Fill and Borrow Area at Sherwood Island State Park, Westport, Connecticut, William H. Vesper, 1967
TM 22 (AD 659 341)	Dune Stabilization with Vegetation on the Outer Banks of North Carolina, W.W. Wodehouse, Jr., and R.E. Hanes, 1967
TM 25 (AD 683 491)	The Tsunami of the Alaskan Earthquake, 1964, Basil W. Wilson and Alf Torum, 1968
TM 26 (AD 684 894)	Hurricane Surge Frequency Estimated for the Gulf Coast of Texas, B.R. Bodine, 1969
TM 27 (AD 690 803)	Corrosion and Protection of Steel Piling in Seawater, Laverne L. Watkins, 1969
TM 29 (AD 699 339)	Geomorphology and Sediments of the Nearshore Continental Shelf, Miami to Palm Beach, Florida, D.B. Duane and E.P. Meisburger, 1969
MP 3-59 (AD 699 408)	Hurricane Surge Predictions for Chesapeake Bay, C.L. Bretschneider, 1959
MP 4-59 (AD 699 904)	Hurricane Surge Predictions for Delaware Bay and River, C.L. Bretschneider, 1959
MP 1-64 (AD 440 882)	Concrete Block Revetment Near Benedict, Maryland, J.V. Hall, Jr. and R.A. Jachowski, 1964
MP 4-64 (AD 453 227)	Land Against the Sea, A.C. Rayner, 1964
MP 1-70 (AD 702 902)	Experimental Dunes of the Texas Coast, Bard O. Gage, 1970
R 2-66 (AD 631 519)	Breakwaters with Vertical and Sloping Faces, Thorndike Saville, Jr., William J. Garcia, Jr. and Charles E. Lee, 1966

R 3-66 (AD 631 520)	Factors Affecting Beach Nourishment Requirements, Presque Isle Peninsula, Eire, Pennsylvania, Dennis W. Berg, 1966
R 1-67 (AD 652 025)	Coastal Processes and Beach Erosion, J. M. Caldwell, 1967
R 2-67 (AD 659 170)	Wave Tests of Revetment Using Machine-Produced Interlocking Blocks, Jay V. Hall, Jr., 1967
R 4-67 (AD 659 172)	Variations in Groin Design, Dennis W. Berg and George M. Watts, 1967
R 1-68 (AD 672 613)	Surf Observations Along the United States Coasts, J. M. Darling, 1968
R 2-69 (AD 697 531)	Prototype Investigation of Stability of Quadripod Cover Layer, Santa Cruz Harbor, California, O. F. Weymouth and O. T. Magoon, 1969
R 3-69 (AD 697 532)	Creation and Stabilization of Coastal Barrier Dunes, R. P. Savage and W. W. Wodehouse, Jr., 1968
R 1-70 (AD 702 003)	Shallow Structural Characteristics of Florida Atlantic Shelf as Revealed by Seismic Reflection Profiles, E. P. Meisburger and D. B. Duane, 1970
R 2-70 (AD _____)	Sand Inventory Program, David B. Duane, 1970

The following is available from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 for $3.00 postpaid in the United States, Canada, Mexico, and some Latin American countries. The price postpaid to other foreign countries is $3.75.

Technical Report 4	Shore Protection, Planning and Design, 3rd Edition., Coastal Engineering Research Center, 1966., Catalog No. D103.42/5:4

Wrightsville Beach, N.C., after completion of beach restoration and hurricane protection project.

63-902 O - 71 - 39

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

ECONOMIC FACTORS IN THE DEVELOPMENT OF A COASTAL ZONE

(A report prepared for the National Council on Marine Resources and Engineering Development)

September 1970

"This study was financed by a contract with the National Council on Marine Resources and Engineering Development, Executive Office of the President. However, the findings, recommendations, and opinions in the report are those of the contractor and not necessarily those of the Council, nor do they imply any future Council study, recommendation, or position. It is hoped that this study will contribute to the full discussion of problem areas and issues in marine science affairs."

Acknowledgements

This report was supported by the National Council on Marine Resources and Engineering Development as part of a project studying the economics of ocean activities. The M.I.T. task group gratefully acknowledges the continuous stream of support and direction received from Dr. Robert Kay of the Marine Sciences Council, the project's director.

This report was prepared by an M.I.T. interdepartmental task group under the direction of Dr. A. H. Keil, Head of the Department of Naval Architecture and Marine Engineering. Technical supervision was provided by a Steering Committee consisting of Professor R.S. Eckhaus, Professor C. L. Wilson, and Professor R. C. Wood. Principal authors were Professor J. W. Devanney III, Mr. E. Derbes, Professor William Seifert and Mr. W. Wood with contributions by Professor E. Frankel, Professor L. Thurow, Mr. J. Lassiter, and Mr. P. Taborga.

A large number of governmental and academic authorities have reviewed earlier drafts and provided substantial comments. Although it would be infeasible to name them all, we would be particularly remiss if we failed to acknowledge the help of Col. W. McGuiness, U.S. Army Corps of Engineers, Mr. Garfield of the Bureau of Outdoor Recreation, and Dr. Milton Johnson of E.S.S.A.

We would also like to acknowledge the help of the staff of the New England Marine Resources Information Program at the University of Rhode Island. This is not to imply that these individuals or the organizations they represent are necessarily in agreement with the results of this study for which we alone are responsible.

TABLE OF CONTENTS

ECONOMIC ASPECTS OF OCEAN ACTIVITIES
VOLUME II

ECONOMIC FACTORS IN THE DEVELOPMENT OF A COASTAL ZONE

Chapter		Page
I.	INTRODUCTION AND SUMMARY	1
II.	THE ECONOMICS OF THE DEVELOPMENT OF A COASTAL ZONE	9
III.	EXEMPLARY COST-BENEFIT ANALYSIS	60
IV.	REGIONWIDE DEVELOPMENT STRATEGIES	93

Appendix A	Alternative Development of Hull
Appendix B	The Pilgrim Power Plant
Appendix C	Strategies for Handling the Demand for Oil in New England

CHAPTER I

INTRODUCTION AND SUMMARY

Preamble

Currently before the Congress, there are a number of bills relating to the management of the coastal zone.* Recently proposed legislation meeting this description includes S2802, S3183, S3554, S3460, HR13247, and HR14845. These bills are in part a manifestation of the increasing dissatisfaction with the present means of allocating the coastal zone which operates essentially through the private market modified by local zoning and taxation policies. The majority of these bills provide for federal support for the establishment of state coastal zone authorities with broad ranged decision-making powers meeting federal standards. The bills differ primarily with respect to the federal agency to which the federal responsibility for the coastal zone will be assigned.

The purpose of this report is not to evaluate the respective merits of these bills or even of state coastal zone authorities per se, but to make three fundamentally important points relating to the future management of the coastal zone:

1. To develop the reasons for and the situations in which the private market will operate to allocate the coastal zone in a manner which is inconsistent with the values of the economy:

2. To develop the reasons for and the situations in which local control will operate to allocate the coastal zone in a manner inconsistent with the values of the economy.

---

* For the purposes of this report, the term "coastal zone" refers to the land/sea interface including not only the narrow strip on either side of the shoreline, but also the hinterland and the offshore waters insofar as they affect each other. This definition is unsatisfactorily circular. In actual allocation problems, the definition of what is and what is not the coastal zone is contingent upon the problem at hand. If the problem is the provision of a recreational beach, then a rather narrow definition may be used. If the problem is the establishment of a containerport, the relevant hinterland may extend a thousand miles inland. While we find the more concrete definitions such as those used by the Committee on Multiple Uses of the Coastal Zone (the continental slope to a line joining the heads of estuaries) as useful guidelines, in an actual analysis they must necessarily be violated and reference made to the above general principle.

3. To argue that the fact that the present system can be expected to operate inefficiently in many coastal zone situations is a necessary but not sufficient condition for the establishment of more broad-based decision -making bodies. The proponents of such measures must not only argue that the present system is inefficient--an argument which this report attempts to make precise--but also that the decisions emanating from the more broad based body will be more consistent with the economy's desires than the present decisions, despite the fact that this body is necessarily further removed from the discipline of the market and from the localities which will be most affected by its decisions. The latter point is much more difficult to make then the former and the report suspends judgment on its general validity.

The report does tug down some principles by which such a body should operate. The report emphasizes that the responsibility of such a body is not to impute its own values (the values of the individuals on that body) to coastal zone decisions, but rather to attempt to discover what the values of the economy served are and then to be consistent with these values. The practical means for implementing this philosophy, cost benefit analysis, is briefly outlined and its application to coastal zone decisions explored in some detail.

This application and exploration takes place in part through the investigation of four specific examples of coastal zone problems:

(a) The provision of a recreation facility in Boston Harbor,
(b) The redevelopment of the coastal town of Hull, Massachusetts,
(c) The location of a nuclear power plant near Plymouth, Massachusetts,
(d) The establishment and location of a refinery complex in Maine and the associated oil distribution problem.

All these problems are taken from the coast of New England north of Cape Cod, an area we have termed the Northern New England Coastal Zone. This geographic specialization necessarily introduces a somewhat local flavor to parts of the study. However, the problems span a representative spectrum of coastal zone allocation decisions, and we believe that the principles developed through these investigations, if not specific results, are generalizable.

It should be emphasized that this report is aimed at coastal zone decision-makers, whether federal, state, or local, many of whom will have had little or no exposure to the principles of efficiency in resource allocation. Experienced practitioners of cost-benefit analysis will find little of methodological or theoretical interest herein.

They may note with interest:

a. Our emphasis on the explicit inclusion of uncertainty within the analysis using subjective probabilities;

b. Our uncompromising position with respect to secondary (our term is "parochial") benefits, especially from the point of view of the framer of federal policy toward the coastal zone.

The core of this report consists of Chapters 2,3, and 4. Chapter 2 outlines the economics of the coastal zone in the abstract, defines the concept of economic efficiency (makes precise the sense in which an investment or allocation can be said to be consistent with the values of the economy),points out the mechanisms by which the private market can fail to allocate the coastal zone efficiently and their relative importance, introduces the concept of parochial benefits,* and outlines how local control can sometimes operate to produce allocations which are more inefficient than the private market by overcounting of benefits to the locality which are balanced by disbenefits accruing outside the purview of the local authority. Finally, Chapter 2 considers problems introduced by the fact that the decision-making body can almost never predict the future upon which the desirability of their alternative investments depends with certainty, and introduces methods for incorporating this uncertainty within the cost-benefit analysis.

Chapter 3 illustrates the practical problems involved in the application of cost-benefit analysis to the coastal zone and some of its limitations through the investigation in some detail of a particular coastal zone problem, the development of a particular island in Boston Harbor for recreation. This alternative is analyzed from start to finish (with the help of some heroic assumptions about cost) both as a pedagogic device to illustrate cost-benefit analysis to those unfamiliar with it and as a means for developing the limitations of this method and showing how it must be combined with informed judgment in actual decision-making.

* In the literature, effects which we term"parochial benefits" are generally called "secondary benefits." However, our concept of parochial benefits is somewhat more limited than that ordinarily connoted by secondary benefits, hence the introduction of a new term. Parochial benefits refer to the benefits associated with the expenditures on the inputs to an investment and the respending of these expenditures.

Chapters 2 and 3 are based on a project by project type of analysis. Chapter 4 attempts to illustrate how such piecemeal analysis might be integrated into region-wide coastal zone development, pointing out that project by-project analysis can result in significantly inefficient suboptimization unless such integration is imposed. Chapter 4 also discusses alternative zoning and taxation plans for implementing regionwide development strategies.

A guiding philosophy of this effort has been that it is impossible to develop useful economics in a vacuum. Therefore, we have investigated a number of specific coastal zone problems in addition to our exemplary cost-benefit analysis. Three of these investigations are outlined in Appendices A,B, and C.

Appendix A is the study of recent decisions made by the coastal town of Hull, Massachusetts, which occupies a peninsula jutting into Boston Harbor and contains one of the best beaches on the northern New England coast. This study is not really a cost-benefit analysis. It is a case history of how coastal zone decisions are actually made rather than a normative example of how they should be made. This study illustrates how coastal zone decisions are viewed from the locality involved, indicating that the decisions which are made generally have nothing to do with economic efficiency, private market or otherwise, but are based almost entirely on the marginal effects of the proposed new development on the property taxes of the present residents. Hull is a unique piece of geography whose optimal development could materially affect the social welfare of the eastern Massachusetts region as a whole. This example indicates how decisions of this importance are being made and will continue to be made under the present system.

The second example problem given in the appendices addresses itself to the wisdom of the location of the Pilgrim Power Plant, a 655 megawatt nuclear installatinn presently under construction on lightly-developed shore-line south of Plymouth, Massachusetts. This effort attempts to assay the external costs or benefits associa-ted with the plant's thermal discharge, and the effect of an industrial development on surrounding residential properties. This example was chosen because projections indicate that power generation will place rapidly-escala-ting demands on the shoreline in the not too distant future.

Our on-site investigation of the external effects associated with the plant immediately brought out the importance of parochial benefits to the local residents, pointing out once again that geographic localization of transfer payments is a major determinant of present coastal zone allocations. At the same time, our analysis of the effects on the marine ecology indicate that these latter effects are unlikely to be significant in this case. We caution against generalization of this result for it in part depends on some rather unique characteristics of Cape Cod Bay, but the analysis does serve to indicate that industrial uses will be part of an efficient allocation of the coastal zone even when nonmarket effects are included in the analysis.

The final example offered is a study of future oil processing and distribution systems for the northern New England coastal zone which is given in Appendix C. The question of the establishment and location of a refinery complex in northern New England is perhaps the single most important decision under active consideration with respect to the northern New England coastal zone. Appendix C points out that, if a refinery is to be built, its location should depend almost entirely on locational differentials in these nonmarket disbenefits. We believe that the refinery question deserves the most intensive sort of cost-benefit analysis in view of its critical effect on the overall development of the northern New England coast. However, no such an analysis is undertaken herein. Appendix C concludes with a comparison of alternative oil distribution systems fornorthern New England with and without a refinery.

While Appendices A,B, and C are, strictly speaking, logically independent of the core argument developed in Chapters 2,3, and 4, we regard them as integral parts of the report and as important as the core in developing an understanding of the practical allocation problems facing the coastal zone.

CONCLUSIONS AND RECOMMENDATIONS

After studying the economics of the coastal zone, this report concludes that conscientious, effective, long-range planning and control of the coastal zone at the state and federal levels will be required if serious misuse of the shoreline is to be avoided. The argument is as follows:

1. The basic premise of this report is that economics in a sense wide enough to cover all significantly important values, both market and nonmarket, can be usefully applied to coastal zone allocation, that is, to the problem of determining that mix of uses of a particular coastal zone which is most consistent with the values of the economy which uses that coastal zone.

2. We take the view point that the amount a person values a good, whether it be a market or nonmarket commodity, can--at least conceptually--be measured by the amount that he is willing to pay for that good under a postulated income distribution. Given this premise the report equates consistency with these values with an allocation of the coastal zone such that there is no change in allocation to which everybody would agree. Such an allocation is said to be economically efficient.

3. This report, after studying the private market as a means of coastal zone allocation, concludes that market mechanisms will result in an allocation of the coastal zone which is seriously inconsistent with these values. The reasons for this misallocation are all the standard market imperfections: transaction costs; undervaluing of collective goods, spillovers, and goods subject to decreasing costs; but they all seem to apply with special force to the coastal zone and they all systematically result in overallocation of the coastal zone to private uses and underallocation of the zone to public uses.

4. This report then examines the political organization which has evolved in part to correct the inefficiencies of the private market with respect to the coastal zone. For the most part, this consists of local zoning and taxation policies under the control of the shoreline communities. The report then points out that this is an inefficient means of allocating the shoreline for, even if each community operates optimally within its own confines, the total shoreline allocation will be suboptimal, due to lack of consideration of alternatives in which one community specializes in a certain shoreline function while another specializes in some other.

5. The report goes on to argue that not only will local planning fail to result in those corrections to the private market results which would make the coastal zone allocation efficient, but, even more importantly, they

will often result in allocations which are worse than the private market results. Whenever a local board is faced with a development proposal, its first thought is toward the secondary or parochial benefits of the project: the effect on local payrolls and retail earnings, broadening of the tax base, all those effects which from the point of view of the project and the economy are costs. This report argues that these parochial benefits are almost always not net benefits from the point of view of the entire economy, but rather transfer payments from the rest of the economy into the goegraphical locale of the project. To put another way, the same parochial benefits would accrue wherever the money which must be invested in the project was spent. Thus, from the point of view of the economy as a whole, these parochial benefits are usually a wash. Yet, with these wash benefits which are quite real to the local community, an aggressive developer can obtain zoning variances, tax abatements, etc. Given parochial benefits, the local community is in no position to bargain with the large-scale developer. If the development is large enough, an investor can whipsaw an entire state or region in this manner. The question of the location of a refinery in New England may be a case in point.

6. Given the inefficiency of the private market with respect to the coastal zone and the inefficiency of local control, the only feasible alternative appears to be control at the state level with some federal influence to prevent parochial benefits from being used against an entire state. We strongly support the Stratton Commission's recommendations concerning the establishment of state coastal zone management authorities.

7. However, the establishment of such bodies implies some rather heavy responsibilities. Once the discipline of the private market is abandoned, coastal zone analysis requires conscious economic analysis,for it is not enough to show that the present system is seriously suboptimal. One must also argue that the proposed changes in the allocation process will result in coastal zone usage which is more consistent with the economy's values than the old, a much harder job.

8. Insofar as coastal zone allocation can be regarded on a project-by-project basis, the methodology for implementing this conscious economics is cost-benefit analysis. Unfortunately, the present state of the art with respect to cost-benefit analysis and the coastal zone leaves much to be desired and, until a state coastal zone authority can reliably determine the use of the coastal zone most consistent with people's values, it cannot promise to

do much better than the private market or local political entities.

9. A case in point is the treatment of uncertainty. No one would claim that we can predict with certainty what the future effects of our present development in the coastal zone will be, or how we will value these effects, or what technological alternatives will be available to us in the future. However, uncertainty is rarely considered explicitly in present cost-benefit analysis. This is particularly crucial in the situations where the costs of being wrong vary greatly with the possible alternatives. An example is the development of marshland. If the marsh is developed and later undeveloped marshland turns out to be very valuable, then the costs of transferring back to marsh are quite high. If the marsh is not developed and turns out not to be very valuable, it can then be developed and the only loss is the differential in benefits in the interim. On the other hand, the economy cannot use uncertainty as an excuse for doing nothing. This report outlines how uncertainty can rationally be included in coastal zone, cost-benefit analysis.

10. Another problem with locational cost-benefit analysis is that, if performed too narrowly, seriously inefficient suboptimization can occur. The problem is to approach coastline allocation comprehensively while, at the same time, retaining analytical feasibility. Given the compromises that must necessarily occur, the results of cost-benefit analysis must be used with some judgment.

11. In summary, with respect to the coastal zone, we can conclude that:

a. The private market cannot be expected to operate efficiently, local control won't work due to overcounting of parochial benefits, so some form of state and federal action with respect to coastal zone development is necessary.
b. If this planning and control is to be beneficial, the state and federal agencies must have means for determining what is an efficient allocation of the shoreline.
c. Properly developed and applied cost-benefit analysis will furnish these means for many, but not all of the decisions which will have to be made. This report is a preliminary effort at this development and application.

CHAPTER II

THE ECONOMICS OF THE DEVELOPMENT OF A COASTAL ZONE

The Basic Problem

The problem is how to allocate an essentially fixed supply of coastal zone resources among the growing public and private demands for coastal areas. The historical answer has been to allow supply and demand to determine the usage of coastal areas through the price mechanism--the use which would pay the most for the property obtained it. Zoning provisions, public ownership, and tax laws have all had an impact on the market results, but the current allocation is essentially the result of private market operations. Increasingly, these results are being called into question. This dissatisfaction requires some explanation, for it is not difficult to demonstrate that the allocation of resources resulting from competitive market operations can have some rather attractive properties.

Before we can make any substantive statements about how society should allocate the coastal zone, we will have to establish a frame of reference, a basic set of assumptions about society's goals, about what is good and what is bad, with which assumptions we desire our coastal zone decisions to be consistent. It is the purpose of this section to exhibit the set of assumptions about social values with which we will operate in this report and to contrast this set of assumptions with some of the other possible viewpoints that one might take.

Some Basic Considerations Regarding Social Choice and Public Investment

After the inevitability of death, perhaps the most pervasive, the most basic fact of life for both an individual and society is that neither can have as much of everything as he or it desires. At any point in time the amount of all types of resources--land, minerals, water, air, machines etc.--is fixed. This basic limitation implies that a society cannot have all it wants of everything. It must forego some goods in order to obtain others.

The term <u>good</u>, in this context is to be interpreted in its original sense to mean anything desirable whether it be a material good (a physical commodity), a psychological good, an esthetic good, or whatever. Thus, air quality or esthetic architecture is a good in this context as long as more is preferred to less <u>everything else being equal</u>. (Note that without loss in generality we can

define all non-material goods in question in a positive sense. That is, we will talk in terms of air pollution abatement or water quality rather than level of pollution).

However, there is one important difference between the typical material good and the typical non-material good which we must keep in mind from the onset. Most material goods have the characteristic that the use or consumption of a unit of the good by one person effectively prevents someonw else from consuming the same unit of that good. On the other hand, many non-material goods such as clear air or beautiful scenery can be consumed communally. One person's enjoyment of the good does not prevent, or often even diminish, the ability of the good to be enjoyed by another. We shall call goods which fall into the first category private goods those which fall into the second, collective goods, and will have cause to refer back to this distinction in the future.

For now the basic point remains, in terms of the underlying limitations on our set of resources, it is clear that all types of goods, both private and collective, compete with themselves and with each other for an economy's resources in the sense that only certain combinations of all goods are attainable given the fixed set of resources. This set of attainable combinations of goods is generally represented by the production possibilities surface which is defined by

$x_j(x_1, x_2, \ldots, x_{j-1}, x_{j+1}, \ldots x_N)$ = maximum amount of jth good attainable given that all the other goods are fixed at levels $x_1, x_2, \ldots, x_{j-1}, x_{j+1}, \ldots, X_N$.

It should be clear that this definition is symmetric in the x_j's and generally the production possibilities surface is represented implicitly in the following symmetric form.

$$T(x_1, x_2 \ldots, x_N) = 0$$

The production possibilities surface divides the space

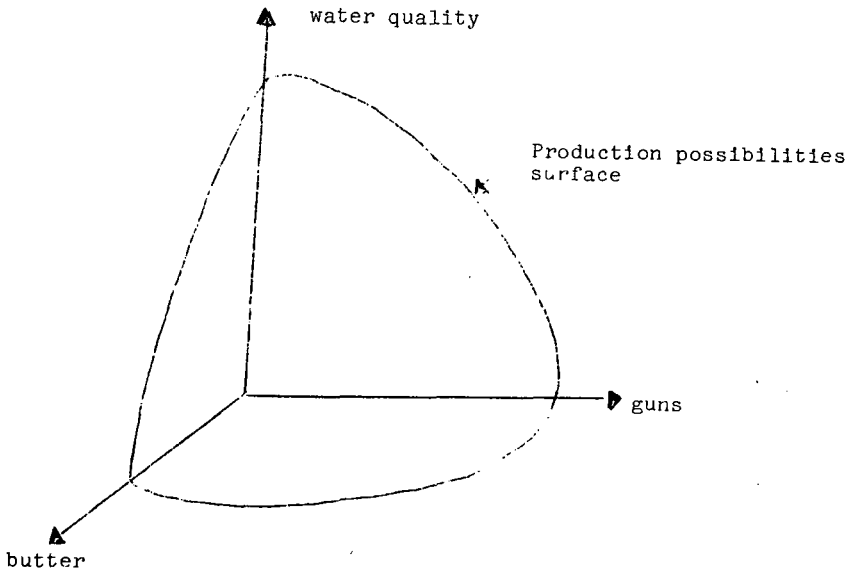
of all combinations of goods into three mutually exclusive subspaces.

$$T(x_1,x_2,\ldots,x_N) < 0$$

$$T(x_1,x_2,\ldots,x_N) = 0$$

$$T(x_1,x_2,\ldots,x_N) > 0$$

Figure 2.1 illustrates a possible, three dimensional production possibilities surface.



Points inside the surface represent wastefull combinations of butter, guns, and water quality.

Points on the surface are wastefree

Points outside the surface are infeasible

FIGURE 2.1 A HYPOTHETICAL PRODUCTION POSSIBILITIES SURFACE FOR A THREE GOODS ECONOMY

In the first case, the combination of goods is such that the society could have more of at least one good without giving up any of another good, or equivalently the society could have more of every good.* We shall call such a combination of goods wasteful. In the second case, the combination of goods is on the production possibilities surface and the society cannot have more of any good without giving up a positive amount of some other good (s). In this case, the economy will be said to be wastefree. In the final case, the combination of goods is not attainable by any arrangement of the resources of the society and this combination is said to be infeasible.

This very basic breakdown points to two interrelated but distinguishable subproblems within the general problem of determining how a society's resources should be allocated:

A. Problems involved with moving from a wasteful to a wastefree allocation which offers more of all goods then the wastefull.

B. Problems involved in choosing from among the wastefree allocations, from among the points on the production possibilities surface.

Problem A is clearly a technical problem because everybody will agree that the move is beneficial. This technical problem involves identifying a change in allocation that is better or at least as good in every dimension as the present allocation. At the project level, this is the domain of cost-effectiveness where one specifies the levels of all dimensions except one and searches for that alternative which maximizes the remaining dimension,generally termed effectiveness. Thus, no conceptual problems attend cost-effectiveness type problems. However, such analysis, should not be disparaged: there are many more wasteful proposals around than wastefree and the determination of the wastefree ones (more precisely, the ruling out of the wasteful ones) is almost always useful and rarely trivial.

However, the remainder of this section and the bulk of this report will be addressed to problem B and means of choosing one among the set of wastefree allocations which somehow is to be more preferred by the society

* As long as more of one good implies less of another good along the production possibilities surface, if one can increase one good while holding all others constant, one can increase more than one good without giving up any of the other goods.

63-902 O - 71 - 40

than others.

Essentially, four different methods for making this difficult choice have been suggested in the past. We might characterize them as follows:

1) The dictator,
2) Intrinsic suitability,
3) Representative political consensus,
4) Willingness-to-pay.

The basic problem here is that in order to choose between the points on the production possibilities surface, one must impute a set of values to this surface. One must, for example, decide whether a society values 100,000 tons of steel more than a 10% decrease in air pollution, one car more than ten TV sets, etc., for all combinations of such commodities on the production possibilities surface. This would be a difficult problem for an individual, let alone a society whose purpose is to somehow reconcile the differing value systems of each individual.

1) The first of our methods, which we have called the dictator, in which an individual or a small cohesive group unabashedly equates its own values with those of the society is historically one of the most popular methods and counts among its attempts at allocation some of the developments of which man is most proud. It has had its failures and does have its disadvantages. The most basic one is that it begs, albeit in a rather effective manner, the basic problem of reconciling individual value systems. If a society accepts one of a number of ethical precepts about the value of the individual, this at-times-attractive possibility is no longer open to it. Therefore, since we are attempting to shed light on the coastal zone allocation problem in a country which has made an at least theoretical commitment to the individual, we will consider it no longer. Perhaps the most important present-day proponents of this system in the USA are certain of the more architectural schools of thought in urban planning.

2) An allocation scheme for land which has achieved some prominence in the last few years is based on the idea that, on the basis of natural geological and ecological characteristics, one can identify certain areas as intrinsically suitable for certain purposes and other areas as intrinsically unsuitable for other purposes. Having made this identification, one implements zoning procedures consistent with it. This viewpoint, which

underlies the arguments of many conservationist groups, has been most fully developed by McHarg, reference(1).

This philosophy raises questions of how one determines intrinsic suitability and, more basically, if one bases development decisions strictly on natural characteristics, one may find, for example, that all of Oregon is intrinsically suitable for recreation but none of Nebraska. However, it is not clear that zoning provisions implementing this finding would lead us to the allocation which would be most consistent with society's values, however defined. Even more importantly, this approach begs the hard questions which are precisely the issues on which the decisionmaker needs the most help. For example, one may determine that Machias Bay in Maine is intrinsically suitable for preservation and wilderness recreation (it is an unusually beautiful bay which is probably unique on the East Coast with respect to lack of previous development) and also that Machias Bay is intrinsically well suited to oil transhipment (it is unique on the East Coast in being able to handle tankers of greater than 80 foot draft within 1/4 mile of shore in sheltered water with direct access to the sea).

In actual practice, this scheme, at least as developed by McHarg, is applied very flexibly, leaving a wide range of alternatives open. In short, pushing this idea very hard leads to some rather strange allocations; insofar as the idea is not pushed hard, it begs the basic question and becomes a useful adjunct to allocation rather than a means of determining this allocation.

3) Some form of representative political concensus, based directly or indirectly on the ballot, is practiced presently in a large part of the world. Such a process would be strengthened and formalized under present legislative proposals with respect to the coastal zone.

The ballot in all its forms has its share of problems both practical (keeping representatives' values consistent with constituents', providing a spectrum of alternatives) and theoretical (tyranny of the majority, indivisibility of the vote). Attempts to be precise about the manner in which a representative process is or can be made to be consistent with the values of the society represented have either been unpersuasive or

productive of only negative results (e.g. the intransitivity of democratic choice).(2) This report will attempt no such analysis of the political structure of either the representative process in general or the rather unique political structure of the Northern New England Coastal Zone in particular; but rather take as obvious:

a) The political structure we are dealing with does have the ability to take substantial discretionary action--to commit resources, regulate markets, and transfer income.

b) This political structure wishes to make those decisions which are somehow consistent with the values of the society it represents.

c) And that this political structure needs help in determining which of its alternatives merit implementation under the above criteria.

In short, this report is going to accept the representative consensus view of life in some ill-defined sense and to be concerned with making this definition more precise only in so far as resource allocation is concerned.

4) This brings us to the fourth valuation scheme which we will call 'willingness-to-pay'. Under this set up, each individual is regarded as the sole judge of his own welfare. Furthermore, each individual is assigned control (private property rights) to a certain amount of resources (land, capital and labor) and he is free to exchange these resources for any of the goods produced by the society according to any mutually agreeable bargain with the controllers of these goods. Generally, this exchange is facilitated by a surrogate good called money which has the advantages of being universally accepted, divisable, easily transferable, etc. in which case the individual's control over his set of resources translates itself into income.

Given this setup one can rank a person's preferences according to his willingness to pay. Thus, if a person is willing to pay $1.00 of his income for a hamburger and 50 cents for an object d'art, then by this scheme we presume he values the hamburger more than the piece of art, and that if he obtains the hamburger he is better off than if he obtains the work of art. Thus, we are assuming that all the values a man has for a good whether it be a material good, an esthetic good, or a psychological good can be quantified by finding

out how much of other goods he would be willing to forego to obtain the good in question. Note that this valuation scheme applies to collective goods as well as private goods. Thus, if someone claims he values a certain decrease in air pollution more than a TV, yet a group is formed which with the aid of $100 from him could achieve the increased air quality and the man spends his $100 on the TV, we regard his claim as, at best, meaningless.

Given that one accepts this valuation scheme, the problem is to find that public policy which tends toward that configuration of the coastal zone which is in some sense consistent with the values so measured. We shall put off for just a moment discussion of what we mean by "consistent with willingness-to-pay" to discuss a very important limitation on this valuation scheme.

In order to use this scheme, one must accept or assume a distribution of income, for willingness-to-pay clearly depends on income. Every change in the distribution of income will, in general, alter the amounts that people are willing to pay for various goods and, however we define consistency, if we are to be consistent with the new set of values, the allocation must change accordingly. Thus, if one does not regard the present distribution of income as desirable, one cannot be expected to be happy with the allocation consistent with the present "willingness-to-pay".

The acceptance of an income distribution then is a critical enabling hypothesis underlying all the analysis that follows. Therefore, it bears some investion. First of all, it is patently clear that society is not completely satisfied with the present distribution of income. The existence of charitable organizations, a progressive income tax, Social Security and welfare, public housing, and myriad other existing and proposed programs are manifestations of the society's dissatisfaction with the present income distribution. On the other hand, if one doesn't accept the present income distribution, then one is faced with the problem of choosing society's desired income distribution on the basis of very little information, if indeed the concept has existential meaning.

Generally, our approach will be to work with the present distribution of income, not withstanding the above mentioned clear indications that society does not regard this distribution with complete favor, on the following grounds:

1) Despite the above, society does not appear to be prepared to opt for a radically different distribution of income.

2) If a different distribution of income is desired, it is generally more efficient to effect the desired income transfers through lump sum payments or, failing that, through differential taxation of income, then through income transfers via public investment or direct interference with markets.

3) The most important reason for accepting the present distribution of income is that this hypothesis, despite its untenability in the strict sense, will prove useful. That is, as so often happens in science, we shall see that provisionally accepting a hypothesis known not to be completely true, will allow us to proceed with analysis which will reveal important facets of a problem which facets would be difficult to exhibit without this assumption.*

4) Finally, we will not push this hypothesis too hard. In cases which the acceptance of the present distribution of income is clearly inappropriate, such as in the provision of an intown beach aimed at ghetto poor, we will revert to analysing a range of possible sets of willingnesses-to-pay resulting from a range of possible income distributions, obtaining for each such set of values, the system which is consistent with that set of values. The resulting analysis will not uniquely specify which is the indicated alternative, but rather will serve to rule out all those alternatives which are not consistent with any reasonable set of values. The community or its representatives will somehow have to decide among the remaining alternatives. As we shall attempt to demonstrate in Chapter III, this ruling out process can be of a much more value to the relevant decisionmakers in difficult situations than the specification of a single "optimal" alternative in simpler situations.

We shall have cause to return to the problem of the specification of the income distribution in the sequel, for now let us at least provisionally accept the present distribution of income and examine in what sense we can identify a particular configuration of the

---

* The alternative is to revert to a vague discussion of social welfare, which at best is non-productive and at worst leads to such antinomious concepts as "the greatest good for the greatest number", or "maximum regional income with minimum pollution."

economy--a particular set of goods produced--as consistent with the resulting willingness-to-pay.

Pareto-Efficiency

Consider a point on the production possibilities surface, some wastefree combination of goods. Now consider a proposed change in the combination of goods produced. Some people will be willing to pay to see this change occur. Some will be willing to pay to avoid the change. If the people who desire the change are willing to pay more than people who oppose it, say a total of A versus a total of B with A > B then, if we make the change and at the same time take B from the proponents of the move and pay it to the opponents, then, after making the change, the opponents will regard themselves as well off as before --they have suffered the disbenefits of the change but have been compensated by the amount they value these disbenefits--while the proponents will consider themselves better off then before for they regarded the change as worth A and received it for only B. Or we can make the change and take some amount of income between A and B from the proponents and give it to the opponents in which everybody will regard themselves as better off than before in terms of their own willingness-to-pay. Everybody would be willing to pay a positive amount for the change and compensation. Thus, accepting individual willingnesses-to-pay as a valuation scheme, such a change is an improvement in an unambiguous manner Everybody finds themselves at least as well off as before (by their own values). If everybody's lot could be improved, in this manner, the orginal position could not have been consistent with maximum social welfare defined in terms of willingness-to-pay.

With this argument as a hint, let us postulate the following criterion for the narrowing down of the set of points on the production possibilities surface which we can regard as consistent with the postulated income distribution and the resulting individual willingness-to-pay.

A COMBINATION OF GOODS CANNOT BE CONSISTENT WITH WILLINGNESS-TO-PAY UNLESS IT IS IMPOSSIBLE TO MAKE A CHANGE IN THE COMBINATION OF GOODS PRODUCED, WHICH MAKES AT LEAST ONE PERSON BETTER OFF AND NONE WORSE OFF.

While this criteria appears to be pleasantly non-controversial in that it seems to avoid comparing one person's welfare with anothers it also appears woefully

incomplete. Most of the interesting real world choices leave some people better off and some worse off and the criterion does not seem to speak to these choices. However, appearances are deceiving, a basic result of micro-economic theory is that once we have accepted an income distribution and the possibility of compensation, the above criteria is quite specific and in fact there is an operationally unique configuration of the economy which is consistent with the above criterion and the postulated income distribution. (3). Our criterion appears to avoid interpersonal comparisons but, in fact, such comparisons are implicit in the acceptance of the income distribution.*

Social judgments based on the above criterion are said to be Paretian and the configuration of the economy such that no one can be made better off without someone being made worse off is said to be the Pareto-efficient (or sometimes, just plain efficient) configuration associated with the postulated income distribution.**Thus, if we are going to follow the above criterion, we must specify an income distribution and then attempt to develop public policy which encourages the Pareto-efficient configuration of the Coastal Zone associated with the specified income distribution.

Pareto-Efficiency and the Private Market

Not only is there a unique configuration of the economy which is consistent with willingness-to-pay in the manner outlined, but further, in so far as there are properly functioning markets for all goods valued by the society, then it can be shown that the price mechanism operating through these markets will tend toward the Pareto-efficient configuration of the economy consistent with the present income distribution.

* As we shall see, in practical applications this specificity is more than a little misleading, as it turns upon the possibility of compensation for all persons adversely affected by a particular change. In the real world this compensation may not be feasible for a variety of political and economic reasons. However, this "theoretical" specificity does serve as a firm foundation upon which we can make judgments about public policy concerning the coastal zone if we accept willingness-to-pay as a yardstick.

** A completely equivalent and slightly more concise way of wording this is to say "it is impossible to make everybody better off", for if one can make one person better off hurting nobody, one can take some of the increase of goods from the person made better off and distribute them among all others.

(3) In essense, this is a result of the fact that, in a price system, he who is willing to pay the most for a good obtains it.

Thus, given this report's provisional acceptance of willingness-to-pay and this characteristic of the market system, if there were properly functioning markets for all coastal zone goods, we could end the report here. In actuality, this is only the beginning, for throughout the economy and in particular in the coastal zone, there are many goods for which properly functioning markets do not exist. In fact, there are a number of goods of increasing social importance for which no recognizable market exists. Therefore, our task is just begun, and we turn to a more detailed investigation of those areas in which the private market system will not be consistent with willingness-to-pay.

Private Market Failures

The requirements for a private market economy operating through the price system to tend toward Pareto efficiency include:

A) Private access to all goods.
B) The amount of other goods foregone due to the production of a unit of a particular good must not decrease with the increased level of output of the good in question.
C) There exist markets for all possible goods including side effects. It is not possible for a producer and a consumer to, as a result of their production and consumption, decrease the goods enjoyed by a third party without the third party obtaining compensation.
D) The provision of the information required to effect the agreements and bargains through which the private market operates does not itself consume resources.

Unfortunately, these conditions are often violated throughout the economy and particularly along the coastal zone where development is intense and the social and ecological interrelationships of various activities are critically important and where, for at least the offshore portion of the coastal zone, private property rights are difficult to establish. In the following paragraphs we review some of the situations in which we can expect the private market to operate inefficiently in the coastal zone.

In so doing, we shall find it useful to adopt the following definition. The cost of a unit of particular good is the maximum amount the people in that society would be willing to pay for the goods foregone by the society in order to obtain that unit of the good in question. In terms of this definition conditions B and C can be restated: (B) The cost of a unit of a good must not decrease with increased level of production of that good. (C) The consumer(s) of a particular unit of a good should bear the full cost of the production of that unit.

Notice that this is a technical definition of the word cost which need not correspond to the common usage meaning, roughly, the monetary outlay required to obtain a good. It just so happens that, under willingness-to-pay, in a perfectly functioning price system, the monetary outlay required to obtain a good and the value of the goods foregone due to the consumption of this good are the same. Thus, in so far as our economy is not a perfectly functioning competitive economy, in so far as the above conditions are not met, a situation known as private market failure, we will have to be careful to distinguish between the two different usages of the word cost. In the sequel, when the meaning is not made clear by the context, we shall use the term social cost when we are referring to the first definition and private costs when we are referring to the second meaning.

We shall now consider each of the above conditions in turn.

Collective Goods

The price mechanism will fail to operate in a manner which is consistent with willingness-to-pay when dealing with collective goods. Collective goods differ from private goods in that individuals do not obtain exclusive possession of the goods they purchase; they are not able to exclude others from the use of these goods. The prototypical example is national defense. If one cannot exclude or be excluded from a particular good, then it is rational for each citizen operating individually to refuse to buy a good he desires, forcing others to purchase the good which he then enjoys without cost to himself. Of course, others reason similarly and the good, for which the group as a whole may be willing to pay a great deal, will not be provided. Thus, collective action either through regulation or public investment will be required if the Pareto-efficient allocation is to be obtained in this situation.

In addition to goods which are pure collective goods, i.e. exclusion is impossible, everyone must consume the same quantity, there is a more general and much more numerous class of goods for which exclusion is technically possible but for which the amount of resources (the cost) of obtaining this exclusion is quite high, or society has not found a politically feasible means of implementing this exclusion. Examples include radio and television entertainment, highways, and access roads.

The private market can also fail on the input or resource side due to difficulties in exclusion. One of the most glaring examples of this kind of failure relates directly to the coastal zone. Society has barely begun to evolve a workable form of property rights to certain offshore resources such as the seabed. It has yet to begin to establish any workable form of control of the resources in the water column. This leads to the so-called common pool problem with respect to, for example, fisheries. At present, private property rights can not be established on fish until the fish are caught.

In this situation, there is no incentive to husband the crop. Fishermen operating individually will mine the resources at a higher rate than would be rational if the fish were privately controlled, for each will reason that if he doesn't catch the fish someone else will. In extreme cases, this leads to rapid depletion of a fish stock and the establishment of piecemeal, generally, ineffective, and almost always wasteful attempts at regulating the fishery in question.(4)

In general, then the unaided price mechanism cannot be expected to operate toward a Pareto-efficient configuration when prices in cases where private property rights (exclusion) cannot be established efficiently. On the goods (output) side this leads to underprovision of collective goods by the private market, and on the resource (input) side it leads to overexploitation of those resources for which private property rights cannot or have not been established.

Goods Subject to Decreasing Costs

There is a technical situation which presents a very difficult problem for the private market. When it works, the price mechanism owes its success at establishing Pareto-efficiency in part to the fact that each person is forced to give up the social costs of his consumption

Lighthouse services should be supplied if, and only if, the total amount all the users would be willing to pay for the lighthouse (total savings due to smaller number of shipwreaks and collisions, less delays, etc) is greater than the social cost of constructing and operating the lighthouse. At the same time, the charge to users should be zero since the cost of the additional use is zero. If not, a potential user whose savings resulting from the use of the service is just barely positive would be dissuaded from using the service. Then we would be in a situation where one person (this user) could be made better off (by allowing him to use the service free) while making no one worse off. But no private investor could be expected to devote resources to the construction of the lighthouse if the price of his product must be zero. Hence, collective action is indicated.

The pervasiveness of goods subject to decreasing average costs is often underemphasized. They include not only almost all goods requiring large indivisible investments up to capacity, almost all transportation and distribution services up to congestion, and almost all communication and information transfer services. With respect to the coastal zone, obvious examples are navigation and recreation facilities up to capacity, scheduled shipping services and the provision of terminals for marine transportation, power generation, and undersea oil production. In short, a substantial proportion of the uses to which the coastal zone may be put are subject to decreasing costs which goods will be provided inefficiently (through monopolies or cartels), if at all, by an unregulated free market.

Spillover Costs and Benefits

Perhaps the single most important reason for the rising dissatisfaction with the private market as a means of allocating the coastal zone has to do with spillover effects. Spillovers refer to the effects of one person's consumption of a particular good on people other than those doing the actual consumption. The private market conceives of a series of buyer-seller transactions in which no one other than the buyer and the seller are affected by the agreement that this pair reaches. In actual fact, there are few important economic transactions which can be made today which do not affect a large number of people, albeit often in a diffuse manner. Elbow room is scarce both because of the increase in population in general and because our elbows, magnified and multiplied by modern technology, are bigger and sharper than ever. Before 1900 a man chose to buy and ride a horse and the only third party effects were an occasional dirty shoe.

of a unit of a good in order to obtain the use of that unit. This assures that all goods for which the value of the use is greater to somebody than the value of the resources used in the provision of that unit of a good elsewhere is supplied. A market system also requires that everybody be charged the same price for the same good. (Obviously, all buyers are going to go to the low price source of the good.) Now consider these two facts and the following sort of situation. Let us suppose we have a good in which, given the present set of investments, the costs of supplying an extra unit of that good to a consumer is quite low. These additional costs are called the marginal costs of the unit of the good. It will pay the producer to supply this unit at any price above its marginal cost and in a competitive market the price will be driven down to the marginal cost and all units of the good (not just the additional unit) will be sold at this price. If N units of the good are sold, the revenue to the producer will be $M(N) \cdot N$ where $M(N)$ is the marginal cost. Unless $M(N) \cdot N$ is greater than $T(N)$ the total cost to the producer of supplying all the N units of the good including investment costs, then the supplier will not make the investment required to supply this good. None of the good will be produced. This can happen despite the fact that the total amount that society is willing to pay for this good is greater than the social costs of producing it, some of the buyers may be willing to pay much more than marginal costs for a particular unit of the good.

This dilemma can also be expressed in terms of average costs. The average cost of producing N units is defined to be $T(N)/N$. Thus, the condition that $M(N) \times N$ be greater than or equal to the total costs will not be met if the marginal costs are less than average costs at the level of production called for by the market. It is easy to show that, average costs will be less than marginal costs if and only if average costs decrease with increased output.

In short, Pareto-efficiency requires that all consumers be charged the marginal cost of producing a unit of the good in question. However, if a private investor charges marginal costs in a situation where marginal costs are less than average costs (average costs are decreasing) he cannot recover his investment and the project loses money. If average costs are charged, the project breaks even but the project is underutilized and resources are inefficiently distributed.

The textbook example of this sort of market failure also occurs in the coastal zone. Consider a lighthouse. Once it is build and its light is flashing, additional ships may use the service without adding to the cost of operations--the marginal cost of an additional ship is sensibly zero.

Now a man in a car can add to the discomfort of an entire town. And things promise to become increasingly difficult. The number of possible social contacts and hence occasions for third party conflicts grows combinatorially with population. As for technology, an agreement between an airline and a passenger may soon have the ability to inflict discomfort on a person on the seasurface tens of miles away from the plane.

Some of the most important of these uncompensated third party effects have to do with our use of the environment as a sink for the material and energy flows generated by an industrial society. Ayers and Kneese have pointed out that even our use of the term consumption is misleading.(5) In actual fact, relativistic considerations aside, matter is conserved and not consumed. Material goods are at most altered by our "consumption" of them. Their material substance remains and must either be reused or discharged to the environment. The same thing is true of energy. Generally speaking, the discharge of the residuals to the environment takes place without any compensation to those who are adversely affected by this discharge. This would cause no great problem if the adverse effects were small, as perhaps they were in the past. However, cases are rapidly multiplying which indicate that in many situations our discharges are exceeding the assimilitive capabilities of the environment. As this happens, the adverse effects become very large very fast, especially in view of the fact that many ecological systems exhibit decreasing ability to handle effluents when overloaded. This can lead to an explosively unstable situation.

Given the magnitude and growth of our material flows and the fact that we are beginning to overload natural systems in many situations, it is clear that we can no longer regard these third party effects as "somewhat freakish anomalies" in an otherwise smoothly functioning economic system (6).

We will illustrate by several examples taken from reference (7) , how these third party effects can prevent the market mechanism from functioning in such a manner as to lead the society to a Pareto-efficient economic configuration, that is, to get us into a situation where everybody would be made better off in terms of willingness-to-pay by proper interference with the market mechanism.

Consider the problem of the heating of large buildings. This function presently contributes 30% of the sulphur discharged into Metropolitan Boston airshed. (8) Now, according to the oil used and the amount of treatment employed, more

or less sulphur will be discharged into the atmosphere as a by-product of space heating. The building owner is interested in profits and he will choose that oil and that level of treatment which performs the required heating at least private cost to him. In the absence of public action, the building owner can be thought of as envisioning his use of the atmosphere as a free resource.

Although the use of the atmosphere might be viewed as a free resource by the heater it is certainly not without cost to those residing in the adjoining areas. Not only does sulphur in its various forms contribute to the deterioration of building exteriors and machinery corrosion, it almost certainly has an effect, not yet completely documented, on public health, and may simply be an esthetic bad, in the sense that people would pay to avoid this bad, even if it had no physical effect on men or materials. To the building owner the discharge is free; to society it has a cost. Private cost is not equal to social cost. Yet, we have seen that a necessary condition for Pareto-efficiency is that each member of socity bears the marginal social cost of his actions. In this case, the building owner does not bear the social cost of his actions and hence will discharge more sulphur than he would if he was forced to bear them. The resulting configuration may not be Pareto-efficient. In this case, it may be possible to make at least one person better off and no one worse off through public action. This would be the case if the amounts that those adversely effected by the sulphur in the air were willing to pay to see a certain decrease, exceeded the private cost to the heater of effecting this decrease, for these people would be indifferent between paying this amount and suffering the present level, but the building owner would consider himself better off after accepting the payment and paying the cost of the decrease. The unaided private market will never consider this possibility, for there exists no market through which those adversely affected by sulphur in the air can demonstrate their willingness to pay for less sulphur. In part, the reason for the failure of such a market to evolve is a product of the fact that air quality is a collective good.

The collective aspect of third party effects can be seen more clearly in the next example; the automobile. Assume that an effective automobile smog control device exists. It is obvious that, if consumers demand and are willing to pay for such devices, the automobile industry would develop and sell these devices with no public

prodding. The question is, would the public, acting individually, demand the number of smog control devices consistent with its own willingness to pay for air quality? The answer is no. For a person who was considering whether or not to order a smog control device on his car would reason, quite rationally, as follows. If I purchase the device and everyone else does likewise, then we will have less smog in the city. On the other hand, my individual car can add only a negligible amount to the smog problem so that if everyone else purchases and I do not, I will enjoy sensibly the same air quality and have saved the price of the device. Thus, if everyone else purchases a device, I will be better off if I do not get one. On the otherhand, if no one else other than myself, purchases a device there will be a bad smog problem. However, If I purchase a device the problem will not be noticeably different, since my individual car contributes a very small part of the overall smog and I will be out the money I paid for the device. Thus, if no one else purchases, I shouldn't either. Obviously, the analysis is the same if some people purchase and some do not. In each case, the amount the individual would be willing to pay for the difference in the smog due to the purchase obtains from <u>his own</u> smog control device is less than the price of the device.

Since all potential car buyers will reason in a similar rational manner, the result is that there will be zero demand for smog control devices. The automobile manufacturers will have no motivation to develop and market such a device. This conclusion holds even if--and it is an if--collectively the public would be willing to pay the cost of smog control devices for all cars in order to obtain the resulting air quality. The point is that each prospective buyer of a device suffers only a small part of the pollution cost of his decision not to buy the device. If he is one man in a million man city, he suffers, very roughly speaking, one-one millionth of the pollution cost. Once again private costs do not equal social costs. A third party (the rest of the community) is affected by the decision to buy or not the device but is not party to the exchange.* (Please see next page)

For a third example, consider the problem of pollution of an estuary by sewage emanating from a number of municipalities located on the estuary. For the purposes of discussion, imagine that the entire problem of pollution is

caused by organic material so that treatment which removes the organic material, which otherwise is broken down by biological processes which consume the estuary's oxygen, could solve the problem. (This is not the case. Inorganic fertilizers often are a bigger problem then oversaturation of the oxygen supply.) The now familiar dilemma would act to frustrate a market solution. Each municipality or sewage district would reap but little of its own efforts at treating the sewage, but it would bear the full costs of the treatment. The third parties in the rest of the estuary would not have to bear the costs of the benefits they would perceive from the individual town's investment in sewage treatment. Each individual town would come to the rational decision to not pay the cost of treating its sewage even though all might be better off if all the towns installed such treatment.

In short, wherever there is a spillover or third party effect for which no market exists, the price mechanism may result in an economic configuration which is inconsistent with the society's willingness to pay and public action

This example also points out the futility of appeals to conscience and social responsibility in situations where social costs are not equal to private costs. The more likely the appeal is to work, the less motivation there is for an individual to be persuaded by the appeal. If, due to an appeal a large portion of the population bought smog control devices, the remaining individuals would have no need to be concerned about smog, let alone invest in further reduction of pollution. The futility of such voluntary approaches is well recognized in most of the situations with which we will be involved in this report. The only area where such appeals are still given any credance involves, unfortunately, the single most important example of the divergence of private and social costs, population control, a divergence which is increased not decreased by present public policies. This problem is well treated by Hardin(9). In this report, population is regarded as an exogenous parameter (not influenced by the decisions being analyzed). Unless this very important assumption is made, the objective of being consistent with individual willingness-to-pay has little operational meaning for, if population is a variable, willingness-to-pay can point to policies which lead to large populations with individually small willingness-to-pay.

63-902 O - 71 - 41

through regulation or investment may be warrented.

It is important to note that spillover effects can be positive as well as negative. Some goods have positive effects to third parties in addiion to the private benefits they produce. Education may be an example. It can be and is old privately. It produces many private benefits, but it also produces a set of social benefits in terms of economic growth, political participation, and perhaps social stability. Often, these types of goods are called "merit wants." Since each individual will only consider private benefits when purchasing these types of goods, each individual will purchase too little of these goods when both private and public benefits are considered. Thus, society often provides such goods free or subsidizes them so that individuals will consume more than they would if the private market were allowed to function unaided. Recreation and housing may both fall into the category of "merit wants." With merit wants or goods, your consumption of the good has a positive impact on my welfare level.

Contracting Costs

A fourth type of market failure which pervades the whole economy and which may have special significance for locational decisions involves the problem of contracting costs. Strictly speaking, a private market can achieve Pareto-efficiency only if the social costs of achieving and insuring the voluntary agreements through which the market operates, and of providing the information upon which these agreements should be based, is zero. In actual fact, the costs of achieving such agreements and such information can be quite high and sometimes prohibitive. A significant portion of our national resources is devoted to marketing and procurement, to sales staffs, police, brokers, lawyers, and advertising; and still the quality of the information and the variety of contracts available is often far from satisfactory. The cost of achieving a sale for some retail items can run many times the cost of material, fabrication, and transportation. A primary motive for vertical integration may be reduction in the contracting costs associated with interfirm transfers.

In situations where contracting costs are large, reliance on governmental allocation mechanisms may be more efficient than the use of the market for government need not incur the costs of securing the

consent of all those who would have to be a party to a voluntary agreement. Of course, giving up the test of consent places a heavy burden on government to insure that the proposed allocation would obtain this consent. This is precisely the reason for cost-benefit analysis which is nothing more than a systematic means of estimating whether this consent would be forthcoming.

Contracting costs can enter into locational decisions in a manner which may have special signficance for locational decisions in heavily populated areas such as the coastal zone.

Consider the case of regional development around a large coastal city. For some reason ranging from a unique geographic advantage to "this was where the wagon broke down" development started at this point in space. Once it was started it was socially and economically advantageous for others to locate near the development to attain the social advantages of contact and the economic advantages ranging from decrease in transportation costs to the benefits accruing from the specialization a larger group allows. In time, more firms and more individuals maximizing their own ends, while considering the locational decisions of others as fixed, find that in this constrained situation the best they can do is to locate in and around the point of original development. And development and growth continues. Now there may reach a point where the advantages of further growth (more social contact,more specialization) is balanced by the disadvantages (more congestion, higher cost of transportation, overloading of environmental systems, lack of access to open space). At this point, a group of individuals and firms may be able to do better in terms of their own willingness-to-pay by moving simultaneously to a new location and founding a new community, although it will not pay each to make the move individually (the firms need people, the people need the firms and other people). Of course, such a group could get together voluntarily and move, but the process of getting together is far from costless and a more efficient means of establishing this getting together could be through public action such as the New Towns program in England.*

We shall return to problems associated with the provision of costly information in Chapter IV.

It is far from clear what the importance of this type of hypothesized market failure is. One is tempted to argue that it could be quite large and that a social structure based on a system of smaller, individually focused communities could leave everybody better off than megolopitan sprawl.(10) On the other hand, a wide spectrum of seminal nodes (existing towns) around which such development could occur by individually made decisions, exist--some of these alternatives are being taken advantage of (firms and people do move away from the large city) from which one may argue that most people are not operationally constrained by the locational decisions of others. We shall not attempt to resolve the issues here but will have cause to refer to this type of market failure in the sequel.

Summary of Market Failures

In summary, the price mechansim can breakdown in:

a) the allocation of collective goods,
b) the allocation of goods subject to decreaseng cost,
c) the allocation of goods subject to spillovers,
d) the allocation decisions in which contracting costs are large.

With collective goods, no individual has any incentive to let the government or the market know how much he wants of these different goods and how much in taxes he would be willing to pay to obtain them. Such a revelation would not significantly increase the quantity of goods for which he is forced to pay. With goods whose marginal costs of production are less than their average costs of production, private markets cannot efficiently produce and distribute the goods while at the same time making a profit, or even breaking even. Efficient distribution can only occur if the producer loses money and private enterprise will never undertake such operations.

Spillovers have no effect on market prices yet they are important to welfare. Important negative spillovers include the various forms of material and energy disposal. Since the market does not account for these spillovers, it will produce too much of goods subject to such third party effects. With positive spillovers, the social benefits of having an individual consume some particular good exceed the individuals private benefits.

Other individuals gain something from his consumption. Since any individual will base his private decisions on his private benefits and costs, the private market will not produce enough of these goods. Finally, problems with respect to informational and organizational difficulties in reaching contracts and collective decisions will result in certain possibly superior alternatives not being considered.

It should be clear from our discussion that the above categories are far from mutually exclusive. In fact, a close relationship exists between difficulties in exclusion, decreasing costs, spillovers and contracting costs*. We shall not examine this relationship nor attempt to establish that all private market failures can arise from a smaller, more general set of causes. It is more important to note that all the above type of failures are biased in the same direction.

Although the market may inefficiently distribute coastal areas, it is not randomly inefficient. Basically, the market will allocate too little of the coastline to recreational and other public uses because it does not reflect real preferences concerning collective goods, because they are often subject to decreasing costs and because positive spillovers are not considered. The market will allocate too many resources to those uses with negative spillovers because the social costs of these spillovers are not considered. Generally, this means too many resources will go to industrial uses. Market allocation mechanisms systematically result in the underproduction of public goods and a corresponding over production of private goods. In Galbraithian terms, this is the crisis of social balance. Reliance on the market will yield too many private goods and too few public goods.

For all of these reasons, some method must be found to supplement market allocation mechanisms. Market results must be modified on the basis of further considerations. In so far as the allocation of resources can be accomplished on a project by project basis, the technique for doing this is cost-benefit analysis.

* Demsetz argues that all market failures are explainable in terms of contracting costs. (11)

Cost Benefit Analysis

The problem then is to develop a methodology which will result in an allocation of resources which is consistent with the willingness-to-pay of the individuals in a society in the face of these market imperfections or, more concisely, a methodology which will indicate the Pareto-efficient allocation of resources associated with a specified (generally, the present) distribution of income.

Actually, given our previous rather lengthly spadework and development, or rather assumption, of the definition of what is socially optimal the indicated methodology is rather obvious in fact, it hardly deserves the title "analysis".

Definition:

THE GROSS BENEFIT OF A PARTICULAR INVESTMENT TO AN INDIVIDUAL IS THE MAXIMUM AMOUNT THAT THAT INDIVIDUAL WOULD PAY FOR THE OUTPUTS OF THAT INVESTMENT.

Thus, cost-benefit analysis assumes that all the values a man has for a particular good, whether it be a material good, an aesthetic good, or a psychological good, can be quantified by finding out how much of other goods he would be willing to forego to obtain the good in question. In a market economy we can measure the value of the goods foregone in money terms or dollars which can be thought of as a generalized claim on other goods, from bread to yachts, weighted by their prices. In the words of Dupuit, who first suggested this valuation scheme, "Unless there is willingness to pay, there is no utility (value)." (12) More formally, this valuation scheme is simply an extension of classical consumer theory broadened to include non-market goods.

This is not to imply that one can discover how much people are willing to pay for a good by asking them. For it is the nature of public goods that it is often rational for an individual to misrepresent his desires. If someone is asked how much he is willing to pay for air pollution abatement and he feels that his answer will not affect the amount he is actually charged, it will pay him to over-state his desires to make air pollution abatement more likely. On the other hand, if the

question is aimed at determining how much he is to be taxed, it will pay him to understate his value knowing that differentials in his individual contribution will have almost no effect on the quality of the air. One of the problems then, in estimating the benefits of a public investment, will be to determine the real amounts a person would pay despite this systematic misrepresentation.

In the collective good type of investment with which we will often be dealing, one man's enjoyment of a particular good does not prevent another from enjoying it. In such cases, it is necessary to extend our basic definition to:

THE TOTAL GROSS BENEFIT ASSOCIATED WITH AN INVESTMENT IN A COLLECTIVE GOOD IS THE AGGREGATE OF THE MAXIMUM AMOUNTS THAT EACH INDIVIDUAL USER OF THAT INVESTMENT WOULD PAY FOR ITS OUTPUTS

This is straightforward generalization of the basic premise, to the case where more than one person can use a particular unit of good; however, it emphasizes the dependence on our valuation scheme on the income distribution assumed. Someone earning $30,000 may be willing to pay more for some frivolous luxury than two or three people who earn $5,000 a piece in aggregate are willing to pay for medical care. Yet, it would be a barren ethical or moral system which held that a rich man's values are worth several poor peoples! The ethical and moral problems entailed in our valuation scheme are obvious.*

Another problem, raised by Galbraith, is that in a modern economy peoples' willingnesses-to-pay can be changed by the purveyors of various commodities. Taking the position that peoples' willingness to pay, a variable demonstrably and seriously influenced by advertising, represents in some sense, a persons underlying preferences is more than a little uncomfortable. It represents a clear bias toward those goods with the most effective control over communications media. We shall return to this problem in Chapter IV.

Our second definition is derived from the basic observation that resources, including the coastal zone, are scarce; that is, in using a resource for a particular activity, we are giving up its use in any other activity.

Definition:

THE COST OF ANY ACTIVITY IS THE BENEFIT, AS DEFINED ABOVE, ASSOCIATED WITH THE OPPORTUNITIES FOREGONE DUE TO OUR ALLOCATION OF RESOURCES TO THIS ACTIVITY. WHERE MORE THAN ONE OPPORTUNITY OR SET OF OPPORTUNITIES IS FOREGONE, THE COST IS THE HIGHEST VALUED OPPORTUNITY OR ATTAINABLE SET OF OPPORTUNITIES FOREGONE.

In the literature, this concept is generally called the opportunity or social cost to distinguish it from the monetary outlays required to purchase this activity.*

The basic principle of cost-benefit analysis follows directly from the definition of benefit, cost, and Pareto-efficiency. In fact, it is merely a restatement of the condition for Pareto-efficiency.

THE ECONOMY WILL BE OPERATING PARETO-EFFICIENTLY IF IT PURSUES ALL THOSE ACTIVITIES FOR WHICH THE TOTAL GROSS BENEFIT IS GREATER THAN THE TOTAL SOCIAL COST.

Or, in other words, only if all resources are devoted to their highest valued use in terms of willingness to pay is it impossible to improve the situation in such a way that everybody will be made better off.**

* The adjective "social" in this sentence has no political implications. It connotes that we wish to include the costs to all individuals in society of an activity in our calculations. A more neutral synonym would be "total".

** We would be the last to argue that the above outline represents a complete justification of the foundations of cost-benefit analysis. The purpose of this report is to apply rather than to describe a cost-benefit analysis. Those readers who are interested in a through discussion and justification of cost-benefit analysis rather than the bare outline presented in this section are referred to in references (13),(14), and (15).

Our problem then is conceptually simple: Find out how much people are willing to pay for an particular use or mix of complementary uses of a resource in each of the years during which the resource is committed to this use, find out the social cost through time of each of these uses and allot that resource to the highest-valued use.

Unfortunately, the problem of determining how much people are willing to pay is usually anything but simple, requiring in many cases a great deal of ingenuity, while in others is so difficult that it is not worthwhile. In which case it may be quite useful to perform that analyses over a range of postulated benefits to discover which alternatives are consistent with which assumptions about people's values and to screen out projects which are not efficient under any reasonable set of assumptions about values.

Usually, the problem of determining the opportunity costs of an activity is somewhat simpler for, even in a partially competitive economy, the market price of a resource being employed in a particular use can be a reliable measure of its social costs. However, we shall see that we will have to tread carefully in this regard also.

Present Value

The above base outline of cost-benefit analysis must be modified to take into account people's preferences toward time. The existence of an interest rate indicates that people prefer consumption of a benefit now to consumption of the same benefit later; for unless people preferred a $1.00's worth of consumption now to ($1.00 + i)'s worth of consumption a year from now, it would be impossible to maintain an i% interest rate.* On the cost side, if we delay an investment in, say, a beach for a year, we will be able to use the resources that would have gone into a beach elsewhere for a year. Therefore, the social cost of building the same beach a year from now is less than the social cost of building the beach now.

This section assumes no price changes with time, no inflation or deflation. Thus, the interest rate referred to is the inflation-free interest rate. Inflation does not substantially change the following argument, although it does present some problems in determining what the actual interest rate is in an economy.

The proper technique for handling this effect of time is to evaluate all the benefits and costs which will be experienced in year t, weight them by the factor $D_t = 1/\prod_{m=0}^{t} (1+i_m)$ where i_m is the interest rate in year m which interest rate simultaneously represents the economy's feelings about the relative value of consumption at the beginning and end of year m and the marginal opportunity cost of capital during year m. This weighting procedure is known as discounting. After discounting, all the discounted benefits and the discounted costs are summed over time to yield what is known as the net present value of the project. In symbols the present value equals:

$$V = \sum_{t=0}^{N} D_t \cdot B_t - \sum_{t=0}^{N} D_t C_t$$

where:

V = net present value

D_t = discount factor for year $t = 1/\prod_{m=0}^{t} (1 + i_m)$

B_t = value of benefits experienced in year t

C_t = value of costs incurred in year t. Costs should be measured on a net cash flow basis, capital expenses being realized in the period when they actually occur. The discounting procedure automatically takes care of amorization and interest charges.

N = Lifetime of project

By an extrapolation of the argument for our basic principle it can be shown that, if an economy wishes to operate Pareto-efficiently, projects with a positive net present value should be undertaken; projects with a negative net present value should not be undertaken. If this rule were followed for all possible sets of projects, the country would be achieving economic efficiency.

It would be maximizing the size of the economic pie, given its limited set of resources.* There would be no alternative development pattern that everybody would feel happier with given the postulated distribution of income, and in implementing each of the projects indicated, it would be conceptually possible to compensate those people who are affected negatively by the project sufficiently so that they judge themselves no worse off than before. Proofs for this thesis are given in references(13) and (14).

Choice of Interest Rates

In a perfectly functioning, risk free economy determination of the interest rate to be used in assessing projects would be no problem since such an economy would be able to support only one interest rate which would simultaneously measure peoples' attitudes about consumption now as opposed to consumption in the future and the value of the opportunities for investment in the private sector. (16) In an imperfectly competitive economy such as ours a whole range of interest rates can exist. In such a situation, the problem of choosing an interest rate becomes difficult and sometimes a critically important decision.

In less prosaic, but considerably more fanciful terms, the economy would also be maximizing a variable we might call net national social product which would differ from the standard descriptions of national accounts in that (a) it incorporates and values the spillover costs and benefits associated with the resulting allocation. (b) it incorporates the values that people place on--the amounts they are willing to pay for--public goods which may or may not be provided free of user charge. We do not mean to imply by this digression that the state of the art in cost benefit analysis has presently advanced to the stage where an attempt to actually measure the net social product of the economy would be a useful exercise. It has not. However, consideration of such a concept is useful in clarifying our thinking about what is wrong with present national accounts as descriptions of standard of living. They leave out spillover costs and undervalue public goods. It also says something about the design of "social indicators" a subject that has recently received some attention (17).

The basic principle is that the interest rate in public project evaluation must be the same as that assigned by the private market to the resources and benefits which will be used in and accrue from this project. If a higher rate is used by government, then public projects will fail to be adopted which are more highly valued than the private uses of the resources required for this project; if a lower rate is used, public projects will be adopted where the capital could be used for purposes of private investment or consumption that are highly more valued by the economy. As Baumol puts it, "The correct discount rate for the evaluation of a government project is the percentage rate of return that the resources utilized would otherwise provide in the private market." (18) The rate of return referred to is the before tax rate of return, for taxes are merely transfer payments from the owners of the resource to society in general.

Now due to differing patterns of taxation, legal restrictions, lags in adjustment, differing access to opportunities, resources can earn a different rate of return in different parts of the economy.

Baumol shows that in this case one should use the weighted average of the rate of return for the various sectors of the economy from which the public project would draw its resources. (18) Thus, the appropriate interest rate would be lower if a public project, for some reason drew all its resources from consumers than from the production sector of the economy, reflecting the fact that consumers generally have a lower opportunity rate of return than industrial concerns. If, as is generally the case, the project draws resource from both sectors than a weighted average should be used.

The foregoing discussion ignores two problems, inflation and risk. Inflation is fairly easily disposed of. If inflation is expected to occur during the lifetime of the investment, one has the option of adding the inflation rate to the interest rate (as the private market does) and inflating future costs and benefits according to this inflation rate. Alternatively, one can attempt to determine the inflation free interest rate, the so called real

rate of return, and use constant prices and values in evaluating the costs and benefits throughout the life of the project. The results will be identical whichever method is used. We will generally follow the second course.

The effect of risk on interest rates is the subject of some controversy in the economic literature at present. It has been observed that risky investment generally demands a nominally higher rate of return. In the sequel, it is argued that the bulk of this excess is required in order to to give risky investment the same expected rate of return as riskless investments and thus, in consonance with Baumol's principle ennunciated above, it is this average rate of return which should be used. In so far, as risky investments demand a higher expected rate of return than riskfree(such a difference would be required if investors are risk adverse), there may be an argument for not using the higher expected rate of return as the interest rate in evaluating public projects on the grounds that, even if individual investors are risk adverse, society as a whole should be an expected value decisionmaker. We shall talk about this more later. But for now we merely note that this difference between the expected rate of return required by investors on risky investments and the rate of return on riskfree investments, the so-called risk premium is much smaller than the difference between the nominal rate of return on risky investment and the riskfree rate of return. If this is true, the weighted average return will be approximated by the riskfree rate of return. In this report we will be using constant-base (1970) prices rather than current prices, thus we require the real, pretax rate of return.

With corporate rates of return averaging 10-12% and riskfree private investment opportunities of 8-9%; assuming a 4% inflation rate, leads to appropriate real interest rates of the order of 5 to 8%.

It is not the purpose of this section to pick an interest rate but only to outline the principles by which it should be chosen. We will use 5% in our exemplary calculations. Often it will pay the analyst to calculate the net present value of the alternative

projects over a range of interest rate and display the sensitivity of the alternatives to this parameter. For after all, even if one can determine exactly what the present opportunity cost is of the capital being employed in the project-generally not true-the future interest rates are random variables which cannot be predicted with certainty.

Past government application of cost-benefit analysis has tended to make the mistake of using too low an interest rate, an interest rate considerably lower than the risk-free opportunity cost of capital in the private market. In the past, interest rates as low as 2-1/2% were used. However, it is easy to go too far in the opposite direction. In any event, the special nature of public goods should not be reflected in a low interest rate, but in the measure of benefits. Benefits should be correctly measured and private market evaluations should be augmented. Interest rates should not be lowered.*

Interest rates should only be lowered if society decides that it is consuming too much and investing too little in both the private and public sector , in which case effort should be made to increase both public and private investments to bring the rates of return in both areas down. Thus, it is possible to argue that the interest rate reflects too high a rate of time preference, but this argument must be applied to both private and public investment. The corollary is that the society ought to lower the percentage of its output that goes to all current consumption (public or private) and raise the percentage of its output that goes to all future consumption (investment, public or private).

Since there is almost no evidence that society wants to radically shift its investment-consumption

Low interest rates for public projects have been defended in the past on grounds that government has a special responsibility to unborn generations which the private market does not. This may be true, but,if so, it should be reflected in the future benefits of the project which, properly calculated, will include where applicable, the amounts that presently unborn people will be willing to pay some time in the future. Thus, our choice of an interest rate is not biased against future generations. Rather, it assumes that these future generations will value immediate over subsequent consumption in approximately the same manner as their forebears.

mix, all coastal projects should be capable of earning a real rate of return of 5 to 8%. A real rate of return in this context does not, of course, mean a money rate of return of this amount. Many of the public benefits that are embodied in the real rate of return of, say, 8% will not be recoverable in money terms.

Parochial Benefits

In measuring benefits, it is extremely important to distinguish between the direct and indirect effects of a particular coastal zone project. The direct effects are those which accrue to the consumers or users of the project, the users of the power supplied by a coastal generating plant, the bathers on a beach, the swallowers of polluted air, the inhabitants of a coastal housing project, the viewers of marsh wildlife The indirect effects are those that accrue to the suppliers of the resources which make the investment possible. These include the payments made to the construction workers and maintenance personnel, sellers of material and land, and in turn the payments that these groups make to bar owners, retailers, and so on.

Consider the construction of a nuclear power plant on the shoreline. The plant will output electricity, heated water and some chemical wastes, a visual impact on the surrounding area, etc. These are direct effects and the value that the individuals in the affected region place on these effects measures the various benefits and disbenefits of this development.

The construction and operation of the plant will also require a number of inputs including land, labor and material. The value of these resources diverted to the plant is the cost of the development. Of course, these resources must be paid for their employment for they must be bid away from other uses. The nuclear plant construction worker will receive a sum of money for working on the plant and this is certainly a benefit to him. Further, he will spend a substantial portion of his pay in the locale of the plant, and this is certainly a benefit to the local merchants, doctors, and tavernkeepers. These people in turn will spend some of this money in the locale and so on. The same argument could be used for the expenditure on any other input. Values which arise in this manner we shall term parochial benefits. The question then is should we count all or part of the costs of the plant as a benefit on the grounds that people in the locale would be willing to pay something to see these expenditures take place ?

From the point of view of Pareto-efficiency the answer is no, given full employment. For with full employment, the fact that one has to pay a construction worker $6.00 per hour to work on the plant means he was worth $6.00 per hour elsewhere. Thus, his employment on the plant means a loss to some other project. Similarly, the parochial benefits which accrue to the locale of the plant from the construction workers' expenditures would accrue no matter where the plant was located. Of course, different shopowners would see this money if the location were changed. More generally, wherever the money (resources) were spent, be it on a plant or something else, approximately the same parochial benefits would accrue. Thus, from the point of view of the economy as a whole, parochial benefits are a wash. One can change their geographical incidence but they do not represent any net economic values to the society. Rather, they represent a transfer payment from the entire economy to a more localized area. Given full employment, the costs of a project cannot be counted as a benefit. To do so is a subtle form of double counting with which almost any project could be justified.*

---

*Another way of looking at this problem is as follows. We could attempt to estimate how much the people in the locale would be willing to pay to see the expenditures associated with the plant take place in their locale and then include this willingness to pay in the benefits. But, if we did this, we would also have to estimate what people in other areas would pay to see the plant or an equivalent investment take place in their locale and include this willingness to pay among the disbenefits or costs of the project. Barring large differentials in unemployment (see below) the parochial benefits associated with one location will be about the same as the parochial benefits associated with another location. Hence, these too sums will cancel. This is what we mean by a wash. And we can save ourselves the computational difficulties of trying to estimate these quantities by leaving them out of the analysis altogether.

It is in the nature of things that even in a substantially full employment economy a large percentage of resources is underemployed at any given time, due to lags in adjustment. The physician in the locale of our hypothetical power plant will experience an increase in his practice as the result of the plant's locating there and, if he were underemployed to begin with, he would be willing to pay (our definition of benefits) for this increase. Similarly, an underemployed retailer or barber might be willing to pay for the location of the power plant nearby. Even this sort of underemployment is not sufficient argument for the inclusion of these benefits in our net present value calculations for, in general, there will be similarly underemployed citizens wherever the plant is located. What is necessary if there is to be a net benefit to the economy as a whole arising out of one of these parochial benefits is differentials in underemployment. In an economy such as ours, it is unlikely that significant differentials in underemployment can last very long and we feel that it will rarely be necessary for a body representing the economy as a whole to spend much time investigating them.**

However, parochial benefits can be overwhelmingly important to political bodies representing small portions of the economy. If differences in the geographical incidence of the parochial benefits associated with a particular investment, whether public or private, shift these benefits outside of the area the political body represents, this area suffers a very real loss. As a result, a local community can rationally view a project in a very different manner from the region as a whole, even if no local spillovers are involved. What is a wash to the entire economy can be something for which a locality within that economy may rationally be willing to pay a high price. Whether a parochial benefit is a wash or not to a political body will depend on the range of the responsibility of the political body involved. For example, differences in the location of a refinery within Maine will give rise to differentials in the geographical incidence of parochial benefits which will be extremely important to the communities considered for the location of the

It is ironic that when people talk about the "economic" benefits of a project, they are almost always referring to these parochial effects which with the help of economic analysis we can see are not net benefits at all to the society, at least in terms of Pareto-efficiency.

63-902 O - 71 - 42

refinery but which will be a wash from the point of view of the state of Maine. On the other hand, the decision of whether or not to build a refinery in Maine will give rise to parochial benefits which will have a net effect on the Maine economy but which are washes from the point of view of the country as a whole.

It is instructive to note that private markets and the price mechanism give no weight to parochial benefits at all and, in the absence of collective goods, spillovers and contracting costs result in a Pareto-efficient allocation of resources. Parochial benefits, on the other hand, are a completely arbitrary concept defined by and changing with the boundaries of the political bodies involved. Given this arbitrariness, we should be surprised if the counting of parochial benefits (however defined) leads to an efficient allocation of the coastal zone and it is easy to see that, in general, it will not.

Parochial benefits are the reason why communities compete with each other for large private or governmental installations. A result of such competition is that a developer can use these parochial benefits to implement projects which are inconsistent with society's values. For example, let us assume that society judges the spillover costs of a coastal power plant so high that the net present value of the plant located anywhere along the coast is negative. However, the market situation is such that the plant is profitable to the developer. Assume further that the coast is controlled by the local communities. The developer can approach the local communities and point out that, if we build the plant in your town, the locale will receive the bulk of the parochial benefits of the plant. This localization of the parochial benefits may make it rational for the town to accept the plant, although to the society as a whole it is a disbenefit on net. Furthermore, since towns will compete with each other for these parochial benefits, the developer can bargain for the most favorable zoning laws, taxation, etc. In such bargaining the large-scale developer is generally in a much stronger position than the typical coastal town and often can pretty much write his own ticket. He can even find situations which would be privately unprofitable in a free market which can become profitable through this kind of bargaining.* Thus, parochial benefits can lead to overdevelopment, even in the absence of any negative spillover effects.

In using parochial benefits in this manner, the developer is employing transfer payments from the entire society to the locale of the development as a lever. He is not creating any net values. He is simply transferring income from one diffuse group to a much more localized one.**

Examples of the misallocations that can occur through this mechanism are numerous.

Their are two possible remedies:

1) Ban the formation of political bodies (formal and informal) which have the power to affect development decisions, that is return to a strictly private market situation. This would prevent the operational expression of parochial benefits. It would also exacerbate all the private market failures outlined earlier, which were, at least in part, the reasons for the formation of most of these bodies. We do not consider this an alternative worth considering in general, although there may be some cases in which forbidding political control over certain types of decisions results in more efficient allocation of the coastal zone.

2) Make sure that the political body affecting any particular sort of development is broadly based

---

* The Litton Westbank shipyard in Pascagoula, Mississippi may be a case in point.

** Parochial benefits can also arise on the output side in some coastal zone developments; that is, some developments have the property of localizing payments for the outputs of a development in the same way that construction and operation necessarily localizes payments for the inputs. Recreation facilities are often of this category. The money people spend on a recreational activity, say a World's Fair, and the respending of these expenditures are localized in the area of that activity for which localization the community--as opposed to the recreators--in question may be willing to pay a great deal. This is the basis for state and local tourist bureaus. It should be clear that the same argument applies to these benefits as to parochial benefits arising on the cost side. In general, they are not net benefits to the economy as a whole.

enough so that the bulk of the parochial benefits are a wash within its political boundaries. For decisions concerning the location of a gas station, the local zoning board is quite cognizant of the fact that approximately the same employment and taxes will occur wherever the gas station is located and will properly concentrate on the spillovers associated with the station. For decisions concerning the location of a large refinery complex, even a statewide decisionmaking body may not be sufficiently broadbased to bargain with the developer on the basis of outputs rather than inputs. We will return to this issue in Chapter IV;but,clearly,accountability and responsiveness argue that in any situation, the decisions should be made by the smallest political unit for which the net parochial benefits associated with this decision are unimportant.

For now, the two basic points with respect to parochial benefits are:

1) Given full employment or evenly distributed underemployment, the effects of shoreline investments on the suppliers of the resources enabling these investments should not be counted in net present value calculations, if we are to efficiently allocate the coastal zone.

2) Parochial benefits are benefits on net to the localities involved, and a political body representing these localities rationally considers these effects in representing its constituents. As a result, decisions emanating from these bodies will not, in general, be efficient.

Unemployment

If there is widespread unemployment, then the above statements will have to be altered slightly. Unemployment is a situation in which the private market overestimates the social cost of labor. Technically, unemployment is the situation where, at the market wage rate, the supply of labor is greater than the demand. In a perfectly functioning competitive economy, this would be a temporary situation. The wage rate would quickly drop to the rate at which supply would equal demand, which lower rate we will call the shadow price of labor.

The shadow price of labor will be the point at which any further decrease in the wage rate will result in the person's finding employment elsewhere at which alternate employment his wage is worth the shadow price.

In short, the shadow price of labor is the social cost of labor. If there is a significant difference between the market wage rate and the shadow price of labor (if there is substantial unemployment), then the cost-benefit analyst should use the shadow price rather than the wage rate, if we are to allocate resources according to Pareto-efficiency.

In other words, unemployment should be handled not by postulating a secondary set of benefits and including them in the analysis, but by adjusting the costs of labor on the project to reflect the social cost to the economy of the employment of said labor on the project being analyzed. Thus, increasing unemployment will decrease the social costs of labor which will increase the number of projects which have positive present value. Certain projects which were inefficient under full employment will become efficient with a rise in unemployment. Since the U.S. economy is at sensibly full employment, we do not feel that there is any great need to attempt to develop shadow prices for labor in evaluating coastal zone projects at present, unless this coastal zone project intends to make substantial use of groups which have much higher-than-average unemployment rates, such as the ghetto poor. No such examples are considered in the sequel of the report. Therefore, we will value labor costs at the market rate for the remainder of this volume.

Uncertainty

A common demominator of almost all major shoreline development alternatives is uncertainty. This is especially true with respect to the development of biologically active areas, for the impact of development on the marine and coastal ecology is very poorly understood. Another basis of uncertainty which is at least as important and, on the basis of past performance, even more likely to be overlooked arises from the fact that, in order to effect cost-benefit analysis, we must predict how people will value various ecological effects in the future. Obviously, we cannot do this with certainty. For example, it would have taken a prescient individual indeed to predict in 1940 that the American people would pass a law in 1966 which showed that they were willing to pay $3.00 per ton of garbage to reduce the air pollution due to garbage incineration.

In past economic analyses, uncertainties have been given lip service at best. This is a crucial oversight in such areas as conservation, where the costs of guessing wrong can be high indeed, for many development alternatives are essentially irreversible. In this section, we wish to argue that means for handling these uncertainties and

thus trading off the benefits versus risks of different development alternatives are available, and to point out some of the practical difficulties involved in the implementation of these techniques.

For example, consider the possible development of a marsh. Let us assume for simplicity of exposition that there are only two time periods and two possible outcomes relevant to this problem. Call the times Now and In the Future. The decision Now is whether or not to develop the marsh. Whatever we do In the Future we will become aware of the value of the marsh and, again for simplicity, we will assume that, with respect to the value of the undeveloped marsh, there are only two possible outcomes:

1) In the Future the undeveloped marsh is revealed to be valuable.

2) In the Future the undeveloped marsh turns out to be not so valuable.

Let us assume that the present value of the gross ecological, scenic, and other nonmarket benefits of the undeveloped marsh in the first case is 15 units, while in the second case it is 2 units. Let us assume that the net benefits, exclusive of these nonmarket values, which will be derived from development Now and valued at 12 units and, further, that the present value of these market benefits, given that we develop the marsh In the Future, is 8 units. We will also assume that, once the marsh is developed, the costs of restoring this marsh are higher than the benefits from restoration, even if the marsh is shown to be valuable. This is the typical case and what is usually meant when people say a development is irreversible.

Given this hypothetical situation, the possible consequences of our present choice can be illustrated by the decision tree shown in Figure 2.2. The boxes in this diagram represent decision points and the circles, outcomes determined by chance. The break lines indicate alternatives which we have assumed have been ruled out by earlier analyses. Thus, the top branch in the tree indicates that, if we develop Now and the marsh is revealed to be not so valuable, we will receive the net market benefits of the development and lose the nonmarket benefits of a not-so-valuable marsh for a present valued gain of twelve and a loss of two, or a final net present value of ten. Similarly, the net benefits

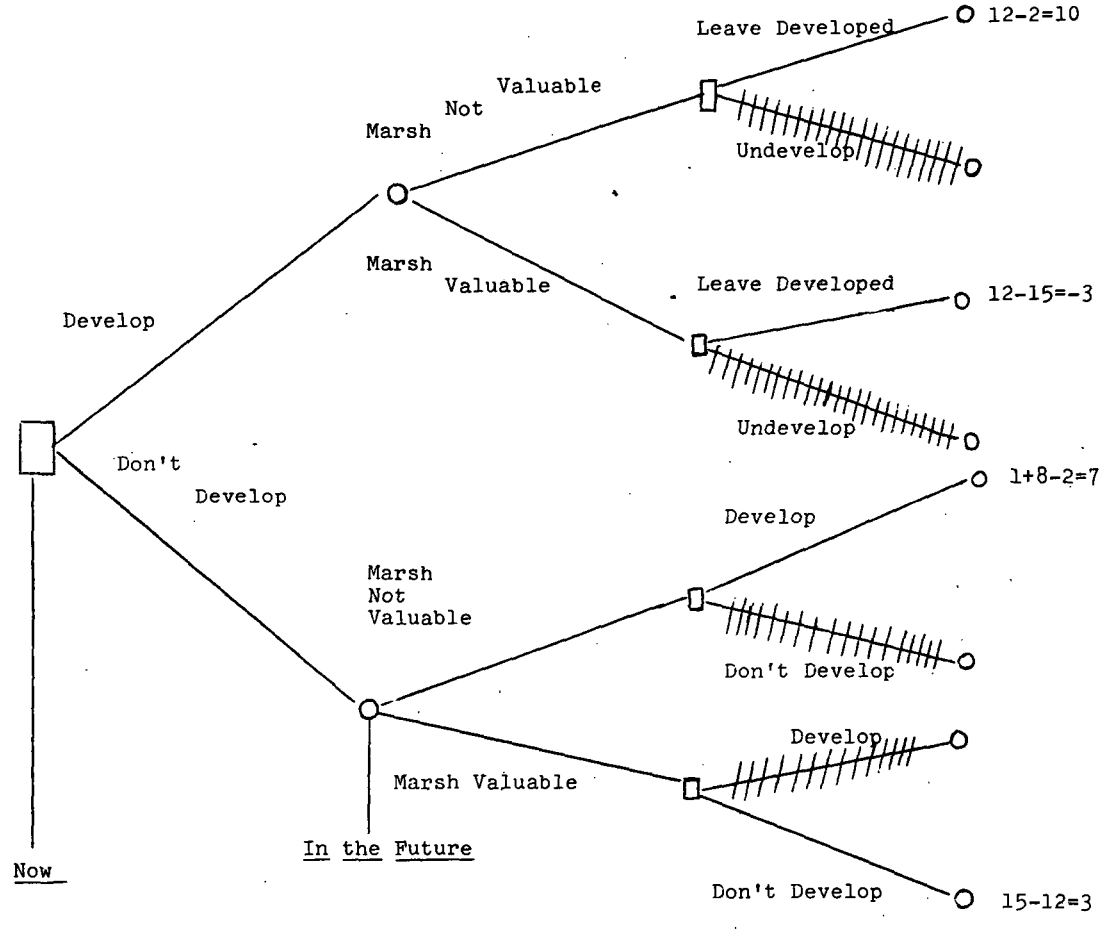

Develop
Don't Develop
Marsh Not Valuable
Marsh Valuable
Leave Developed
Undevelop
Leave Developed
Undevelop
Develop
Don't Develop
Develop
Don't Develop
12-2=10
12-15=-3
1+8-2=7
15-12=3
Now
In the Future

FIGURE 2.2

of the other combinations of a decision and an outcome are placed at the ends of their respective branches. In so doing, we have valued the non-market benefit of a not-so-valuable marsh between Now and In the Future at one unit.

Given this situation then, what should we do? Clearly, that depends on two sets of judgments:

1) The community's judgment of the likelihood that the marsh will turn out to be valuable either because of its ecological properties or because people in the future decide the scenic and esthetic values of the marsh are valuable. The more probable this outcome, the more attractive the upper branch becomes. Conversely, the lower the probability that the marsh is valuable, the more attractive development Now becomes.

2) Even if the community can agree on the likelihood of the various possible valuations of the marsh, in general it will not be immediately clear which alternative is most consistent with the community's set of values. The upper branch of this tree is the high-risk, high return alternative. The lower branch assures us that we will obtain at least three units, but no more than seven. If the community is extremely risk-adverse, it may prefer the lower branch, even if the probability of the marsh being not valuable is quite high. If, on the other hand, the community is made up of a set of long-shot gamblers, then, given the same likelihood, it may rationally choose the chance at ten units which the upper branch offers.

With respect to society's attitudes toward risk, the usual assumption is that society is risk-neutral;that is, it is indifferent between any fair bet. This implies, for example, that the community is indifferent between an alternative that offers a net present value of $\$10^6$ with certainty and one that yields at 50% chance at $\$2 \times 10^6$ and a complementary chance at $0. If this is the case, the community is said to be an expected value decisionmaker.

Most people are risk-adverse. Given the above choice, they would unhesitatingly take the million for sure. In fact, most people would prefer $800,000 for sure to an even chance at two million. Most people are not expected value decision-makers and with good reason.

However, as the amounts risked become small with respect to the individual's wealth, most people approach expected value decision-making. One of the advantages of political organization is that it enables individuals to share their risks. Thus, from the point of the economy as a whole, most shoreline development alternatives involve values that are small compared to the region's wealth, and in these cases expected value analysis will be appropriate. This may not be the case if the resources risked are extremely rare or unique. Expected value analysis with respect to the preservation of the bald eagle is almost certainly not appropriate. In such a case, there is no choice but to attempt to measure society's attitude toward the risk in question, either by extrapolation from other similar situations or by referendum. However, while marshland is rapidly decreasing, it can hardly be called rare or unique. Thus, for the present, expected value analysis seems indicated for most shoreline development projects under uncertainty.

In order to perform expected value analysis, the earlier equation for net present value must be generalized to the following form:

$$\bar{V} = \sum_{t=0}^{N} D_t \cdot \left[\sum_{k=1}^{N_t} p_{kt} \cdot B_{kt} - \sum_{k=1}^{M_t} q_{kt} \cdot C_{kt} \right]$$

where N_t is the number of possible values that the benefits may take in year t and M_t is the number of possible values that the costs of the alternative in question may take on in that year, and p_{kt} is the probability of the kth possible benefit value in the tth period and q_{kt} is the probability of the kth cost value in the tth period. If the community is an expected value decision-maker it should choose those alternatives with positive $\bar{V}$, or, in the case of a set of mutually exclusive alternatives, that alternative from this set with the largest positive $\bar{V}$

Notice that this is a much different approach than the sometimes suggested idea of:

a) Assuming that the most probable sequence of event occurs,
b) Adding a risk factor to the interest rate.

Assuming that the most probable sequence occurs immediately begs the basic question that different alternatives may

have very different abilities to react to the occurrence of events other than the most likely event.* Different alternatives can have different degrees of flexibility. Assuming that the most probable sequence of events occurs completely undervalues this flexibility. In the sample marsh problem, the basic trade off involved the fact that, if one did not develop now, it was relatively easy to develop in the future. However, if one did develop now, then adjusting to the event Marsh Valuable was prohibitively costly. Assuming that the most probable sequence of events occurs ignores this basic consideration entirely.

Moreover, the idea of assuming a sequence of events and adding a risk factor to the interest rate is not only an extremely poor substitute for actually tackling the fact of uncertainty, but also once one has so attacked the problem and assumed that the community is an expected value decisionmaker, it is inconsistent. Even if one is risk-adverse, the addition of a risk factor has no solid foundation. Methods for handling this problem are given in reference (19) . The use of a risk factor grew out of the perfectly reasonable practice of banks demanding a higher interest rate on risky loans. If one does an expected value analysis and assumes that the banks want to make the same amount of money on the average from all their loans, a necessary condition for the bank to be an expected profit maximizer, then it will be clear that they have to raise the price of their commodity on risky loans for the expected repayment, as opposed to the nominal value of the loan, on a high risk loan is lower than the expected repayment on a low risk loan. The change in interest rate is a product of the analysis of uncertainty, not a substitute for it.

We are now in a position to comment in more detail on the argument that the nominal rate of return on risky investments should be used as the interest rate in present value determinations, rather than the risk-free rate of return.

First of all, Baumol's argument that the nominal rate of return should be used is inconsistent with his recommendation of using the weighted average of the rates

* Usually, the most likely chain of events is itself a very low probability set of occurrances.

of return in thesectors from which the project's resources are drawn for, if we find one investment obtaining a return of 20% in a particular risk environment, then elsewhere in that same environment we will, with high probability, find investors obtaining less than average or even negative returns. If not, capital would flow to the area with the average higher-than-average rate of return. (Of course, companies often attempt to use risk as justification of high profits resulting from monopolistic positions or beneficial taxation policies when no such risk exists in fact.)

Secondly, the argument that individual risk is different from social risk appears to be based on a misinterpretation of the law of large numbers. If one makes a large number of risky decisions, the law of large numbers does not assure one that, with the high probability, the final gain (loss) will be close to the expected gain(loss). In fact, the probability of getting further and further away from the expected outcome increases with number of investments. The law of large numbers rather says that the average gain (loss) per investment will, with high probability, be close to the expected gain (loss) per investment, which is something quite different. It is not the law of large numbers alone that assures the profitability of an insurance company but the law of large numbers, combined with the risk aversion of its clients, which makes them willing to pay a premium (given the insurance company a bet with positive expected value) in order to avoid certain situations with large personal losses. If people were only willing to make fair bets with insurance companies (bets with 0 expected value), sooner or later the insurance company, however large, will be ruined. From this point of view, it is not clear at all that society shouldn't be willing to pay something to avoid risks.

However, we would be the first to admit that in many situations society can afford to be an expected value decision-maker when the individual cannot, in which case the society should use the expected return on a risky investment in calculating its opportunity cost while an individual might evaluate the return at something lower when comparing it with a riskfree investment. For society, like our insurance company, has a large number of positive expected value investments each of which are small compared to the assets of society as a whole. And, in fact, we shall use expected value analysis in the sequel.

However, there is a broader sense in which society is not in the happy position of our hypothetical insurance company--situations in which a good deal of social risk aversion might be prudent, situations in which the individuals of the society as a whole might be willing-to-pay a great deal for insurance. Many ecologists have pointed out that we have attained the ability to produce large scale changes in our environment with consequences we are as yet unable to predict. Not all the bets that we can make with our environment are still small compared with our total assets. Odum, among others, has emphasized that those ecosystems which maximize productive efficiency under a particular set of circumstances--monocultures based on grazing food chains (plant-hervivore-carnivore sequences) rather than reuse of detritus--are just those ecosystems which are most vulnerable to exogenous changes in the environment.(20) In short, generally the most efficient systems are the ones which offer us the least protection to biological perturbations. The question then is how much are we willing to pay for stability in the face of uncertainties about the consequences of our actions? We will not go into this problem in this report but merely note that if some of the possible consequences are of world-scale or even area wide magnitude, expected value analysis is probably inconsistent with the desires of a society make up of risk adverse individuals.

A useful analogy may be made with the actions of insurance companies with respect to hurricanes. Meaningful hurricane insurance cannot be purchased in such areas as the Florida Keys even though a large number of potential insurers are willing to give the companies clearly positive expected value bets. For the companies realize that if the unlikely event of a much higher than expected frequency of hurricanes occurs, then losses will not be small compared with their assets.* Society might also be unwilling to take such bets. Thus, hurricane protection projects with negative expected present value may be consistent with willingness-to-pay. In summary, the restrictions on expected value analysis should be kept in mind in all that follows. Expected value analysis should not be accepted as uncritically as it has been in the few economic analyses which do exist which have attempted to include uncertainty in their

It should be noted that the independence requirement of the law of large numbers is violated in this case. It can also be violated with respect to society in general. For example, consider insurance (deterrence assuming deterrence is effective) against war.

analysis in a meaningful way.

The Problem of Finding Society's Probabilities

Given that one is prepared to assume that, in the situation under analysis, society is an expected value decisionmaker, then one is still faced with the problem of coming up with society's probabilities on the possible consequences which can emanate from each alternative. If the community were an individual, this would be no great hurdle. In the hypothetical marsh example given above, one would simply ask the relevant individual whether he would prefer a 50/50 chance at $1,000 or a lottery ticket which gave him $1,000 if the marsh were valuable. If he prefers the former, that individual's subjective probability on the marsh being valuable is less than one-half. One might then ask this individual whether he would prefer a 25% chance at $1,000 or the marsh lottery ticket, and so on, until one obtained the point where the individual was indifferent between x% chance at $1,000 and the $1,000 if the marsh is valuable. If one accepts a very small set of intuitively appealing axioms about rational behavior under uncertainty (see reference 21), x is this person's probability that the marsh will be valuable. In general, of course, there will be many more than two possible outcomes relevant to a shoreline development. In fact, there will often be a continuum of possible outcomes, but this method can be extended to these cases with no conceptual difficulties.

The problem rather is specifying a probability distribution over the relevant outcomes for a community. Given our interrrogation method, one citizen can have an entirely different set of probabilities over the same set of outcomes than another citizen. In the vernacular, this is what makes a horse race.

At present, there has been no satisfactory analytical attack on the problem of communal probability distributions. The best advice that can be given now is that the community approach an expert or group of experts on, say, marsh value and ask them to come up with the possible outcomes and relevant probabilities of these outcomes. This approach has been successfully followed in a number of industry problems. In practice, one finds that the experts will start out with somewhat differing probability distributions on the random variables in question, but,

if they are allowed to communicate, they will reach a distribution they can all agree upon. If not, the community or its representative must weight the differing opinions and generate a distribution in this manner.

As inelegant as this method is, it is in our opinion far superior to the usual alternatives of:

a) Ignoring uncertainty and proceeding with cost-benefit analysis as outlined above. This can lead to gravely inefficient allocations of the shoreline.

b) In the face of uncertainty, throwing up one's hands and turning the allocation problem back to the market.

In the exemplary problem in Chapter 3, we will attempt to substantiate this viewpoint.

Budget Constraints

Ideally, investment projects (public and private) will be undertaken in such a way that the real (money plus non-monetary benefits) rate of return on each project is equal to the society's opportunity cost of capital. Often in government agencies there may be certain budget restraints imposed even though the real rate of return on some government projects exceeds the economy's opportunity cost of capital. There just may not be enough budgetary resources of a certain agency to undertake all of the investment projects that ought to be undertaken by the agency.

In this second-best situation a method must be found to find an efficient allocation system, given the artificial budget constraint. Benefit-cost analysis can still be used but it must be modified. The opportunity cost of capital is higher for that agency than for the society. (This implies its budget should be increased.) In order to pick from its alternatives, given this budget constraint, the agency should increase its interest rate until it finds that set of projects with positive net present value, given this increased interest rate, which just use up the amount of available money.

Proceeding in this way, the agency can make efficient use of the resources, given that he faces budgetary constraints and it is not able to invest to achieve social balance.

Thus, in coastal allocation decisions it may be impossible to undertake public projects that provide the most efficient use for a particular site, due to budgetary constraints. In this case, estimates must be made of when the public project could be undertaken and the benefits of the project discounted accordingly. If the project is delayed far into the future, other projects will,of course, become the most efficient use for the site, even though they do not have the highest net present value given the social interest rate.

Conversely, if an agency finds that, at society's opportunity cost of capital, it does not have enough projects within its charter with positive present values to use up its budget, then it should not use all the resources it has been alloted and return the excess budget to the public coffers to be used elsewhere. Of course, we are not naive enough to believe that this is what happens under the present set-up, but the principle still stands and does point toward certain institutional improvements.

Cost-Benefit Ratios

Several authorities (13), (14) have demonstrated that the practice commonly used in the past of dividing the gross present value benefits by the gross present value costs and ranking alternatives according to the value of this ratio can be inconsistent with Pareto-efficiency, that is, inconsistent with willingness to pay. Given mutually exclusive investments, cost benefit ratios can pick less highly-valued projects over more highly valued, will often pick a less-than-optimal scale of a given project, and are subject to important ambiguities. Even the argument that net present value ignores risks associated with scale is no longer applicable, if we incorporate uncertainty into the analysis explicitly as outlined above. We regard the disadvantages of cost-benefit ratios as conclusively demonstrated and will make no further reference to the concept in this report.

A Final Caveat

This chapter has dwelt in considerable detail on the imperfections of the private market with respect to Pareto-efficiency or individual willingness-to-pay as a social goal. However, to say that the private market does

not yield efficient results in all instances is not to say that it should be ignored or eliminated. Typically, any analysis will start with the results which would be produced in the private market. These results need to be modified in many cases, but they are almost always the correct place to start. If the results do need to be modified, the government is faced with two options--undertake projects directly, or try to modify private market decisions so that they are in accordance with social benefit-cost calculations. Often, this means changing the structure of the market either institutionally (public corporations, for example), or providing tax or expenditure subsidies which lead private decision-makers to choose projects which are Pareto-efficient. There is no general rule to determining which of these methods should be used.

The choice of methods is in itself a decision that can sometimes be analyzed from the point of view of benefit-cost analysis. Typically, society will want to use the method which generates the desired social benefits at the least cost. Sometimes this will be direct government expenditure, sometimes a public corporation, sometimes tax incentives, and sometimes expenditure subsidies.

CHAPTER III

EXEMPLARY COST-BENEFIT ANALYSIS

Introduction

For our exemplary problem, we have chosen to analyze the desirability of developing one of the Boston Harbor islands, Lovell Island, for waterfront recreation. Since this example is presented as a means of illustrating the practical problems involved in cost-benefit analysis rather than to determine the desirability of the actual investment, we will make free use of assumptions and hypotheses, especially in developing our cost data. In an actual implementation, such assumptions would have to be validated by detailed costing procedures. Three other examples of coastal zone problems, which we believe are amenable to varying degrees of cost-benefit analyses, are considered in considerably less detail in Appendices A, B, and C.

In Appendix A the possibilities for expanding the recreational use of a beach in a coastal community south of Boston are examined, while Appendices B and C examine nonrecreational uses of the coastal area. The particular cases chosen are: 1) an analysis of the benefits and costs associated with a shoreline location for a nuclear reactor power plant now under construction near Plymouth, Massachusetts, and 2) an examination of the costs and benefits associated with various strategies that might be followed for handling the oil demands of New England.

Once again these examples are provided not for the purpose of arriving at definitive recommendations related to the specific projects, but to illustrate methods for approaching complex public investment problems.

The general layout of Boston Harbor is shown in Figure 3.1. This body of water comprises about 47 square miles in surface area, containing thirty islands. These islands have a combined area of 1152 acres. Almost all this land is within six miles of the central business district of Boston and the bulk of it is within three miles.(22)

Despite this proximity and the islands' scenic attractiveness, this land has never served the major metropolitan needs of the region. The community's practice, rather, has been to use the islands, if at all, to remove various types of social unpleasantnesses from the mainland. Deer Island is used for a prison and a waste disposal plant. Long Island houses a hospital for the chronically ill. Spectacle Island houses a smoldering dump. With a few exceptions, the rest of the islands have been unutilized, since the decommissioning

63-902 O - 71 - 43

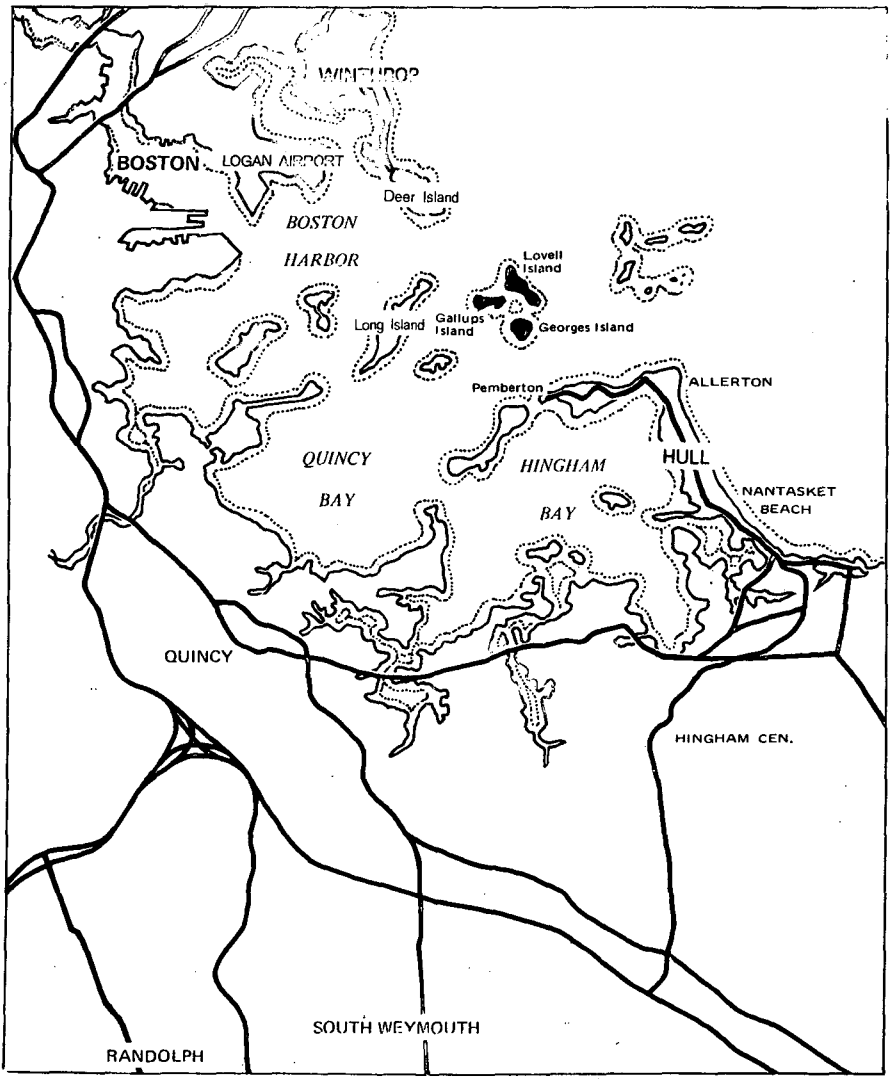


FIGURE 3.1 THE BOSTON HARBOR AREA

of the harbor forts.*

The rising demand on space in the Boston area plus the fact that, for a variety of historical reasons, much of the harbor land is in the hands of various public agencies has generated a number of proposals for development of the islands. These include acquisition of all the harbor islands and their dedication to recreation and conservation, construction of a model city in combination with a World's Fair, development of a jetport on the outer islands, filling and industrial development, and use of portions of the harbor for educational facilities. Since we are going to study only one of the myriad possible uses of one of the thirty harbor islands, the results or our analyses are at best provisional. We will be able to make a statement whether such a development is better than leaving Lovell as it is. However, we will not be able to determine whether this is the best of all possible uses of this island. In order to do this, it would be necessary to similarly analyze a representative spectrum of the other possible ways of employing this resource, such as housing, port facilities, et cetera. However, this limited analysis will serve our basic purpose of indicating some of the practical problems with respect to cost-benefit analysis.

---

*This is not to imply that the harbor itself is unutilized. Approximately twenty million tons of cargo, 80% of which is petroleum products, are handled through the harbor annually. The harbor serves as the terminus of the Metropolitan District Commission sewage system. This system, serving over two million people, discharges four hundred and sixty million gallons of partially treated sewage daily into the harbor from the combined sewer system. Building wastes are burned just outside the harbor on barges. Much of the airspace and a large portion of the northern part of the harbor is used by Logan Airport implying, among other things, that a good deal of the harbor is subject to intermittent intervals of high noise levels. Development along the mainland shores is quite dense, although much of this development takes no advantage of the shoreside location. The harbor is utilized by some 11,000 bathers on a summer weekend day and is the home of at least 5,000 pleasure boats. The harbor at one time was an important source of fish and shellfish, but currently less than 1% of the fish landed at Boston are taken from the harbor and less than 10,000 bushels of shellfish are taken annually (23). Half of the harbor's shellfish grounds have been closed and shellfish from half the remainder have to be treated before they can be sold. Under the prevailing winds, the harbor's atmosphere is generally used first by the region's transportation, heating, and power generation systems.

THE OUTDOOR RECREATIONAL SITUATION AS IT RELATES TO THE HARBOR ISLANDS

Before proceeding to the analysis itself, it will be useful to review the general demand for water-related outdoor recreation in the Boston metropolitan region.

Despite New England's relatively cold weather and even colder waters, New Englanders presently lead the nation in per capita participation in water-related outdoor recreation. The 1965 National Survey of Outdoor Recreation conducted by the Bureau of Outdoor Recreation indicated that the average New Englander participated in .62 days of sailing in 1965 to .16 for the average American, 2.71 days of motor boating to 1.56, 3.11 days of ocean swimming to 1.58 (total all forms of swimming was: New Englander, 11.53; American, 6.84) and .75 days of waterskiing, to .42 for the country as a whole (24). Finally, the average New Englander enjoyed 3.05 days of fishing to 2.26 for the country as a whole (24). These differences reflect the availability of a long and unusually attractive shoreline, the average New Englander's better-than-average income, education, and high degree of urbanization plus perhaps a long heritage of communication with the sea.

These figures, of course, refer to the amount of demand for these forms of recreation actually realized, given the present supply of recreational facilities, the present transportation system, and present income and leisure-time distributions. Ideally for our purpose we need to know much more: the maximum amount people would pay for a particular recreational activity as a function of income,leisure time, quality of the recreation, et cetera, rather than a single point on this surface.

The National Survey also tabulates days' participation in each activity as a function of income from which we can obtain a preliminary estimate of the income elasticity of the demand for these sports. This data is shown in Table III.1 along with the corresponding arc elasticities. The average elasticity for each of the three sports for which sufficient data was available are all about .5, indicating that a 1% increase in income will tend to produce 1/2 % increase in per capita participation. Comparisons of the 1960 ORRRC figures (25) with the 1965 data indicate that rates of participation by income groups were relatively stable, perhaps because increased leisure was balanced by a drop in real earnings since the data is in current dollars, or perhaps because the supply of recreation decreased either in quality or ease of access.

There is one other piece of information we need before we can begin to construct the demand for outdoor recreation relevant to Boston Harbor and that is the split between recreation undertaken "away from Home"(on overnight or longer trips and that

consumed at home (on trips of a day or less).

ORRRC #19 obtains the following percentages on the amount of recreation consumed on trips of a day or less versus that consumed "away" on overnight trips for each of the water-related sports (26).

	Home	Away
Boating	.46	.52
Waterskiing	.50	.50
Fishing	.38	.62
Camping	0	1.00
Swimming	.55	.45

That is, roughly half the water-related recreation is consumed on day trips. This is the market at which a recreational development in the Harbor would be aimed.

Dividing the New England participation rates on page 63 by two to reflect this split and using the Arthur D. Little projection of real income for New England we obtain the following projections of per capita participation rates in water-related, day trip, outdoor recreation for the next 30 years (27).

	1965	1980	2000
Ocean swimming	1.65	2.56	3.48
Power boating	1.35	2.10	2.84
Sailing	.3	.48	.65
Waterskiing	.38	.59	.61

This table assumes that the per capita supply of recreation remains unchanged. It is only one point on the demand curve. If the quantity and quality of recreation deteriorate or it becomes more expensive in real terms to enjoy this recreation, then the amount of recreational activity will, of course, decrease. If, on the other hand, more and better or cheaper recreational opportunities are supplied, then the participation rate will increase.

The harbor serves as the focal point for a region containing some two-and-one-half million people. According to the ADL projections, by 1980 the population of this area will increase to about 3.3 million in 1980 and 4.4 million in 2000 (28). Of course, this population is served by marine recreational facilities other than the harbor. The harbor is flanked on both the north and south by

shoreline containing large attractive beaches, principally Lynn and Revere Beach on the north and Nantasket on the south. Further, other beach areas are within day-trip distance of the metropolitan region, including Duxbury, Plymouth, and western Cape Cod on the south, the Cape Ann beaches, Plum Island and Hampton Beach to the north. However, the first set of beaches, those within an hour's drive of the CBD are presently used to capacity on a summer weekend day and the latter set imply large travel costs for the one-and-a-half million residents of Boston Proper and the close-in cities of Cambridge, Brookline, Somerville, Malden and Everett. Therefore, it appears reasonable to assume that, if beach facilities comparable to those presently available could be supplied in the harbor at approximately the same total cost to the consumer, these facilities could expect to attract almost all the increase in demand for day trip ocean swimming arising in this close-in region. This increase amounts to 1.3 million swimmer days by 1980 and 4.2 million swimmer days by 2000, according to our projections.

The Massachusetts Outdoor Recreation Plan has made studies of the use of the Greater Boston beaches and concludes that, on the basis of a 90-day season, 2.2% of the use occurs on the average summer day.(29) Combining this with the above figures indicates that, given recreational qualities and access and use costs similar to those presently available, one could expect 30,000 bathers on a typical summer weekend day in 1980 and 90,000 in 2000. At the B.O.R.'s suggested standard of 75 square feet per person, this demand could be handled by two miles of beaches in 1980 and six miles in 2000.

THE AMOUNT PEOPLE ARE WILLING TO PAY FOR A DAY AT THE BEACH

The above section is a typical example of a classical, if very roughhewn, projection. One assumes that the supply situation will be similar to that existing at present; measures the present per capital consumption by income group; obtains estimates of future population broken down by income distribution and, in more extensive studies, by education, leisure time, vocation, etc.; and applies the present consumption rates to these figures. Such analysis is useful for obtaining a feel for the magnitude of the demand, but it can hardly be called a determination of the demand, which determination involves how people will react in a number of supply situations. The purpose of this section is to review the present state of the art with respect to determination of the demand curves for recreation and, in particular, the determination of how much people are willing to pay for a day of outdoor recreation.

Three methods for measuring the amount people would be willing to pay for outdoor recreation have been suggested in the literature.

The earliest is that by Hotelling who assumes that all people value a visit to a particular recreation spot the same (30). One then discovers (by, say, license plate survey) the total cost (time and travel) to the visitor who travels the farthest. Presumably he is the marginal user and the sum of the differences between the cost and the travel costs of each of the other visitors is the net benefit of this activity.

The difficulty here is that all people will not be willing to pay the same amount for a visit to the spot and, more importantly, one can be sure that the traveler who pays the most for a visit will have a far-above-average value. Nonetheless, the idea is not completely without merit. For example, one could determine the origins of the distribution of travelers, pick some intermediate, "representative" trip cost and assume it is the marginal one, ignoring all those travelers who have a higher trip cost and assuming that all those having lower costs place the same value on the visit as the arbitrarily chosen marginal traveler. This would at least lead to a consistent comparator of the attractiveness of alternate recreation spots.

For example, in the summer of 1965 the Metropolitan Area Planning Council (MAPC) conducted a 5,000 plate license survey of five major beaches in the metropolitan Boston area (31). At present we do not have the actual data, but the MAPC reports the following frequency distribution of trip times for these cars.

PERCENT CARS AS A FUNCTION OF TRAVEL TIME
DRIVING TIME IN MINUTES

	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80
Nantasket	6	11	14	19	23	13	11	3
Wollaston	41	30	16	8	4	-	-	-
Carson-Pleasure	11	37	21	8	2	1	-	-
Revere	24	30	22	11	8	3	1	1
Lynn	1	20	49	20	4	4	3	1

It is the absolute number, not percentages, that we need for the Hotelling analysis, but, for now, assume we rank the beaches according to the percentage of trips over 40 minutes.

Nantasket	50%
Revere	13%
Lynn	10%
Wollaston	5%
Carson-Pleasure	4%

With the possible interchange of Lynn and Revere (Lynn has severe parking problems), this is a ranking which the authors believe would receive a lot of support from beach-goers familiar with all five. In sum, a modified Hotelling procedure could prove useful.

The second method is that suggested by Clawson-Knetsch (32). This also starts from travel cost data. Suppose there are three population centers which visit a particular beach, A, B, C, as follows:

Pop.	Travel cost of Visit	Visit observed	Visits/1000
A 10,000	$3	10,000	10
B 20,000	$4	10,000	5
C 10,000	$5	2,500	2.5
		22,500	

No one having a cost of $6 is observed to use this beach. Plot participation rate versus cost as shown in Figure 3.2.

Now we want to know what the demand would be if we raise the cost x dollars. x = 0 we already know, 22,500. But if x = 1, the observed cost for A would be 4; for B, 5; for C, 6. The resulting participation rates would be 5,2.5, and 0, respectively, and the total demand realized would be 5 x 10 + 2.5 x 20 + 0 x 10 = 10,000. This assumes each group reacts to price in the same manner. Continuing in this manner for increasing x, we obtain the demand curve shown in Figure 3.3. Knetsch interprets the area under this curve to be the consumers' surplus or net benefit of the activity. This assumes not only that each group has the same value on visits (which is much less restrictive than the Hotelling assumption of equality of values for each person as before), but also that the consumers' surplus for everybody at x = 0 is zero, which is certainly conservative and, in fact, a lower bound. Thus, by combining both the Clawson Knetsch method and the Hotelling method, we can bound the aggregate value of the activity. It might not be unreasonable to base investment decisions on the average of the two. Or, if one were willing to assume that the demand curve was convex, this average would form a new upper bound. Anyway, values obtained by both methods would be of interest. Knetsch notes that the assumption that each cost group places the same value on the visit can be relaxed considerably by dividing the visitor population

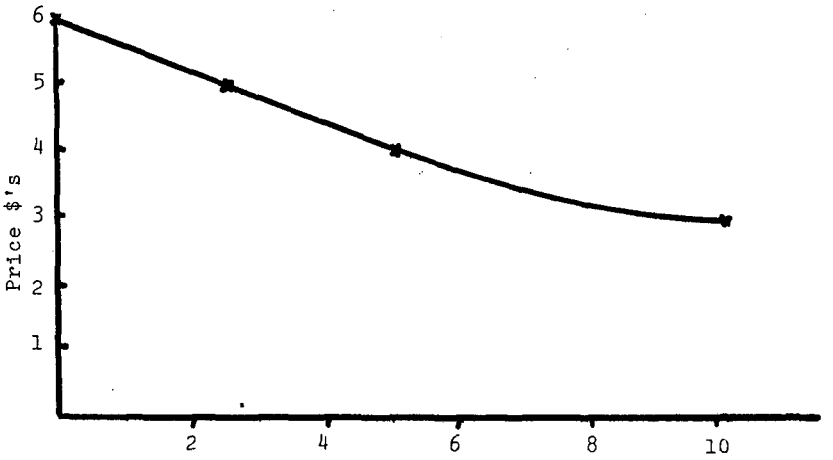


FIG 3.2 Participation Rate (Visits Per Thousand Population)

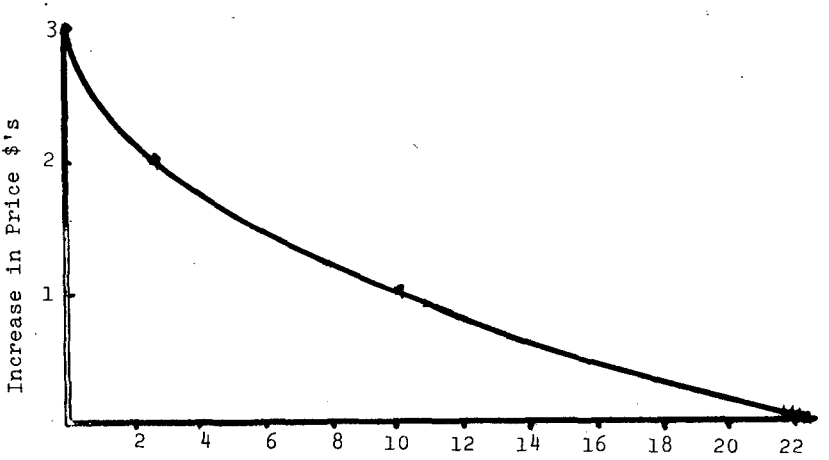


FIG.3.3 Demand In Thousands of Visits

not only by travel costs, but also by income and other socioeconomic characteristics and then making the standard assumption that each subpopulation places the same value on the visit. This observation applies equally well to the Hotelling method and thus, through it, we could obtain increasingly narrower bounds on the aggregate value at considerable expense in data collection and reduction.*

Mack and Myers express considerable doubt as to the possibility of determining the aggregate value of a recreation activity and suggest rather the concept of merit-weighted users' days (33). This latter is a distributional measure which has no relation to individual values as used in this report. As such, it is useful only in choosing between alternate recreation investments of about the same social cost. The merit refers to a means for consistently implementing distributional judgments rather than to the quality of the recreation. However, they do discuss in some detail dollar values derived by combining national data on total dollar expenditures on outdoor recreation with the total hours spent in outdoor recreation in several ways. All these calculations lead to the fact that, in 1960, people spent an average of approximately $2.50/day (1960 dollars) on outdoor recreation. Obviously, on the average, the value they placed on this recreation must have been higher. Thus, this figure serves as a quickly-arrived-at lower bound on the average amount people are willing to pay for recreation. It would be useful to subdivide the aggregate data by type of outdoor recreation and by socioeconomic characteristics of the population in the same manner as above to derive lower bound on the average amount each subpopulation is willing to pay for each activity. Joint activities would undoubtedly cause difficult problems with this approach.

We have followed up none of these approaches. Rather consistent with our comments in Chapter II we will calculate the net present value gross benefits of our recreational facility for a range of user values, leaving to the political process the final comparison. However, we hope that the above discussion indicates that with some thought and ingenuity it should be possible to at least estimate the amount that various population groups would be willing to pay for a recreational experience.

INCREASE IN REAL BENEFITS WITH TIME

Given that we have chosen a particular individual user benefit for a day at the beach, say, $2.50 1960 dollars, we will need a means of escalating this value through the next 40 years to reflect the projected increase in the <u>real</u> amounts that people are willing to

---

*The fineness of such subdivision would be limited by available data.

pay for a particular recreation activity as a result of increases in real income ,further urbanization, more leisure time, et cetera. For our purposes, we will base our projected increase solely on income.

Clawson and Knetsch in reference (34) indicate that the percentage of disposable income spent on outdoor recreation has been rising irregularly at an average rate of .1% per decade over the last 25 years. It is presently about .7%. In view of this data, it would certainly be conservative to assume that the demand for recreation will increase only proportionately with real income. Toi has extrapolated this to predict that, by the year 2000, people will be spending 2% of their disposable income on outdoor recreation (35).

Kahn and Wiener predict that the real per capita income will rise according to the following schedule through the next 40 years (36);

1965	1971	1975	1985	2000	2020
1.00	1.16	1.26	1.65	2.56	4.40

and these are the figures we will use in escalating the base gross per capita benefit in the following analyses.

THE COSTS OF A PARTICULAR RECREATIONAL DEVELOPMENT IN THE OUTER HARBOR

As noted earlier, we are not going to attempt to analyze all possible recreational developments of the Boston Harbor islands. Rather, we are going to postulate a particular development and apply cost-benefit analysis to the single alternative. The particular alternative we have in mind concerns Lovell Island, well out in the

---

*This fact together with our earlier observation that days' participation increases only half as fast as income indicates that as income increases the increased expenditure is spent equally on more recreation and on increased quality of recreation.

harbor. Lovell contains some 56 acres and has about 4,000 feet of shoreline facing the ocean. At present, there are no beaches on Lovell, but the ocean side consists of tidal flats on which we postulate filling and protection to provide 25 acres of beach. The littoral drift along this coast is southward. Therefore, we postulate a large groin projecting from the island's southern end with a triangular fill in the corner formed by the groin and the island. There are no beachs or even any shoreline downstream from the groin so there are no downstream areas which are likely to be affected by the groin. We also hypothesize the provision of picnic grounds and open areas for picnic-related sports on the island proper. We postulate sanitary facilities, a transportation system, and sanitary facilities such that, at peak density, the development will be operating at 75 square feet of beach per person and 130 persons per acre. These are the standards recommended by the Massachusetts Outdoor Recreation Plan. It should be noted that they are considerably more generous than the standards at peak use of the present urban beaches. Thus, we are considering a relatively high quality of recreation. Given these standards, our proposed development can accommodate about 14,000 people. Comparing this figure with the estimated projections of excess demand for urban beach recreation, we note that even at peak operating capacity this facility will not come close to saturating the market. The purpose of this section is to estimate the value of the resources which will have to be employed to develop and use this recreational facility. These costs can be divided into four categories:

The opportunity cost of the land;
The cost of providing and maintaining the physical facilities;
The cost of providing access from the mainland;
The cost of getting to the mainland terminus of the mainland-to-island link.

THE OPPORTUNITY COST OF THE LAND

This land is already in the hands of the Metropolitan District Commission. Hence, its employment as a recreational facility by the public involves no financial costs to the public. This does not imply that the land is a free resource for, if the community opts to develop this land as a recreational facility, it cannot use the land in some other use, and the cost of this employment is the value of the land in its most valuable alternative use. Given that there is no convenient access, it appears that the opportunity cost of the land is quite low. However, given that we provide access to the island, as we intend to, then the land may have substantial value for, say, a high-rise residential development. However, without simultaneously analyzing these other alternatives, we cannot say what this value is. Therefore, we are going to take the

opportunity cost of the land to be zero, its approximate value in its present use, with the caveat that such an assumption limits us to comparisons between the present use and the use which we are analyzing. Actually, if one analyzes all possible alternatives using the assumption that the land had an opportunity cost of zero, the resulting rankings would be correct as long as one uses the maximum net present value criteria. This is not necessarily true if one uses maximum benefit/cost ratio.

FILLING AND BEACH PROTECTION

With respect to provision and protection of the beach and provision of physical facilities on the island, market costs offer a reasonably reliable indicator of true costs to the community. The market cost may overstate the opportunity cost due to monopolistic positions in certain portions of the labor market; however, this is unlikely to be significant.

The mean tide in Boston is about nine feet. In order to develop twenty-five acres of beach from the present tidal flats will require about 500,000 cubic yards of fill. The present market cost of fill in place in Boston Harbor is about $2.00 per cubic yard. In addition, we will require a large groin, about 250 yards long, at the southern end of the beach. In the absence of more detailed costing, we will estimate the costs of the construction of this groin at 50% the cost of the fill. Thus, the initial costs associated with provision of the beach is $1,500,000. We will assume that we will lose 10% of the fill per year and thus the cost of maintaining the beach is estimated to be $100,000 annually. The present value of this stream of costs for 40 years at 5% is $3,400,000. In an actual analysis, the design of the beach and its protection and the expected loss per year should be the subject of intensive hydrologic studies on which these costs would depend.

COST OF PHYSICAL FACILITIES

Analysis of facilities at present beaches in the area indicates that it requires about 1.6 square feet of bathhouses and rest rooms to support a bather. We will assume that any food stands or snack bars are run on a self-supporting basis and that the users figure that the marginal value of the items purchased is equal to the resulting price. Hence, we need not consider these facilities within our calculus. Thus, for our purposes we will require about 22,000 square feet of test rooms and bathhouses. We also intend to provide picnic facilities at a density of 12 locations per acre or 600 picnic sites. We estimate the cost of the covered facilities at $24 per square foot and the cost of the picnic sites at $1500 apiece where costs are taken to include paths,

landscaping, fireplaces, and open shelters capable of handling 25 people apiece (37). The costs of lighting and electrical distribution are taken to be $500 per acre (38). In summary, our rough estimates of the initial and annual costs of the physical facilities are:

	Initial	Annual (Estimated)
Rest rooms, bathhouses	$ 530,000	$ 50,000
Picnic sites, landscaping, shelters	900,000	50,000
Lighting	25,000	5,000
	1,455,000	105,000
Present value of cost for 40 years at 5%	$3,495,000	

MAINLAND TO ISLAND TRANSPORTATION SUBSYSTEM

The costs of providing access to the facility are properly imputed to its use. Once again the costs that we are interested in are the marginal costs associated with the facility. If a presently available resource can be utilized in providing this transportation, it is the additional costs associated with this use that we are offered. The past construction costs, etc., are irrelevant to our analysis.

In this section we consider the costs of providing transportation from the mainland to the island. In the following section, we will consider the costs of transportation from the home to the mainland terminus of the island transportation system.

For our purposes, we will postulate the following design criteria for the mainland-to-island transportation system: this system shall be capable of transporting 14,000 people from the Boston waterfront to Lovell in four and a half hours in the morning and returning them in the same amount of time in the afternoon. In an actual analysis, the determination of these criteria would in itself be the subject of a subsidiary cost-benefit analysis, for the demand will depend in part on the level of service offered. For now, we will accept this particular level of service.

In order to perform this function, we have analyzed two possible ferries.

TABLE III.2

Typical Ferry Boat Data (39)

	Dimensions length-beam-draft-	Displacement tons	Speed knots	Passgr No.	First cost $1000	Daily dir. opert. cost $	Crew No.
1	50x12x5	57	12	100	100	200	3
2	100x20x7	260	12	600	460	600	10

The one-way distance from Rowes Wharf in downtown Boston to Lovell is six nautical miles. Allowing ten minutes at each end of the trip to load and unload, the round-trip time for each of these vessels would be 70 minutes. In four and one-half hours, each vessel could make four trips. Thus, our criteria would require 35 of the 100 passenger vessels and six of the 600 passenger ferries. The economies of the large ship are obvious; therefore, we will consider only this design in the sequel. Of course, in an actual study a complete parametric analysis of all possible vessels, including hydrofoil and ground effect machines should be undertaken to determine the minimum cost system capable of performing the selected function. Such substudies would feed back on the selection of the level of service criteria as it became clear what each level of service would cost.

Given that we employ vessel #2 and we assume this ship has a useful life of 20 years, we will have the following set of costs:

INITIAL COSTS

Six ferries	$2,750,000
Slip and jetty at Lovell	60,000

(Opportunity cost of using Rowes Wharf is essentially zero.)

ANNUAL COSTS

100 days' operating costs	360,000
Annual maintenance at $50,000 per ship	300,000

TWENTIETH YEAR COSTS

Six ferries	$2,750,000

Discounting at five percent over 40 years, this cost stream has a present value of 16.5 million dollars. If we assumed the facility

is used at capacity 25 days per year and at 50% capacity for 75 days, these costs could be recovered by a user charge of $1.00 for the round trip.*

THE COST OF TRANSPORTATION FROM HOME TO ROWES WHARF

The marginal costs of the home-to-Rowes-Wharf trip and return are also part of the cost associated with using this facility. We will assume that, since this is a recreational trip, the consumer values the time in transit neutrally. That is, on the average he would neither be willing to pay anything to shorten this time nor would he be willing to pay anything to obtain any benefits, such as sightseeing, from this portion of the trip. There is considerable evidence that on business trips commuters value their time from anywhere in the neighborhood of $1.55 per hour to, in some cases, $10.00 per hour (40). Therefore, the assumption of no net value of travel time is undoubtedly biased in favor of the project. However, with this assumption we will be able to concentrate on the money costs of the trip to the mainland terminus of the island transportation system. These costs can be grouped into two categories:

1) The social cost of the transportation resources used in making the trip;

2) If a car is used, the costs of storing a car downtown while on the island.

These social costs will vary considerably, depending upon whether we are talking about a weekend or a middle-of-the-week day. In order to obtain a first cut at these costs we will make the following assumptions:

a) As before, the facility is used by 14,000 people on 25 weekend days and by 7,000 people on 75 middle-of-the-week days.

b) On the weekdays, three-fourths of the people travel to Rowes Wharf by the present mass transit system and one-fourth by car at four people per car. The average one-way trip length of the former is five miles and of the latter ten miles.

c) On the weekend days half of the people travel to Rowes Wharf by car at three people per car. The average trip length of this trip is 12 miles. The other half travel ay mass transit at an average trip length of six miles.

* 875,000 users per year. Charges collected at time of use and discounted accordingly.

In a real study, of course, substudies would be required to predict trip length and trip modes.

The relevant costs are the marginal costs associated with this particular trip. On the weekdays, the marginal cost associated with the off-peak mass transportation users will be quite small, in many cases zero, given that the operation of the transit system is not a function of this particular type of trip. On the other hand, those recreationists who use the system during the rush hour will impose congestion costs on all other peak users. As a first approximation, we have decided to balance these by assuming that the average marginal cost is equal to the present fare which currently is about 20% less than the average cost per user of operating the mass transit system. With respect to weekday car trippers, we will estimate their marginal costs at three cents per mile (approximately fuel and oil. We are tacitly assuming no car purchase decision is based on this potential trip) and the storage costs at $3.00 per day (the current market rate of parking downtown), for the parking system is currently fully utilized during the week and operates in a reasonably competitive market. Thus, the decision of our car user to take his car implies that someone else cannot use this space.

On the weekend, the mass transit users will impose no congestion costs on the rest of the community. However, it is quite likely that some additional service will have to be scheduled to serve this demand with resultant differentials in the transit system labor costs. Therefore, despite the fact that the system as a whole is underutilized on the weekends, the marginal costs are not zero. Once again, as a first approximation, we will assume them equal to the fare. This is probably an overestimation. With respect to the car users, once again we will estimate the marginal cost of the trip at three cents per mile. However, downtown parking lots are rather severely underutilized on a summer weekend day. Hence, the opportunity costs of their use by the island users will be quite small, probably amounting to no more than the hiring of several parking lot attendants for weekend duty. As a first approximation, we will value this cost at zero.

Thus, the downtown parking case is a classic example of a situation where the same use, the storage of a car for a day, can impose very different demands on the economy, depending on differences in competing demands. Note that at present the private market does not reflect this difference. There is little difference in weekend and weekday parking rates in downtown Boston, even outside the central retail district.

Given all these assumptions, we have the following estimate of the shoreside costs in constant value dollars:

63-902 O - 71 - 44

Annual number of mass transit users = 33,000	
Annual cost of mass transit use @ 50¢ round-trip fare	= $284,000
Annual number of weekday care = 33,000	
Annual cost of weekday car trips @ 360¢	= 119,000
Annual number of weekend cars = 58,500	
Annual cost of weekend car trips 2 @ 72¢	= 42,000
Total Annual Cost	= 445,000
Present value of shoreside transportation costs @ 5% for 40 years	= $7,740,000

SUMMARY OF COSTS

Beach filling and protection	$ 3,400,000
Physical facilities	3,495,000
Island transportation	16,500,000
Shoreside transportation	7,740,000
Total	$31,100,000

INTERIM SUMMARY

We have estimated that the present value of the costs of providing and utilizing the postulated recreational activity on Lovell Island for the next 40 years to be $31,100,000 1970 dollars. If this figure is correct, it implies that, in order for the provision of this facility to be a more economic use of the island than its present use, the consumers of this recreation will have to value the benefits of a day at the island, including the trip, at $1.80 per visit or more. If the average visitor values the trip to this island and his stay there at more than $1.80, then the postulated recreational investment should be built rather than leaving the island as it is. If the average visitor values the trip and stay at less than this value, the resources needed to provide this recreation are more highly valued by society in other uses.

The $1.80 figure assumes the consumer places the same real (1970 dollars) value on a trip in 1970 as he does on a trip in 2010. We have suggested earlier that the real amount that the people would be willing to pay for recreation can be expected to rise proportionally with increases in real income. If this is the case, and using the income projections on page 70 , then, if people are presently willing to pay $1.30 for a trip and visit, this value will escalate

through time in such a way that the net present value of the project is zero. That is, we would be indifferent between the postulated development and leaving the island as it is.

As noted earlier, given the present state of the art, it is impossible to say how much people value (are willing to pay for) the recreation that the postulated facility would provide. We saw earlier that Mack and Myers indicate that it might be in the order of $2.50 per visit, in which case this project is definitely more economic than leaving the island as it is, accepting for the moment all our assumptions about cost and utilization. In any event, in cases like these where the benefits cannot usefully be estimated, it is extremely useful for the decision-maker to have available the net present value as a function of a number of assumptions about the magnitude of the benefits to be obtained from a public investment. In such a situation, which is the typical case, the analyst can no longer recommend that alternative which is most consistent with the community's values, but rather is reduced to pointing out which alternatives are consistent with what assumptions about these values, ruling out those alternatives which are dominated--not consistent with any reasonable set of values. The community or its representatives will have to explicitly make the value judgments required to determine the final choice. With this information in hand, the community or its representatives is generally in a much better position to make a judgment concerning the remaining alternatives, and much less likely to choose alternatives that are inconsistent with its own values, the system analyst's definition of tragedy.

A very simplified example of the display of the type of information we are talking about is shown below.

TABLE III.3

Gross Benefit per Visit (no escalation)	Net Present Value 40 Years @ 5%
1.00	-14.3×10^6
1.50	-5.8×10^6
2.00	$+2.6 \times 10^6$
2.50	$+11.1 \times 10^6$
3.00	$+19.5 \times 10^6$
3.50	$+26.8 \times 10^6$
4.00	$+36.3 \times 10^6$

(Escalation with real income according to page 70)

1970	2010	
1.00	2.90	-7.0×10^6
1.50	4.35	$+5.2 \times 10^6$
2.00	5.80	$+17.2 \times 10^6$
2.50	7.25	$+29.5 \times 10^6$
3.00	8.70	$+42.8 \times 10^6$

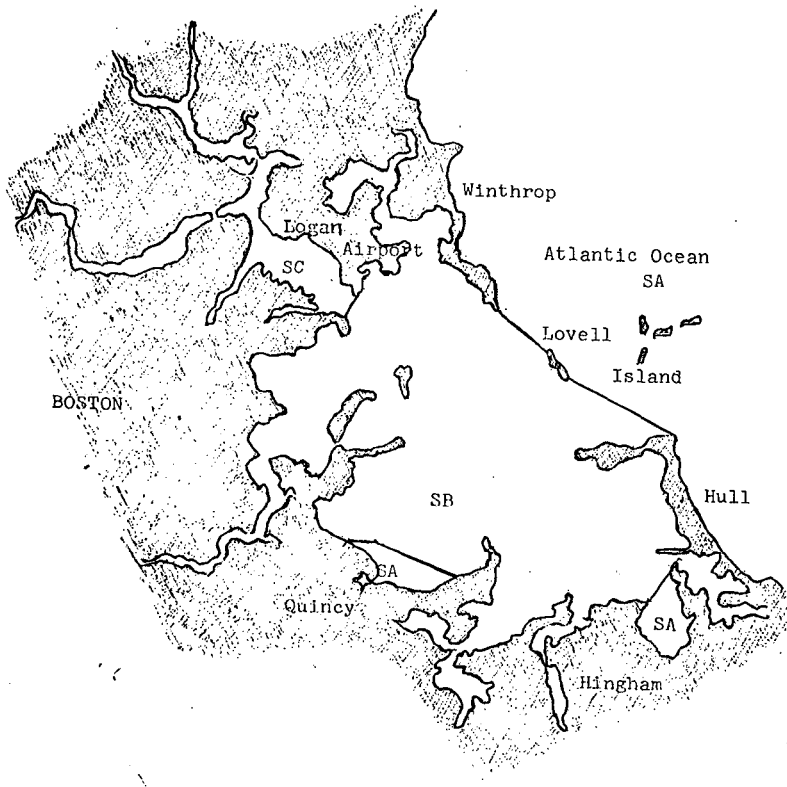
INTRODUCTION OF UNCERTAINTY INTO THIS PROBLEM

There are a great many areas of uncertainty related to this problem. There are uncertainties with respect to costs. We have just indicated the uncertainty with respect to demand. However, many of the former set of uncertainties can be dispelled by more careful cost analysis; therefore, we have not chosen to apply probabilistic methods in this area. We could have attempted to extract the community's subjective distribution on the present and future values of the amount people are willing to pay for the recreation and then shown whether the development was consistent with this distribution. However, given the problems associated with communal probability distributions, this is not usually a useful exercise and we have chosen to present the decision-maker with the results of assuming different demand values for a number of these values. Rather, we have chosen for our present expository purposes to apply uncertainty to an entirely different area, that of water quality at the facility.

The value or benefits associated with a recreational beach in the mouth of Boston Harbor during the next 40 years will be critically dependent on the quality of water at this beach through this time period. At present, the water quality in Boston Harbor ranges from anerobic cesspool to marginally suitable for bathing. Figure 3.4 indicates the present federal classification of the harbor. These ratings are probably generous. The beaches in Winthrop have been closed to bathing for some years and the South Boston beaches are closed periodically. As well be seen, the SB line (water suitable for bathing but restricted to shellfishing) extends along the inshore coast of Lovell Island. However, much of the waters rated SB on this chart is shunned by swimmers and periodically very high coliform counts in these areas bear out their judgment. In short, at present the waters in the proposed beach area are suitable for swimming almost all the time. However, they cannot be called clean and further deterioration would materially affect the quality of the swimming. Thus, in investing in a 40-year or greater lifetime system, the community must carefully consider what the water in the areas will be like during this period.

Of course, the water quality in the harbor is a variable which is under the community's control. Let us postulate three alternative developments:

a) The region decides to make a concerted effort to improve the water quality in the harbor through such means as construction of a deep rock tunnel carrying all combined sewer effluent to deep water, as suggested by Camp, Dresser and McKee, at a $2,000,000,000 initial cost (41). As a result, the water quality in the vicinity of Lovell is such that it in no way limits the use of the area as a beach.



BOSTON HARBOR
Water Quality Classification

FIGURE 3.4

Commonwealth of Massachusetts
Water Resources Commission

b) The region decides not to decrease the water quality in the harbor further. Collectors for part of the combined sewer outfalls are constructed and portions of this effluent given primary treatment. Increased demand from population growth is handled through outlets other than the harbor. As a result, the water quality at Lovell stays where it is--usable for bathing but intermittently embarrassing and not comparable to the Cape or the beaches well outside the harbor.

c) The region opts to use the harbor more intensively for sewage disposal. All the growth in demand in the metropolitan district is handled through the harbor. There is no upgrading of the combined sewer system which periodically discharges large quantities of raw waste into the harbor. As a result, in ten years' time, the beach at Lovell is closed to bathing.

Given these three hypothetical possibilities, how do we include them in our analysis?

Even though the future water quality in the harbor is under the region's control, from the point of view of making the decision as to the investment at Lovell today the future water quality cannot be predicted with certainty. It is a random variable or, more properly, a random process, since we are dealing with a random variable through time.* The problem then is to estimate the probability that at any time in the next 40 years the value of the water quality at Lovell will be such and such. With such probabilities and knowledge of the change in benefit values with water quality, we can straightforwardly, if tediously, apply the expected value analysis outlined in Chapter 2. For our purposes here, we will arbitrarily simplify the situation in order to point out how this might be done.

We will assume that only three of the myriad possible time histories of water quality through the next 40 years at Lovell have probabilities high enough to deserve analysis. These three trajectories are shown in Figure 3.5 . Further, we will assume that, if the water quality at Lovell is SA, then a visit to the island is worth 25% more to the bather than if it is SB. If the water quality is SB, then the values predicated in the earlier analysis under certainty hold. If the water quality is SC, then the beach is closed

---

*This example points out an important difference between our use of the term "random variable" and the classical statistician's. The future water quality in the harbor is not random variable to the statistician, since he cannot hypothesize a series of experiments whose statistics would reveal the value of this variable. For us, anything whose value we do not know with certainty is a random variable.

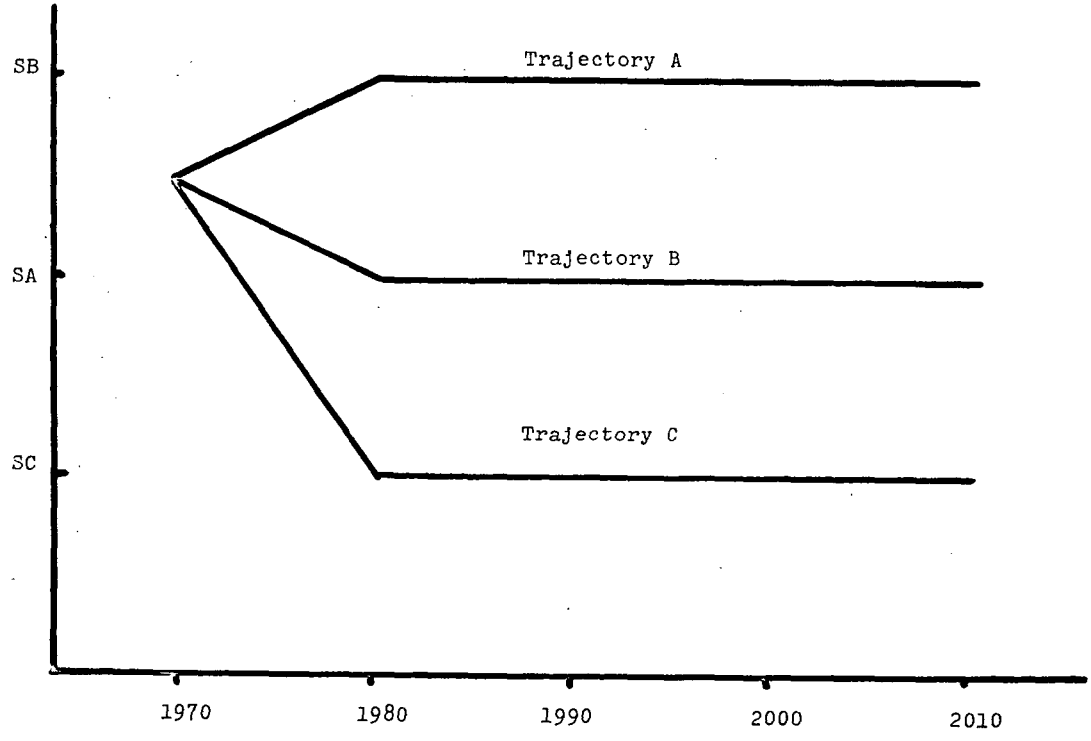


FIGURE 3.5 Three Hypothetical Time Histories of Water Quality at Lovell Island

and the investment in the island is scrapped, at negligible scrap value. Table III.4 is an expansion of Table III.3 and indicates the net present value for each of these eventualities under a range of assumptions about the original value of the recreational activity to the swimmer.*

TableIII.4 begins to illustrate the basic problem involved in leaving valuations up to the decision-maker(s). It doesn't take very many such valuations before, in combination, they lead to a very large number of alternatives and the analyst's report becomes no more than a confusing welter of figures. The analyst must, therefore, impute valuations wherever he can reasonably do so, making clear to the the decision-maker(s) under what assumptions such valuations have been made, leaving the decision-maker(s) the responsibility of making only one or two of the most intractable and critical judgments.

In the case at hand, if the society is an expected value decision-maker and is willing to assign subjective probabilities to each of the three postulated time histories of water quality we can once again collapse Table III.4. This author, by asking himself questions of the sort: At what probability, x,would be indifferent between a lottery ticket yielding him $1000 with probability x and a lottery ticket yielding him $1000 if time history A occurs and repeating the process for time histories B and C determined that his probability distribution of the three alternatives is:

Pr(A)=.05
Pr(B)+.50
Pr(C)=.45

* One of the objections that one sometimes hears to the above type of analysis is that generating such figures is useless since the figures depend on assumptions; change the assumptions and you change the figures. But the very point that we are trying to make is that the figures make clear which alternatives are consistent with which assumptions. They had better change with change in assumptions. Of course, sometimes people object to being faced with the consequences of their assumptions. Alexander calls this a "loss of innocence":

> " The use of logical structures to represent design problems has an important consequence. It brings with it the loss of innocence. A logical picture is easier to criticize than a vague one since the assumptions it is based on are brought out in the open. (emphasis ours)...I wish to state my belief in this loss of innocence very clearly because there are many designers who are apparently not willing to accept the loss. They insist that design must be a purely intuitive process; that it is hopeless to try and understand it sensibly because its problems are too deep." (42.)

Alexander is talking about architects and urban designers. But the same point applys to humans in general and polititians in particular.

TABLE III.4 NET PRESENT VALUE OF LOVELL BEACH FACILITY UNDER THREE DIFFERENT WATER QUALITY TRAJECTORIES

NET PRESENT VALUE GIVEN TRAJECTORY A

INITIAL GROSS BENEFIT PER INDIVIDUAL TRIP (no escalation with income)	NET PRESENT VALUE 40 YEARS @ 5% (Millions of 1970 dollars)
$1.00	-12.3
1.50	- 2.3
2.00	+ 7.2
2.50	+16.9
3.00	+26.4
(escalation with real income per page 69)	
$1.00	+ 1.5
1.50	+17.7
2.00	+33.9
2.50	+50.3
3.00	+66.4

NET PRESENT VALUE UNDER TRAJECTORY B
(same as Table)

(no escalation with income)	
$1.00	-14.3
1.50	- 5.8
2.00	+ 2.6
2.50	+11.1
3.00	+19.5
(escalation with real income)	
$1.00	- 7.0
1.50	+ 5.2
2.00	+17.2
2.50	+29.5
3.00	+42.8

NET PRESENT VALUE UNDER TRAJECTORY C

In this case, no costs are incurred after the tenth year. The present value of the truncated cost stream is $16.2 million dollars)

(no escalation with income)	
$1.00	- 9.3
1.50	- 5.8
2.00	- 2.4
2.50	+ 1.1
3.00	+ 4.2
(escalation with income)	
$1.00	- 8.5
1.50	- 4.7
2.00	- .8
2.50	+ 3.0
3.00	+ 7.8

Let us for the moment assume that the author is an expert in the water quality of Boston Harbor, which he isn't, and that the analyst is willing to accept this distribution as descriptive of the community's distribution on this random variable or, better yet, the relevant decision-maker(s) are willing to accept this distribution as descriptive of the community's distribution, then, as outlined in Chapter II, Table III.4, collapses to:*

TABLE III.5 EXPECTED NET PRESENT VALUE OF LOVELL BEACH FACILITY ASSUMING PROBABILITIES OF WATER QUALITY TRAJECTORIES A,B, AND C ARE .05, .50, and .45, RESPECTIVELY

INITIAL GROSS BENEFIT PER VISIT	EXPECTED NET PRESENT VALUE 40 YEARS @ 5% (millions of 1970 dollars)
(no escalation)	
$1.00	-12.5
1.50	- 5.6
2.00	+ 2.7
2.50	+ 6.9
3.00	+15.2
(escalation with real income)	
$1.00	- 7.3
1.50	+ .6
2.00	+ 9.9
2.50	+18.0
3.00	+27.2

Thus, accepting our costs and other assumptions, if the community has these probabilities on water quality, the facility should be built rather than leave the island as it is, if the present average gross benefit (the maximum amount the average user is willing to pay for a visit) is greater than about $2.00 assuming no escalation, or greater than about $1.50, given escalation in proportion to projected increase in real income. ** Notice that since we have not evaluated any alternatives

*In an actual study, this distribution might be determined by assembling a group of authorities on the subject, extracting the distribution of each, and letting them argue out differences in the distributions. From this point of view, subjective probility becomes a means of incorporating and weighing expert opinion in the cost-benefit analysis.

**It is important to recognize that we are not guaranteed the values shown in Table III.5. Let us assume that the community's present gross benefit is $2.00 and no escalation is assumed. Then the community should build the facility rather than leave the island as it is. This is the right decision; that is,the decision that is consistent with its assumed values

other than the postulated beach facility and implicitly leaving the island as it is at zero net benefit, we cannot make any judgments about whether or not the beach facility is the best use of this island, only that in these cases it is better than leaving the island alone. A full-scale analysis of the island would include a representative spectrum of different alternative employments and mixes of these employments. For example, by postulating a high-rise residential development as well as a beach, we may be able to take advantage of substantial economies of scale with respect to the island-mainland transportation system, especially since the residential travel will generally flow in the opposite direction to the recreational flow.

In making comparisons of the present alternative with other possible developments, displays such as Table III.4 will be useful in comparing the beach facility with other developments which will be less sensitive to water quality, such as a pure high-rise residence or almost completely insensitive to water quality, such as an oil terminal.

FINANCING THE PROJECT

Let us assume for the moment that the community's decisionmaker(s) decide that the present gross benefit per visit is $2.00 and some escalation of this value is in order and that providing the beach and leaving the island as it is are the only two feasible alternatives, in which case our analysis indicates that, if the community is going to operate in a manner consistent with its values, the beach should be built. The question that immediately arises is who is going to pay for it and how? From whom are we going to transfer the resources required to implement this project? This question is explicitly distributional in nature and hence our complete concentration on economic efficiency in this report becomes more than a little bit uncomfortable at this point. However, if we are prepared to be indifferent to the haphazard and rather small scale transfers of income which can be

** (continued) and the knowledge it has at the time of the decision. Given that it does so, it is quite possible that trajectory C will obtain, in which case the project loses money. This does not imply that the wrong decision was made. One of the most basic differences between decision-making under certainty and decision-making under uncertainty is that in the latter case one cannot judge the correctness of the decision by the outcome.

effected at the project level, efficiency has a number of important things to say about how the project should be financed.*

In fact, it is not possible to be consistent with our basic principles unless the user is charged at least the marginal social cost of his trip to Lovell. In this sense the provision of public projects and their financing cannot be separated. (43) Failure to charge the user the marginal cost of his trip will lead to Pareto-inefficient congestion, and public pressure for expanded facilities which would not be demanded at marginal costs--inefficient use of a project whose justification was economic efficiency.

Now a floor on the marginal social cost of an individual trip is the value of the added resources required by the marginal user which, as in the case above, can be quite small. If the beach is there and the ferries running and if there is room for an additional passenger and an additional beach blanket, the addition of one more beach user implies that the rest of society foregoes almost nothing. Therefore, it appears we are back in the now-familiar- decreasing costs bind--efficiency requires price equal to marginal cost and the revenues thus generated will not cover the total costs of the project. Financing remains a problem.

This is true. However, there are several ameliorating circumstances which point to user charges above the cost of the extra resources implied by the marginal trip.

1) In situations where alternate goods (say, an inland swimming pool) are charging above marginal costs, then one can argue for a charge above marginal cost to prevent over-utilization of the subject project at the expense of underutilization of the competitive project.(44)

* To the extent that the nation opts to perform any desired income redistribution through taxation at the national level, the easier it will be to be indifferent to income transfers at the project level--an important by-product of income redistribution at the national level.

2) The marginal costs the user should be charged should include not only the market costs implied by his use but any extra non-market costs such as pollution which result. This consideration is unlikely to be important in the case at hand but might be critical in the case of say, industrial use of a publicly provided navigation facility.

3) The fact that the difference between the total of the user charges and the total of the costs of the project will have to be made up by taxation which itself implies a distortion of the economy argues that user charges should be set somewhat above marginal costs. See reference(45).

4) Most importantly, in cases where the project is being used at or near capacity, the costs of the extra resources required by a marginal user are no measure of the social cost of the use for one person's use of the facility will be preventing or decreasing the value (through congestion) of someone elses use. The amount the other users actual and potential including the potential user shut out would be willing to pay to not have him use the facility is the social cost of this trip.* In short, the basic purpose of pricing is to ration out the existing facilities to those users who value it most highly (given the present income distribution). Efficiency requires that prices should be raised to the point where this rationing is effective. This can imply users charges which are much larger than even the average cost of the use.

In accordance with our basic definition of social cost, this is an either-or situation. If the actual users are willing to pay more for one less person on the beach then potential users are willing to pay to take the place of the marginal user, then the actual users determine the social cost of the marginal users. Otherwise, the potential user's bid is the social cost. A case of the former possibility is evident at those ski resorts which charge a premium for limiting daily sales of lift tickets.

Shutting low income groups off from public projects just when the demand for these projects is at a peak may seem to be an awfully high price to pay for resource efficiency. However, as we shall see, application of these principles can be a two-edged sword working for as well as against low income groups. Consider the case of public project, like our proposed beach, which is subject to time-varying demands. The demand for the project on a weekend will in general be much higher than the demand on a weekday. Consequently, user charges should be higher-quite possibly much higher on weekends than on weekdays. One may find that on a weekend one has to charge $4.00 per person per day to prevent congestion while on a weekday one is forced to reduce the charge to 25¢ per head to fill the beach. Under the assumptions, made earlier, this combination of charges would make the project self-supporting. Furthermore, the consequences with respect to income distribution are obvious. The weekend user would be the middle income citizen whose job both forces him and allows him to pay the premium for weekend use. The week day user would be middle and lower income children who have the freedom to take advantage of the beach while their more fortunate brethren are working. In short, there are many situations in which efficient pricing of public goods will coincide with the most egalitarian tastes about income distribution.*

All the above notwithstanding, in many cases, efficiency will call for the provision of public projects for which the efficient user charges will not cover the total costs of the project. Cost-benefit analysis is almost completely silent on how the differential should be collected. All we really know after this analysis is that, given the postulated values (average benefit of $2.00 or more per trip) there exists a scheme (a set of payments and compensations) for paying for this facility such that, after such payments and

This idea works better when the groups involved are low income and middle income than when they are middle income and high income. Commuter train charges should peak at rush hour. High income people may find it easier to avoid the peak charges than middle income.

compensations are made, everybody will feel at least as well off and some people will feel better off with the beach rather than leaving the island as it is. Cost-benefit analysis is of little or no help in finding such a scheme and, more to the point, of finding a financing program which is institutionally and politically feasible. If no feasible financing strategy can be found, then the project may have to be abandoned whatever its present value. However, the larger the net present value, in general, the easier it will be to find an acceptable financing scheme and the harder one should look for such a scheme. Thus, from the point of view of financing, cost-benefit analysis is a screening method. Those projects which have positive net present values are candidates for which one should attempt to find a feasible financing method; those which have a negative net present value or are dominated by a feasible mutually exclusive alternative with a greater present value can be dismissed at once.

Even if no politically feasible scheme which compensates all those negatively affected by the investmend can be found, it may be good social policy to undertake a project with positive net present value even though some people are put in worse positions than before, provided that the benefits to others are sufficiently great and widespread. In so arguing, one is taking tacit advantage of the fact that if there are many such projects, one may be able to state that with high probability the law of large numbers will eventually equalize the benefits.

Finally, given political realities, it may be self-defeating to push efficiency in project pricing too hard. Often, if a project is really worthwhile, the inefficiency implied by non-marginal cost financing will be small compared to the overall benefits of the project and, in searching for a financing scheme one should concentrate on political feasibility rather than at attempting to milk the project for the last iota of net present valued benefits. In so doing one should remember that this is not always the case. The net present valued benefit of a project is not independent of the pricing scheme and in some cases this dependence can be crucial. Attempts at average cost pricing of urban mass transit may be a prime reason for its failure.

SUMMARY OF CHAPTER III

This completes our exemplary analysis. We have already commented on its lack of detail and comprehensiveness and will not repeat these caveats here, for they can be overcome by straightforward application of effort. For Lovell Island an actual cost-benefit study might include the preliminary costing of eight or ten postulated combinations of recreational facilities, residential development, and industrial uses and an estimation of their benefits. This process would be iterative in the sense that, in the analysis of these alternatives, it will become clear which modifications of these alternatives should also be studied. We believe it should be clear from our cursory analysis of a single alternative how these investigations should be carried out, the kinds of assumptions that will be required, and the type of judgment which will be required in deciding whether to impute a value or a probability distribution to a hard-to-estimate variable or to present the decision-makers with the results as a function of this variable and let them make a judgment on it either explicitly or implicitly. Thus, if Lovell Island were or could be considered to be an isolated entity, the application of cost-benefit analysis to this resource would present no great conceptual difficulties.

The problem is that Lovell is not a completely isolated economic entity and considering it to be so may result in inefficient suboptimization and it is in this respect that the preceding analysis may be misleading. For example, consider the island transportation system. If Lovell is considered in isolation, it has to bear the full costs of this system. However, if the other islands surrounding Lovell were developed at the same time, all of which were served by the same transportation system, then the development on Lovell would have to bear only the marginal costs of serving Lovell. Since public transportation systems are typically characterized by marginal costs a good deal less than average costs, this would make this transportation appear considerably cheaper from the point of view of Lovell and may change the ranking of the alternative developments on Lovell. Or consider the problem of spillovers. An isolated study of Lovell might conclude that the net present value of the island is maximized by utilizing the island as an oil terminal, which use might seriously decrease the benefit which could be obtained from the neighboring islands due to air, water or visual pollution. Unless this decrease is included in the analysis of Lovell, serious misallocations may occur.

Therefore, as always, the analyst is faced with defining the boundaries of the problem and accounting for the important effects that cross those boundaries. The more comprehensive the boundaries, the less likely one is to leave out important benefits or disbenefits and, at the same time, the more staggering the analysis problem becomes. For example, considering Lovell alone, eight or ten well-chosen alternative developments may cover the range of possibilities quite well. However, in order to consider the harbor islands as a whole, one may have to analyze hundreds of complex alternative developments to be able to say with any degree of confidence that one has located a development which comes close to maximizing the net present value obtainable from the islands. The problem of comprehensiveness versus analytical feasibility is considered in more detail in Chapter IV.

63-902 O - 71 - 45

CHAPTER IV
REGIONWIDE DEVELOPMENT STRATEGIES

Introduction

The purpose of this chapter is to lift our view from the analysis of individual projects to the consideration of the efficient allocation of a regional coastal zone taken as a whole. We begin by considering some basic theoretical and practical limitations of project by project analysis which emphasize the impossibility of governmental analysis of all possible allocations of the coastal zone, even if this were a politically feasible or desirable undertaking. Thus, the great bulk of coastal zone decisions must and certainly will remain the province of a complex constellation of decentralized decisionmakers at the individual, local, state and federal levels. The discussion then focuses on what we can say about organizing this structure in such a manner that it will tend to operate toward an efficient allocation of the coastal zone. Finally, we return to a discussion of our basic assumption that society's goal is Pareto-efficiency relative to the present income distribution and reexamine our conclusions in the light of this provisional assumption.

Limitations of Project by Project Analysis

The allocation of coastal areas is just a special problem within the general problem of locational economics. All the problems of zoning, taxation, and striking the right balance between and among public and private uses are present. Since there is basically a fixed supply of land or space, the fixed supply of coastal areas does not make coastal allocation problems unique. The problem may be more acute, however, if there is more demand for the fixed supply of coastal areas. Being more valuable pieces of property, the allocation decisions are correspondingly more important.

The allocation problem should not be thought of as fitting square pegs into square holes and round pegs into round holes. There are a few activities that must be located in particular spots (the extraction industries are the best example), but most activities can be located in a variety of locations on the shore and back from the shore. Different locations may have different associated net present values, but there is not typically only one location with a positive net present value for each project. Thus, the social problem is how to maximize the net present value of all the projects which might be located in an area and not simply to maximize the net present value of each individual project.

The basic problem is that all locational decisions are by nature interdependent through the fact that one project's use of a particular portion of the coastal zone excludes another project from using this particular area. Viewed in this regard individual projects are interdependent and in a sense mutually exclusive.

In a properly functioning market this interdependency would be taken care of by the price of land. Consider the following simple example. Suppose we have only two locations: location 1 is on the shore, location 2 inland, and only two possible uses of these locations. Use A is an industrial plant which after all spill-overs are properly accounted for has a net present value (exclusive of the cost of land) of 10 in location 1 and 9 in location 2. Use B is a recreation facility which has a net present value of 4 in location 1 and 1 in location 2 also exclusive of the cost of the land. Thus, we have the following table.

USES	LOCATIONS 1	LOCATIONS 2
A	10	9
B	4	1

The first thing to notice is that even if the above figures correctly represent the net social benefits of the respective projects we should not allocate the plant to 1 and the recreation facility to 2, for this would give a total net social benefit of 10 + 1 = 11 while the opposite allocation would yield a total of 13. It costs the plant less to move to its second best location than it does the recreation facility.

Given a properly functioning market for land the desired allocation would be achieved for the recreation facility could afford to bid up to 3 units for location A while it sould pay the plant to bid no more than 1 unit. The market value of location A would be something in excess of one unit more than the market value of location B and the recreation facility would obtain the property.*

Note, however, that even if we deducted the market value of the land in our cost benefit analysis, the results narrowly interpreted would be misleading. Say the land cost is 1.5 units and we examine location A in isolation. The net present value including land costs of the plant would be 8.5 versus 2.5 for the recreation facility and we would locate the plant at A. Apparently, cost benefit analysis points to a demonstrably inferior allocation.

* This result presumes that the organization representing recreation interests is financed in a manner consistent with society's desires. More on this later.

The key to this problem is that the alternatives are not:

1 put plant at A
2 put recreation facility at A
3 do nothing with A

and nothing else. If this were the complete set of alternatives, we should allocate A to the plant as indicated. However, the actual set of alternatives are:

1 allocate plant to A, recreation facility to B
2 allocate recreation facility to A, plant to B
3 allocate plant to A, do nothing with B
4 allocate recreation facility to A, do nothing with B
5 allocate plant to B, do nothing with A
6 allocate recreation facility to B, do nothing with A
7 do nothing with either location

In summary, cost benefit analysis will not lead one wrong if one evaluates the total net present value of the full range of alternatives.* However, the number of alternatives increase combinatorially with the number of possible locations. This then is the basic conceptual limitation on cost-benefit analysis: if one doesn't evaluate the full range of alternatives, then one can be led astray, but the evaluation of the full range of alternatives is generally completely infeasible. This limitation is in a real sense more confining then the more-often-mentioned difficulties in measuring non-market benefits, for as indicated in Chapter 3 this latter problem can be ameliorated by performing the analyses over a range of values for the non-market benefits.

This is not to imply that we believe project analysis to be useless. Far from it, there are dozens of projects suggested for the Northern New England Coastal Zone deserving of searching cost-benefit analysis-projects for which one can usefully hold the rest of the coastal zone fixed while performing the evaluations, projects for which although

* A famous varient on this kind of error is to trim the set of alternatives down to acceptance or rejection of a 'Master Plan.' in which the accounts of a vast number of projects are pooled and if the net present value of the pooled project is positive all the component projects, some of which may be grossly inefficient, are accepted. The Missouri River and Upper Colorado irrigation plans may be cases in point.(15)

one obviously cannot analyze all possible combinations of locations, one can postulate a representative and workable spectrum of alternatives. A prime example is the proposed Maine refinery. See Appendix C. This limitation does imply, however, that whenever we undertake cost benefit analysis of locational decisions we are engaging in a form of suboptimization with all the dangers attendent there to. And it does imply that only a very few of the multitudinous coastal zone allocations decisions can usefully and feasibly be treated by the type of analysis outlined in Chapter III. It does mean that the great bulk of coastal zone allocation decisions (including those based on these project analyses) will have to be made by a complex decentralized political structure.* The question then is: given what we have seen so far, what can we say about how this political structure should be organized if society's goal is the Pareto-efficient allocation of the coastal zone with respect to the present income distribution?** We shall discuss in turn the following mechanisms through which society can directly control the allocation of the coastal zone:

1) Zoning
2) Property Taxes
3) User Charges
4) Effluent Charges

Zoning

At present, the single most important means of interfering with the private market allocation of the coastal zone is through zoning. Zoning at least in the northern New England Coastal Zone is presently in the almost exclusive control of the local community. Presumably, local zoning was orginally evolved as a means of controlling

---

* Conceptual problems aside, good cost-benefit analysis requires considerable time and effort (considerable resources). Only for a few of the most substantial public investments will it be efficient to devote this time and effort for the resulting increase in information.

** And as our simple little example hints a decentralized structure oriented around the private market may be capable of making these decisions in an efficient manner.

negative spillovers and facilitating certain contracts. It was observed that, for example, an industrial use of a site adversely affects the property values of neighboring residential sites. And it was further observed that if all industrial uses were grouped together, the sum total of these spillover effects was less than if they were spread throughout the town. This grouping might not have occured in an unregulated market due to contracting costs. Thus, zoning to effect the desired reallocation was almost universally instituted.

However, at the same time, the towns universally opted for the property tax as a means of generating public revenues for the provision of such public goods as sewerage, access, police protection, and generally education. It became quickly apparent that given property taxes, zoning and the public revenues and costs were coupled. With suitable zoning, a town could control the distribution of income within the community, the age and size of families, and a variety of other factors which have little to do with spillovers or contracting costs. (See Appendix A for a description of one coastal town's view of zoning.) At this point, any proposed zoning change is evaluated primarily on its marginal effect on public revenues and costs. The question becomes: will the change increase the town's revenues more than it will increase the cost of the services it provides? At this point, zoning becomes heavily biased toward small, high income families, industrial and commercial uses (the very uses it originally was designed to control), and most importantly in the coastal zone, in favor of high income summer residences (which generate revenue while placing almost no burden on the town's costs) and away from public recreational facilities (which decrease town revenues while placing a very high burden on costs). Thus, we see that local zoning when coupled with the property tax and local provision of a variety of services can have an entirely different result than that presumably intended originally. Zoning decisions become focused on the parochial benefits and disbenefits of any proposed changes rather than on spillovers.

Still in all, zoning has many real and potential virtues. It is a uniquely effective, and very low administrative cost means of both controlling certain types of spillovers and affecting an efficient geographical specialization of land use.* We shall argue that many of the present misallocations laid to zoning are really a

* The degree to which this specialization can occur is presently limited by the size of the zoning units.

fault of its tie-in with the property tax and an historical overreliance on local coastal zone communities for regionwide public goods. If the changes which we recommend in these areas could be effected, much of the criticism of problems associated with local zoning would be greatly ameliorated.

Be that as it may, some problems would remain and it is not at all clear that the changes which we will recommend with respect to the property tax are politically feasible at least in the short run. Given this, what can we do to improve our zoning procedure?

We have seen that the basic problem is parochial benefits. In so far as parochial benefits are a wash within the purview of the zoning body, that body is likely to concentrate on spillovers as locally perceived and can be expected to improve on the private market allocation. Given that we have a variety of governmental levels at which we could effect zoning, a possible approach is to give control of a particular type of decision to the lowest level at which the parochial benefits resulting from the decision will be a wash. This leads to a hierarchical structure in which progressively more general levels of government have control of progressively more general decisions. Consider the case of a New England refinery. From the point of view of the Federal government, parochial differentials involved due to changes in the state in which the refinery is located will be a wash. Thus, the Federal government could be given control over whether or not a refinery should be built in a particular state. Now from the point of view of the state chosen for the refinery, differentials in parochial benefits due to differences in the township in which the refinery is located are a wash and the state could be given control over picking a township. From the point of view of the township chosen, parochial benefits due to changes in the refinery site within the town are a wash and the town could be given control over the actual site.

It might be both more efficient and more politically palatable if in the actual selection process the system could work backwards with each potential town picking a site which it suggests to the state level, which in turn picks a town, forwarding its result to the federal government level which picks a state or nixes the whole

idea. The economies associated with this division of analytical effort are obvious. (Something vaguely resembling this happens now with respect to choice of sites for major expositions or particularly attractive government installations. However, the process might well stand some formalization.)

Unfortunately, as outlined, it would work only for those projects for which the net of the parochial benefits and spillovers within the community were positive. At present large scale non-commercial recreational developments and conservationists uses of the land often represent parochial losses to the community involved.

Thus, if we are going to accept voluntary hierarchical zoning we require a system such that any project which is efficient with respect to society as a whole will appear to be a net benefit to the locality. Given the parochial benefits associated with industrial and recreational projects and the positive local spillovers associated with low intensity recreation and conservation setting up such a system may not be impossible. However, as we shall argue in the next section, in order to arrive at such a situation considerable structural changes in the means by which the towns generate their revenues will be required.

Property Taxes

Property taxation as presently applied in the coastal zone has some serious difficulties. Ad valorem property taxes have macroeconomic problems. They are unresponsive to economic cycles. They become increasingly regressive as the society becomes increasingly wealthy. However, we shall not be concerned with these issues, but rather with their effect on the efficiency of coastal zone allocation. Property taxation as presently applied is intimately tied to private market values (often with a rather considerable lag.) In so far as the market overvalues private uses and undervalues public, a town development policy will react accordingly. This situation is aggravated by the fact that public uses of the land are generally exempted from property taxes altogether. In the absence of a local political body with effective development control, such a property taxation scheme would be biased in favor of public uses of the land and result in underdevelopment by Paretian standards. However, if a town is deriving its revenues from property taxation, it cannot afford to dedicate land to public use and, in fact, strives to

dedicate land to uses which have a large differential between resulting private market evaluation of the property and cost of services required. We feel confident that the net effect of property taxation based on market value is a bias toward high income residences and industrial and commercial uses of the coastal zone. It is certainly biased against most non-taxable uses of the land, public recreation and conservation.

It is our opinion that a better alternative would be:

a) The institution of user charges to raise municipal revenues--a fee for sewage, a fee for police protection, etc., all based on the costs of providing that service to each person or structure.*

b) Dependence on broader political units then the municipality for public goods serving more than the municipality such as large recreation facilities and education.

A fee based taxation scheme would still be income regressive. However, we feel that the local municipality is a bad level at which to attempt to effect society's desired redistribution of income. User charges have the advantage that local development decisions would not be biased by income or age or toward industrial or commercial uses. In so far as the public goods which the town provides are subject to decreasing costs and the town charged average costs, this taxation scheme would still bias the local zoning boards decisions toward overdevelopment in general. However, we do not feel that the services being offered are subject to large economies of scale and that these economies of scale will be at least partially balanced by increasing costs due to interference, congestion, and the requirement to use increasingly unfavorable land for even a moderately well developed community. The one possible exception, sewage treatment, also happens to be the municipal service with the greatest spillover cost and since we are going to recommend charging these spillover

* User charges are required by efficiency considerations anyway as outlined in Chapter III. Here we are concentrating on their interaction with political considerations.

costs, there will be a tendency here for the economies of scale to be balanced by increasing effluent charges.

In short, we feel the development bias introduced by user charges will be considerably less than that which presently occurs under ad valorem property taxation. If a new development, whether it be a residence, a factory, or a regional beach, just pays its way as far as the town coffers are concerned, the local zoning board will not be influenced by effects on tax base, etc., and will concentrate on income transfers into the locality associated with the development (bad) and the spillovers (good).

The institution of user charges has one basic conflict with the American tradition (of the last ninety years) and that is the provision of public education without reference to income. At the elementary and high school level this has been handled by the local communities. Obviously, a user charge (an education fee to each family based on number of children being schooled) which would be required if the town's decisions are to be not biased against low income families would defeat the income redistribution aspects of this policy. Therefore, the institution of such a charge would have to be coupled with educational support from a broader governmental level if this principle is to be preserved. This support could take the place of a payment to the town for each child educated or a payment to the parent positively earmarked in some way for education, in which case the private market could be used to provide education. Both these alternatives would provide a considerably more even quality of education then the present system which is clearly biased against the child in low income areas and large cities. A principle seems to be emerging; effect desired income transfers at levels higher than the municipality.

Similarly, user charges will have to be levied on those public developments such as large scale beaches which serve an area larger than the local community. If the town provides sewerage, police or fire protection to this development then it will have to be compensated for this service if its development decisions are to be not biased against such developments. This implies that the public facility will have to be owned by a broader based governmental body representing all the potential users of the development, who will then pay the town for the services provided.

The common practice along the coastal zone of asking the local community to provide region serving beaches--presumably on the basis of parochial benefits, which parochial benefits are most readily capitalized on by the abject commercialization of the beach area--should be ended. If the region wants a beach, it should pay for it directly.

Effluent Charges

Up to this point the discussion has focused on means of decoupling the municipal revenue raising function from the local community's development decisions, for we have seen that, in general, such coupling can lead to coastal zone allocations which are grossly inconsistent with the goal we have assumed for society--a Pareto-efficient allocation of the coastal zone. In this section, we ask in what manner can we use taxation to correct for market failures in the allocation of the coastal zone? We re-emphasize that the general question of how should one interfere with the market in the coastal zone cannot be given a meaningful answer until one is decided on what one wants from the coastal zone. Our provisional assumption again is, that society desires that allocation of the coastal zone which is consistent with willingness-to-pay under the present income distribution. Given this assumption, we will consider taxation of spillovers, or since the major spillover with which we will be concerned involves disposal, effluent charges.

Given our acceptance of willingness-to-pay, it is easy to state the principle by which that level of pollution which is consistent with willingness-to-pay should be determined.

ANY GIVEN POLLUTANT LEVEL SHOULD BE ACHIEVED BY THE LEAST COSTLY MEANS AVAILABLE. THAT LEVEL OF POLLUTION SHOULD BE ACHIEVED AT WHICH THE COST OF FURTHER REDUCTION WOULD EXCEED THE BENEFITS (46).

This will be the level which minimizes the sum of the costs of polluting (damage to people and things, increased production costs to downstream users, opportunities foregone, esthetic disbenefits) and the costs of not polluting (costs of treatment, of changing technology or withholding production). In general, at very low pollutant levels the costs of the pollution are small, but the costs of attaining that level are quite high and vice versa. Efficiency demands that we find the intermediate point at which the sum of these costs are minimum. A necessary

condition for level x to be the cost minimizing level is that the cost of reducing pollution one more unit is equal to the increase in the costs of pollution from moving from level x-1 to x. Or more concisely, x will be the point where the marginal cost of reduction equals the marginal social cost of the damages.

We have seen that the unaided market will, in general, yield a higher level of pollution than this ,for the polluter does not bear the cost of his pollution. The question then is what kind of market interference will best obtain the desired level. Clearly, some means of enforcing pollution abatement are better than others.

There are three major alternatives with respect to means of controlling spillovers:

1. Direct regulation via licenses, compulsory standards, etc.

2. Payments either direct or through reduction in collections that would otherwise be made, such as accelerated depreciation of control equipment and tax credits.

3. Charges or taxes based on the amount of pollution discharged.

Almost all the present pollution control schemes fall into the first category. However, direct regulation is clumsy and inflexible and loses the advantages that can be obtained by inducing the kind of decentralized decision-making that makes the competitive market such an efficient device under the right conditions. For example, a rule that factories limited their discharges of a particular pollutant to a certain percentage of its total discharge is less desirable than a system of effluent fees that achieves the same overall level of pollution, because with the latter each firm would be able to make the adjustment in the manner that best suited its own situation. Those firms who found it very expensive to reduce the level of pollutants would adjust their output less than the firms who found it cheap to reduce this level. Society would achieve the same level of pollution at less cost to itself.

Thus, economic efficiency points to the latter two categories. With respect to these, we should first point out that it is most efficient to have any system of charges or payments based on the actual level of effluent and not on something that is indirectly related to this level, such as the purchase of control equipment. A payment to firms for decreasing the discharge of pollutants is

better than a tax credit on pollution control equipment because the latter introduces a bias against other means of reducing the discharge of pollutants, such as a change in production technology. Similarly, an effluent charge on gasoline would be biased against devices for controlling emissions during the burning of gasoline.

There are two reasons for favoring charges over payments:

a) There is no natural origin for payments. The amount of payment should be based on the reduction in the discharge of pollutants below what it would have been without the subsidy. Estimation of this magnitude would be difficult and the recipient would have an obvious incentive to exaggerate the amounts he would have discharged before subsidy. Furthermore, any potential polluter would have to be paid a subsidy for not building an effluent producing installation. The problems of obtaining the information required to determine the amount of this subsidy would be prohibitive.

b) Subsidies will require the raising of funds by taxes to a much greater degree then cha ges which taxes themselves distort the economy. Furthermore, the distributional effects of a subsidy may be politically unpalatable.

In short, if we are going to be consistent with one of the basic principles of resource efficiency, price=marginal social costs, the social cost of any individual's use of any resource will have to be charged to this individual. Therefore, given our basic premises, there appears to be a clear case for effluent charges. Of course, such a system involves some very real implementation problems and will have to be carefully worked into an overall coastal zone management system.

First, it should be clear that any system of effluent charges or effluent charges combined with regulation will have to be comprehensive. If, for example, a system was applied only to water quality the result would be an overreliance on incineration and industrial processes (such as the kraft pulping rather than the sulphite system in paper making) which would transfer the pollutants from the water to the atmosphere. At least as important the system will have to be comprehensive geographically or the result of the system will be to merely translate effluent producing activities to a

location where the system is not operative. This will be especially important if control over the system is to be given to local or even state wide bodies, for these bodies will be concerned with parochial benefits and developers will be able to bargain among these bodies for favorable regulations and levels of charges, and we will be right back where we started from.

On the other hand, the socially desirable level of any given pollutant, as defined above, can vary markedly from location to location. The social costs of polluting a body of water especially well suited and developed for recreation can be much higher than the social costs which will arise from the same level of pollution in a body of water unsuited for other than industrial use. Hence, the cost minimizing level of pollution and the effluent charge designed to achieve that level can be quite different in different locations.*

Problem: who chooses the levels of the effluent charges to be assessed in a certain location or equivalently; who determines the socially desirable levels of each pollutant as a function of location? Who defines the subareas over which the desired pollutant levels are constant? Theoretically, this should be done by determining the social costs associated with each level of each pollutant in each location- a clearly infeasible undertaking. Therefore, in practice it will have to be decided upon by some combination of the political structure. Some ideas on how this structure might be organized are outlined in the last section of this chapter.

For now, we turn to the major technical limitation on an effluent charge system, the cost of monitoring. Of course, any effluent regulation system implies a monitoring problem. However, the requirements for a system which will allow any polluter to pollute

* Conversely, it is true that throughout any subarea over which the desired level of a particular pollutant is constant, the effluent charge on that pollutant should also be constant in order to insure that the marginal costs of reduction of all polluters in this subarea is equal to the marginal social cost of the pollution. This constancy obviously simplifies the problem of determining effluent charges considerably, for once we have defined a subarea we need only vary the single effluent charge until we find the charge that leads to the desired level in that subarea.

at whatever level he desires and to change the level as he desires--provided he pays the price--imposes somewhat more stringent requirements than a system which sets effluent standards which can be checked intermittently at random times. An effective effluent charge system will require continuous monitoring. For many effluents and in particular large scale industrial and municipal operations this will be no great problem, since the technology is available and the costs of monitoring will be small when compared with the social costs of the effluent. In other cases, continuous monitoring is either very expensive at present usually due to the low concentrations of interest or the monitoring of each unit will be out of line with the costs inflicted on society by that unit. Mercury contamination may be a case of the former and home heating and auto emissions may be cases of the latter.

In such situations direct regulation may be more efficient. This is a classic contracting cost problem. As monitoring technology develops these contracting costs will become smaller and more and more types of effluents will qualify for treatment via effluent charges. For the time being, however, any well designed effluent control system will have to consist of a combination of effluent charges and effluent standards.

There is also a case for subsidy and this involves the classic collective good, basic knowledge. Since knowledge is a collective good, the private market cannot be expected to invest the Pareto-efficient amount of resources in its attainment. In the case at hand, we are referring to basic knowledge concerning the effects of various levels of various pollutants on the environment and the basic technology for rendering the various pollutants more benign. There is a clear cut case for public support of research aimed at this knowledge. Thus, a comprehensive program toward pollution would involve subsidy of basic research, an effluent charge system on all pollutants for which continuous monitoring is efficient, and direct regulation of the remaining pollutants.

Willingness to Pay Reconsidered

This completes our discussion of some of the individual instruments available for coastal zone organization and their relationship to economic efficiency. Before we conclude with a proposal for how these instruments might be integrated into a coastal zone management system, it might be prudent to reconsider the basic limitations of the goal we have assumed for society, consistency with willingness to pay. Essentially, the conceptual (as

opposed to arguments concerning the practical difficulties of measuring willingness-to-pay) arguments against willingness-to-pay based on the present income distribution emanate from two basic sources:

a) People do not know what is good for them.
b) The present distribution of income is not socially desirable.

The income distribution problem (b) has already crept unwanted into our discussion at several points. However, we have yet to consider in any detail the problem (a) - difficulties involved with basing choices on willingness-to-pay which in turn are based on incomplete, biased, and sometimes erroneous information.

This is perhaps the major concern of the environmentalists and ecologists. People don't know what they are getting themselves into. At this point, we have to distinguish between two types of lack of knowledge. 1) Things that society as a whole is unsure of, i.e. what is the long term effect of changing the CO_2 balance in the atmosphere? 2) Things that society's experts know but have not yet been disseminated to all the members of society, i.e. what are the possible consequences of changing CO_2 balance and what are the expert's probabilities on these consequences? The first type of lack of knowledge, basically the more important, is not at issue here. It is the kind of uncertainty that can be handled by the methods outlined in Chapter II although, in this example, expected value analysis is almost certainly not appropriate and some means, presumably based on a vonNeumann-Morgenstern-like utility (47), will have to be developed for injecting society's risk adversion into the problem.

The second kind of lack of knowledge is basically a communication or contracting cost problem and communication is costly. Hence, in many cases, the short cut of having the experts apply their knowledge about the consequences of a proposed alternative development directly without consulting the people will be justified. This is essentially what we outlined in Chapter III. However we re-emphasize that the role of the expert here is to specify the consequences and not to say how much people should value this or that consequence. It is our feeling that the valuation be left up to the people, if they can be efficiently informed about the expert's opinion or, failing that, the peoples' elected representatives.

We feel that this division between knowledge and action upon knowledge should be reflected in the government 's organization toward spillovers and environmental consequences in general. That is, the agency charged with learning about the consequences of various actitities should be divorced from the agency which is responsible for seeing that this knowledge is incorporated into the coastal zone allocation process. The advantages of removing the first type of function from the political arena should be obvious and is in part reflected in the Stratton Commission's distinction between coastal zone laboratories and coastal zone authorities.(48) However, it appears to have been overlooked by a significant number of environmentalists and ecologists who, in their rush to get their knowledge before the people and have it acted upon, have inextricably mixed this knowledge with their own set of values or the set of values of special interest groups. We feel that the public would be better served if the experts would carefully distinguish when they are acting as analysts ("this in my judgment will be the outcome of this development") and when they are acting as protagonists of a particular value scheme ("therefore, we should not undertake the project")

It is also clear that the experts have a clear responsibility to make their knowledge known to the public. Now information is a classic example of a pure collective good. Therefore, we cannot expect the private market to supply the Pareto-efficient levels of this good. It is clearly appropriate that this good be provided publically and that includes not only the research required to generate the information, but just as important, the resources required to disseminate it.* It appears that with the possible exception of college-level education, the federal government has largely ignored the latter function. In particular, with the exception of information relating directly to the political fortunes of the incumbents, and a few small scale efforts in the public health area the federal government has relied almost entirely on the private market for the dissemination of information to adults.

It should be clear that if this information is to have any authority, it will have to be disseminated by the information gathering agency rather than the public body actually having control over the allocation.

63-902 O - 71 - 46

This brings us to the second problem associated with information in our society: built-in bias. Reliance on the private market for a collective good such as information requires some form of tie-in with a privately marketed good and the private market was not long in coming up with one. The producers of private goods require a means to inform the consumers of the availability of their product and its characteristics. Indeed, this is a requirement for the proper functioning of a competitive market. It was quickly discovered that (a) it was economic to combine the information about the project with other information the consumer was desirous of receiving, since the marginal costs of adding in the other information were quite small and this added information assured one of the consumer's attention; (b) through the shrewd use of psychology one could convince a customer, who would not otherwise buy the product even if he knew about it and its characteristics, to purchase it. Further, and still more important, one could distinguish one's product from someone elses in the consumer mind, establish a partial monopoly and reap the non-competitive profits associated with this monopoly.

Of course, (a) requires that the information that is supplied along with the advertisement is not prejudicial to the product, and further (b) requires that the information supplied along with advertisement be not prejudicial to the customer's psychological receptiveness of the advertisement's "message". Thus, as a result both the advertisement and the information accompanying it are biased. In such a situation, and given the demonstrated effectiveness of advertising, one may well wonder how much faith should be placed on the resulting willingness-to-pay? It is not in the purview of this report to go any further into this area but to merely note:

(a) Willingness-to-pay is clearly a function of the information that an individual receives.

(b) As long as the information that an individual receives is provided by the purveyors of private goods, willingness-to-pay will in some undefined sense be biased toward private goods.

(c) It is not a necessary fact of life that information in a free market society be provided through a tie-in with advertising. It could and, from a collective good point of view, should be provided publically. However, it is obvious that if this option is taken, then very careful controls must be provided to prevent the information dissemination process from becoming a tool of the party in power. There is no a priori reason to believe that such controls could not be worked out.

Let us now turn or rather return to problem (a), the dependence of willingness to pay on the present distribution of income. It is a generally accepted fact that a very important function of government (at least in the United States in 1970) is to effect socially desirable income transfers. Therefore, it is only fair to point out that many authors do not agree with our contention that it is useful to separate distribution of income considerations from efficiency of allocation of resources considerations in evaluating potential public investments. Some people feel that where distributional considerations conflict with efficiency, the problem should be regarded as having a multi-dimensional objective. However, one cannot extremize two conflicting dimensions at the same time (as in the Benthamite "greatest good for the greatest number") therefore, in order to apply extremization, which is the heart of economic analysis, one has to assign weights to the various dimensions. Some hold that we should go to the political process to obtain these weights. (49,50). Others feel that it might be possible to infer these weights from society's past decisions. (51,52,53) Still others hold that the weighting exercise is not useful, and the analyst should merely present the various descriptors dimensions to the people's representatives resulting from each of the alternatives analysed. (54)

With respect to these opinions, our view point might be described as philosophically extreme, but in actual practice pragmatically moderate. That is, we in essence hold that society's desired income transfers should be accomplished through lump sum of income tax social security payments transfered rather than public investment. As Steiner points out, this is convincing only if one thinks that such transfers will actually occur. (55) That is true, but one may well ask "if society desires the distribution of income, why isn't it taking advantage of these relatively more efficient means of doing it. Why should we have to use a relatively inefficient means of accomplishing this redistribution? Some models of the democratic process quickly lead to an egalitarian distribution of income (56) The question is where should the burden of proof be? On those who hold that a rather substantial change in the distribution of income is one of society's goals or on those who hold that we have the political mechanisms to effect the desired distribution of income if we really want to? Our tendency is to go with the latter fully realizing that the actual political animal, despite one man-one vote, is stacked in favor of the status-quo.

However, the real defense of our concentration on economic efficiency as a social goal is that it is useful. We can learn things from it. It has allowed us to be precise

in stating in just what sense the private market can be said to be a failure and this precision has in turn pointed toward certain and away from other remedies. It has allowed us to exhibit a methodology, cost-benefit analysis, through which at the very least we can rule out suggested investments which are inconsistent with any of the set of values which would result from any reasonable redistribution of income. Most importantly, it has allowed us to distinguish between true economic benefits and parochial benefits which latter effects are not net benefits under any desired distribution of income, unless one is willing to assume that society actually desires a distribution of income on the basis of geography, rather than need.* In short, we believe that whatever the short comings of accepting Pareto-efficiency based on the present distribution of income are, through this assumption we can sharpen our knowledge about what should be done with respect to the coastal zone. In this respect the report will have to speak for itself. If at this point, the reader feels he has not increased his understanding about the coastal zone allocation problem, then this thesis, or at least our presentation of it, certainly remains open to question.

Summary - A System for Managing the Coastal Zone

Perhaps the basic thesis of this report is that the institutional measures that society has evolved to correct market failures in the coastal zone usually have not only not corrected these failures, but in concert have often exacerbated them or at least replaced them with other sorts of inefficiencies. Thus, present imperfection is a necessary

* We should point out that this view point has been defended on the basis that society has made such decisions in the past. See (57). We believe that a more reasonable explanation of these decisions is that the representatives of all the people are not responsible to all the people, thus allowing parochial benefits expression at the federal level through log-rolling. Furthermore, the parochial disbenefits to the rest of the country were probably not clear to the representatives of the rest of the country at the time that any one such project was up for consideration.

but not sufficient argument for an institutional change. One must also argue that the proposed change will achieve the desired result and achieve it efficiently which can be a much more difficult argument indeed. With these sobering thoughts in mind, we are going to outline a suggestion for a coastal zone management system. While we would be the last to argue that this far from completely developed system is"the" answer to coastal zone management, we do offer it as an example of a system which is consistent with some of the principles of resource allocation which we have developed earlier and one that overcomes some of the more glaring imperfections in the present system with respect to economic efficiency.

The plan is not particularly original. To a large degree it is an amalgam of ideas that have been around for some time, However, the particular combination is probably unique and at least it will yield a starting point for discussion which is somewhat more developed then the completely general guidelines contained in present (1970) coastal zone management bills.*

The system we have in mind is outlined in Table IV.1. The basic rationale behind this particular organization is an attempt to allow expression of society's willingness to pay for collective goods and avoidance of negative spillovers while at the same time not allowing or at least not encouraging competition among political sub-bodies on the basis of parochial benefits. The key features of this plan, some of which have been alluded to earlier, are:

1) provision of municipal services through user charges,

2) a strong state level agency responsible for defining and enforcing environmental standards throughout the area under its control,

3) federal approval of the state level environmental plan enforced by contingent federal funding of the state level organization.

Under this system the locality would be responsible for the provision of the standard list of public services: police, sewage, access, with the exception of education.

* S3183, S2802, and S3354

TABLE 4.1

A SYSTEM FOR MANAGING THE COASTAL ZONE

Federal

Responsibilities

- Standards for zoning, effluent charges, regulation
- Approval of state environmental plan
- Standards for state C/B studies
  - Interest rates
  - Non-market benefits
  - Environmental effects and costs
  - Leave out parochial benefits
- Fund Education
- Research

Enforcement Mechanism

- Federal funding of state land use/coastal zone authority

Support

- Income taxation

State

Responsibilities

- Develop and get environmental plan approved
- Levy effluent charges and regulate effluents for which continuous monitoring is inefficient in accordance with plan
- Approve large scale projects
- Acquire land and develop recreation and conservation projects
- Lease off-shore properties and license water column
- Conduct and call for C/B studies in support of above

Enforcement Mechanism

- Courts, Preemptive fines

Support

- Land acquisition and development: state general funds
- Operating expenses and studies: state - federal

Local

Responsibilities

- Provide local public services, local zoning, siting of state approved projects

Support

- User charges

These services would be supported by user charges using average cost pricing if necessary, although the municipalities would be encouraged to use marginal cost pricing schemes.

Municipalities would be free to band together for whatever purpose- water supply, sewage districts, etc.- for the purpose of achieving any economies of scale obtainable therefrom . The municipality would pay effluent charges to the state level and be subject to regulations of the state level. Local zoning would continue subject to meeting these regulations and charges. The locality would have control over the local siting of large scale, state level approved projects and have recourse to the courts if it opposed a state level approved project.

The state level would have the following responsibilities:

1) Develop and obtain approval from the federal level for a statewide environmental plan which would set pollutant levels by subareas which subareas would be defined by the plan. The plan would include the state's territorial waters.

2) Levy effluent charges and/or make regulations designed to achieve these levels. These charges and regulations would, of course, apply to municipal as well as private sources.

3) Lease offshore properties and license water column resources in accordance with the plan.

4) Acquire land and easements and develop recreation and conservation projects.

5) Conduct and/or call for cost-benefit studies in support of above.

The environmental plan would divide the state into a number of subareas and designate pollutant levels for each such subarea. The state would submit this plan to the federal level plus plans for enforcing the standards in order to get federal support for the state level organization. If the plan met standards formulated at the federal level it would be approved. The state level would then have responsibility for enforcing the plan by levying

effluent charges constant throughout a subarea on those pollutants for which the monitoring required by effluent charges is efficient and by regulation where it is not. Thus, the state plan would serve as a generalized zoning device effecting any state wide specialization deemed desirable. Since the local level would be supported by user charges which would have to be levied without discrimination and the state plan could not be altered without federal approval , a developer would have a hard time finding out just whom he sells his parochial benefits to. It might be prudent to require that the state level give its explicit approval to projects above a certain size as a safe guard against loop holes in the master plan with recourse to the courts if the developer feels that an unapproved project is consistent with the master plan. The state level would be responsible for acquiring land for and developing large scale recreation and conservation projects.* The state level would have to be empowered to perform (or require the developer of a proposed large scale project to furnish) cost-benefit studies in support of the above responsibilities.

The development of the statewide environmental plan would of course involve not only the state's coastal zone, but also inland portion and its atmosphere. We have already seen that an incomplete approach to spillovers can result in an allocation which is at least as inefficient as the private market allocation. Thus, at the very least very close coordination will be required between the state level organization concerned with the coastal zone and the bodies with responsibility for the air and inland resources.

The federal level would have responsibility for setting standards to which the state level environmental plans would have to conform. This would include definition of the set of effluents to which the state plan would have to

* An unresolved problem is what to do about effluents emitted by state level projects. If the state collects effluent charges, then any charges these projects pay will be washes on the state account and, at least, theoretically,the state will have no incentive to economize on these effluents. There are several possibilities for handling this such as, have the state pay its effluent charges to the federal level or simply rely on bureaucratic parochialism. An agency which is being charged an effluent tax which goes to the general coffers probably will still act to decrease this tax.

address itself and guidelines as to acceptable levels for each of these effluents by subarea land and water use. The federal level would then approve those environmental plans which met those guidelines. Those states which obtained approval would be eligible for federal support of the state level agency's operating and analytical effort. The federal level would also set standards for the state level cost-benefit studies. These standards would include interest rates, valuations of non-market benefits, social costs of environmental effects and requirements to insure against overcounting of parochial benefits. The federal level would have access to the state level cost-benefits studies and federal funding would be contingent upon those studies meeting federal standards. The federal level would undertake the research necessary to draw up and update both the environmental plan guidelines and the cost-benefit study standards.

Under this system, coordination between neighboring states would have to be insured by continuity requirements in the respective plans. Thus, if the border of two states were a river or estuary, in order for the plans to be approved both plans would have to call for the same effluent levels in the bordering body and the same level of effluent charges in the neighboring sub-areas.

Obviously, this is a very incomplete outline of what would necessarily have to be a very complex system frought with a great many political and technical difficulties. It is offered more as an exhibit in favor of the argument that it is possible to develop political organizations which will allow expression of environmental and other non-market values while at the same time suppressing counter productive competition among political sub-bodies on the basis of parochial benefits. Unless we can do both, we cannot expect an allocation of the coastal zone which is consistent with our own individual values.

Postscript

Drafts of this report have been criticized by people whom the authors respect on two grounds:

1) The report is too speculative. It makes judgments where conservative economics would require withholding judgment until our theoretical foundations are more firmly planted, until more data is in.

2) The report is too conservative. The problems facing our coastal zone are so immense, so critical that an attempt at dispassionate, private market oriented analysis misses the entire point and amounts to nothing more than jargon riddled bushbeating.

Despite their conflicting nature, both of these views are well taken. The report is overly speculative It is not as closely reasoned nor as carefully qualified as might be desired. This is a preliminary attempt to explore the applicability of still developing principles of economic efficiency to the complex problem of the coastal zone. It is meant to stimulate discussion, not all completely friendly, raise problems, and mainly to try and get our thinking straight about such matters as social values, pervasive market imperfections and parochial benefits with respect to the coastal zone. It is merely a starting point and given the state of the art a non-speculative starting point would be no beginning at all. However, the reader should be aware that we have taken some still-not-completely-developed theories and twisted and squeezed them in a rather violent manner in an attempt to wring out some insights on a very complex and messy problem.

However, the main reason for this postscript is to speak to the second set of criticisms, for the authors share the feeling that with respect to our employment of the coastal zone we must do better than we have been in concentrating on being precise about what we mean by "better", in concentrating on being precise on how a society in which each man is free to follow his own values ends up with coastal zone utilization inconsistent with those values, in concentrating on the necessary trade-offs and losses implied by any reallocation, perhaps this basic conviction no longer manifests itself.

Our guess is that the difference between what the life of the people in the American coastal zone is and what it could be, fully considering all resource constraints and as measured by the people's own values, constitutes a tragedy of momentous proportions. We fully expect matters to become worse, perhaps drastically worse, under continuation of the present coastal zone management system. We are sensitive to the fact that the difference between our present and probable utilization of the coastal zone and what it could be like is microcosmically mirrored in the difference between the Chicago waterfront in 1910 and that waterfront in 1930, and yet only one man has the vision to see the feasible potential.(58). If

this feeling does not emerge, then the report is quite properly faulted.

However, it is also our conviction that even if, as our analysis seems to indicate we are seriously misusing our coastal zone, dispassionate analysis of why we are making the mistakes implied is required before one can prescribe remedies. One must be aware of the basic resource constraints and the trade-offs involved before one can identify a particular change as desirable on net. One must be aware of the mechanism through which our present coastal zone management system makes mistakes before one can recommend institutional changes. A preliminary attempt at developing this awareness is the methodologically speculative and philosophically modest goal of this report.

REFERENCES

(1) McHarg, I. Design With Nature. New Jersey: Natural History Press, 1969.

(2) Arrow, K. Social Choice and Individual Values. New York: John Wiley & Sons, 1963.

(3) Lancaster, K. Modern Microeconomics. Chicago: Rand McNally, 1969.

(4) Crutchfield, J. & Pontecorvo, G. The Pacific Salmon Fisheries. Baltimore: Johns Hopkins Press, 1969.

(5) Ayres, R. & Kneese, A. "Production, Consumption and Externalities." American Economic Review. June, 1969.

(6) Kneese, A. & d'Arge, R. "Pervasive External Costs and the Response of Society." The Analysis and Evaluation of Public Expenditures I. Washington: U.S. Government Printing Office, 1969.

(7) Davis, O. & Kamien, M. "Externalities, Information, & Alternative Collective Action." The Analysis and Evaluation of Public Expenditures. I. Washington: U.S. Government Printing Office, 1969.

(8) "Control of Sulphur Oxides." Report of the Executive Director, Air Pollution Control Commission to the City of Boston, 1969.

(9) Hardin, G. "The Tradgedy of the Commons." In: The Environmental Handbook. deBell, G. (ed.) New York: Ballantine, 1970.

(10) Lynch, D. "The Possible City". In: Environment and Policy, the Next Fifty Years. Ewald (ed.) Indiana: University Press, 1968.

(11) Demsetz, H. "Contracting Cost and Public Policy" The Analysis and Evaluation of Public Expenditures Washington: U.S. Government Printing Office, 1969.

(12) Dupuit, J. "On the Measurement of the Utility of Public Works". Annales des Ponts et Chaussees, 1844. Reproduced in: Transport. Mumby (ed.) Baltimore: Penquin Books, 1968.

(13) Hirshleifer, J. DeHaven, J. & Millman, J. Water Supply: Economics, Technology and Policy. Chicago: University of Chicago Press, 1960.

(14) McKarn, R. Efficiency in Government Through Systems Analysis. New York: John Wiley, 1958.

(15) Prest, A. & Turney, R. "Cost-Benefit Analysis: A Survey". Surveys of Economic Theory - Resource Allocation. III. New York: St. Martins' Press, 1967.

(16) Henderson, J. and Quandt, R. Microeconomic Theory. New York: McGraw-Hill, 1958.

(17) Sawhill, I.V. "The Role of Social Indicators and Social Reporting in Public Expenditure Decisions". The Analysis and Evaluation of Public Expenditures. I. Washington: U.S. Government Printing Office, 1969.

(18) Baumol, W. "On the Discount Rate for Public Projects". The Analysis and Evaluation of Public Expenditures. I. Washington: U.S. Government Printing Office, 1969.

(19) Raiffa, H. Decision Analysis. Reading, Mass.: Addison-Wesley, 1968.

(20) Odum, E. "The Strategy of Ecosystem Development". Science. 164: April 18, 1969.

(21) Pratt, J., Raiffa, K., Schlaifer, R. Introduction to Statistical Decision Theory. New York: McGraw-Hill, 1965.

(22) The Harbor Islands. Prepared for Boston Harbor Islands Commission. Massachusetts Institute of Technology: Harbor Islands Study Group, 1969.

(23) Federal Water Pollution Control Administration: Report on Pollution of the Navigable Waters of Boston Harbor, May 1968". In: Proceedings Conference on Pollution of the Navigable Waters of Boston Harbor and Its Tributaries. Department of the Interior. May 20, 1968.

(24) Bureau of Outdoor Recreation: The 1965 Survey of Outdoor Recreation. U.S. Department of Interior. October 1967.

(25) Outdoor Recreation Resources Review Commission: The National Recreation Survey. Report 19.

(26) Mueller, E. & Guin, G. Participation in Outdoor Recreation. Outdoor Recreation Resources Review Commission. Report 20.

(27) Arthur D. Little, Inc. Projective Economic Studies of New England. Prepared for U.S. Army Corps of Engineers, New England Division.

(28) Ibid.

(29) Edwards, Kelsey, and Beck, Consultants. Natural Resources of Massachusetts, Public Outdoor Recreation , Part II. Boston: Department of Natural Resources.

(30) Hotelling, H. "An Economic Study of the Monetary Evaluation of Recreation". In: The Economics of Public Recreation. Prescutt (ed.) National Park Service. 1949.

(31) Metropolitan Area Planning Council: Open Space and Recreation, Boston Harbor. II: 1965.

(32) Knetsch, J. "Outdoor Recreation Demands and Benefits". Land Economics. November 1963.

(33) Mack, R. & Myers, S. "Outdoor Recreation". In: Measuring Benefits of Government Investments. Dorfman, R. (ed.) Washington: The Brookings Institution, 1965.

(34) Clawson, M. and Knetsch, J. Economics of Outdoor Recreation. Baltimore: Johns Hopkins Press, 1966.

(35) Toi, T. "Projections of Recreation Demand". Working Paper for M.I.T. New Towns Group. 1969. (Unpublished)

(36) Kahn, H. & Wiener, A. The Year 2000. New York: MacMillan, 1967.

(37) Massachusetts Department of Natural Resources: Massachusetts Outdoor Recreation Plan. 1966.

(38) The Harbor Islands. Prepared for Boston Harbor Islands Commission. Massachusetts Institute of Technology: Harbor Islands Study Group, 1969.

(39) Frankel, E. "Boston Harbor Islands Study-Existing and Projected Marine Transport and Marine Industrial Requirements". Massachusetts Institute of Technology, October 28, 1968. (Unpublished)

(40) Moses, L. & Williamson, H. "The Choice of Mode and the Subsidy Issue in Urban Transportation". Journal of Political Economy. June, 1963.

(41) Camp, Dresser & McKee. Report on Improvement to the Boston Main Drainage System. Report to the City of Boston. 1968.

(42) Alexander, C. Notes on the Synthesis of Form. Cambridge: Harvard University Press, 1964.

(43) Krutilla, J. "Efficiency Goals, Market Failure, and the Substitution of Public for Private Action." In: The Analysis and Evaluation of Public Expenditures. I. Washington: U.S. Government Printing Office, 1969.

(44) Vickrey, W. S. "Decreasing Costs, Publicly Administered Prices, and Economic Efficiency". The Analysis and Evaluation of Public Expenditures. I. Washington: U.S. Government Printing Office, 1969.

(45) Milliman, J. "Beneficiary Charges and Efficient Public Expenditures Decisions". The Analysis and Evaluation of Public Expenditures. I. Washington: U.S. Government Printing Office, 1969.

(46) Mills, E. "Economic Incentives in Air Pollution Control". In: The Economics of Air Pollution. Wolozin (ed.) New York: Norton, 1966.

(47) VonNeumann, J. & Morgenstern, O. Theory of Games and Economic Behavior. Princeton: Princeton University Press, 1944.

(48) Commission on Marine Science, Engineering & Resources: Panel on Management & Development of the Coastal Zone. In: Science and Environment. Washington: U.S. Government Printing Office, 1969.

(49) Chinery, H. "The Application of Investment Criteria". Quarterly Journal of Economics. 67: February 1963.

(50) Margin, S. Public Investment Criteria. Cambridge: Massachusetts Institute of Technology Press, 1967.

(51) Eckstein, O. "A Survey of the Theory of Public Expenditure Criteria". In: Public Finances: Needs, Sources, and Utilization. Princeton: Princeton University Press, 1961.

(52) Haverman, R. Water Resource Investment and the Public Interest. Nashville: Vanderbilt University Press, 1965.

(53) Weisbrod, B.A. "Income Redistribution Effects and Benefit-Cost Analysis of Government Expenditure Programs". Problems in Public Expenditure Analysis. Chase (ed.) Washington: the Brookings Institution, 1968.

(54) Mauss, A. "System Design and the Political Process: A General Statement". In: Design of Water-Resource Systems. Cambridge: Harvard University Press, 1962.

(55) Steiner, P. "The Public Sector and the Public Interest". In: The Analysis and Evaluation of Public Expenditures. I. Washington: U.S. Government Printing Office, 1969.

(56) Hagstrom, R. "A Mathematical Note on Democracy". Econometrica 6. 1938.

(57) Gidez, R. Flannery, J. Lane, R. and Steele, H. Procedures for Evaluation of Water and Land Resource Projects. Water Resources Council, 1969.

(58) Marx, W. The Frail Ocean. New York: Ballantine, 1967.

APPENDIX A

ALTERNATIVE DEVELOPMENTS OF HULL

A.1 Introduction

The town of Hull was selected for study as an example of a long-established shoreline town which has traditionally provided recreational opportunities for its year-around residents, for summer visitors, and for the general public. There have been amusement parks and related activities as frequently found in beach resorts since the latter part of the 19th century. In 1900 the Metropolitan Parks Commission acquired for general public use a substantial part of the magnificent Nantasket beach on the Atlantic Ocean side of town. Its holdings now amount to 1.3 miles of ocean front, about one-third of the total. Hull has also been attractive to summer vacationers many of whom have owned their own seasonal homes, while others have rented cottages or rooms. The summer population has traditionally been much larger than the permanent population. However, Hull seems to be groping toward new development patterns. It seems possible that governmental action might help the town to accommodate itself to these patterns and at the same time provide greater public access to Hull's recreational facilities for the general public in the Metropolitan Boston area. The object of this particular study was to explore these possibilities.

A.2 Geography

Geographic considerations affect the development of any community to some extent, but rarely are they as pervasive in their influence as at Hull. The town is almost entirely surrounded by water. Excluding several islands under its jurisdiction (Bumkin Island, Peddock's Island, and Hog Island) the town consists of a long narrow peninsula. It is bounded on the east by the open waters of the Atlantic Ocean, on the north by outer Boston Harbor, on the west by Hingham Bay, and on the southwest by the Weir River and Straits Pond. At its southern extremity, where it borders on Cohasset by land, it is tied to the mainland by a strip only a few hundred feet wide, barely large enough to carry Atlantic Avenue, one of the three roads leading out of town. The other two exits (George Washington Boulevard and Nantasket Avenue) cross the Weir River on bridges to tie the peninsula to routes leading north through Hingham and west through Cohasset. The map,

63-902 O - 71 - 47

Figure 3.1, shows the general configuration.

On the open water side, from the Cohasset line near the end of Straits Pond in the south, the peninsula extends to the northwestward for about five miles to Point Allerton. At that point, the land swings sharply to the west for about two miles more, ending at Windmill Point in Pemberton. Thus, the town is about seven miles long. Irregularities in configuration are such that the total shoreline length is about 21 miles, islands excluded. Yet the total land area (including the islands) is only 2.43 square miles.

The Pemberton section of the town in the north, originally an island, is connected to the peninsula proper at Allerton by a causeway. The Pemberton and Allerton sections are hilly, with highest elevations of about 100 feet. There are also several small hills (50-100 feet high) on the western edge of the peninsula and in the southern part of the town. But most of the land is low relief upland (10-20 feet in elevation). There are also some tracts of marshland on the Weir River estuary side of town. But most of the land is low relief upland (10-20 feet in elevation). There are also some tracts of marshlands on the Weir River estuary side of town. On the eastern (Atlantic Ocean) side of the town there is a magnificent beach about 3.5 miles long extending from Nantasket to Point Allerton. Several smaller beaches to the south of this stretch bring the total ocean beach length to about four miles.

The geography of the town is such that almost any point is within a short distance from the water. From much of the town it is easy to walk to the Atlantic Ocean beaches. The hills afford splendid water views of ocean, harbor, bay, river, or salt pond. Hull is dominated by water, a fact that has played a large part in its past and present development and that will strongly influence its future.

Second only to the dominance of water is the relative isolation of the town from the mainland. From Pemberton to the center of Boston is only about seven miles as the crow flies, while the airline distance from central Boston to the Hull-Cohasset line is about 13 miles. But there are only three roads leading from the town to the interior. Atlantic Avenue runs almost due east to join Jerusalem

Road, a scenic route along the Cohasset shore. To go to Boston or to the interior of the state, Hull residents must travel in great arcs around Hingham Bay, Quincy Bay, and Boston Harbor. The most direct route involves exiting southwestward via George Washington Boulevard to Hingham and proceeding north through Hingham, Weymouth, and Quincy to pick up the Expressway into Boston at the Neponset River. This involves a trip of something like twenty-five miles, much of it through heavily built-up areas. The alternative is to proceed southeastward, southward, and westward on Route 228 and finally northward on Route 3 and the Expressway. Total route length is about 33 miles, of which about 10 miles consists of winding roads through Cohasset, Hingham, and Norwell where high-speed driving is impossible.

There is no rail or rapid transit service to the town. At one time it was possible to take a street railway from Hull to Hingham where connections were made with the Old Colony Railroad. Both have long since disappeared. There is a bus service from Hull to Hingham where connections can be made with other lines to Boston and neighboring towns. There is also a daily commuting service by boat from Pemberton to Rowes Wharf which accommodates some 40-50 people daily. Departure is at 7:30 A.M. and return at 6:30 P.M. This trip takes about 40 minutes each way.(1) The inadequacies of public transportation are such that most Hull residents must depend upon their own cars to get them out of town whether for work or for other purposes. Traffic surveys indicate that, even though travel time to Boston by private automobile must average between 40 minutes and an hour, 60 people drive to Boston to go to work for every 1 travelling by public transportation. For non-work trips, where time and schedules are of lesser importance, the ratio is less dramatic; but still the automobile is preferred to public transportation by 3.3 to 1.(2)

The third geographic factor of importance is that Hull has little to offer industry or commerce. The original settlers engaged in fishing, but that no longer is an economically viable enterprise, save for a small amount of clamming.(3) During the 17th, 18th and 19th centuries there was undoubtedly some farming but there is none today. Lacking rail facilities and deep water, with no usable sources of water power, and isolated from population centers, the town was bypassed during the industrial expansion of New England in the 19th and 20th centuries. Moreover, there are no resources that can be mined.(4) Save for those engaged

in local service industries and in mercantile business, meeting the needs of Hull's own inhabitants and summer visitors, the people of Hull who have to work also have to go elsewhere to find it.(5) Since there is little more to offer in the neighboring towns of Cohasset and Hingham, most of those who leave town to work have to travel considerable distances--to Quincy, or to Boston, or even farther.

A.3 Hull Developmental Patterns--1900-1945

Given this combination of beach and water, relative closeness to the city combined with isolation from it, and lack of features attractive to industrial developers, one would expect that Hull would be a natural resort area catering both to day trippers and seasonal visitors. And, in fact, the town developed along just such lines during the period from the turn of the century to the end of World War II.

By 1900 Hull was already well along the road to development as a resort town. In that year the Metropolitan Parks Commission (later incorporated into the Metropolitan District Commission) took over jurisdiction of part of Nantasket Beach, opening it up to use by the general public. In that year also there were 892 houses in the town and a permanent population of 1703.(6) The latter paid real estate taxes of about $800,000 while nonresidents paid nearly four times as much (just over $3,000,000). Ten years later the population had grown by about 25% while the number of houses had increased by about 75%. Nonresidents owned about four times as much property as residents and contributed about 77% of the real estate taxes.(7)

This same pattern continued through 1930. The permanent population actually had declined by 1920. By 1930 it was almost back to the 1910 level. By 1940, it had barely passed that level.Nonresidential construction continued to add to the number of houses up to 1930, but with the onset of the Great Depression building came nearly to a standstill. As we shall see, building revived after the war, but nonetheless, as of 1960, 73.5% of Hull's housing stock had been built before 1939 (most of that before 1930) and 45% before 1920. (8) Nonresidents were undoubtedly contributing between three and four dollars in real estate and personal property taxes for every dollar paid by residents for the support of the town.Since the summer people made few demands on the town, chiefly police and fire protection,and paid

such a large share of the cost of schools and general government, Hull was a cheap place in which to live.

A.4 Growth after World War II

Beginning with World War II, the pattern of Hull's development underwent a radical change. While only a handful of new houses were built during the war years, the town's population increased by about 56% between 1940 and 1945.(9) This growth represented, for the most part, an influx of workers in the Bethlehem Steel Company shipyards in nearby Hingham and Quincy. Housing was provided by conversion of summer residences to year-round occupancy. By 1950 the population had declined a little as some of the war period workers moved elsewhere with the dropping off of activity at the shipyards. But at about that time a new influx of population began with the result that the number of permanent residents more than doubled between 1950 and 1960. The 1969 population of about 10,000 is nearly triple that of 1950 and more than four times that of 1940.(10)

Perhaps 1000 new homes have been built since 1940, most of them in the period 1945 to 1960.(11) Since 1960 new construction has almost been balanced by demolitions of existing structures. Accommodation for the newcomers, therefore, has largely been provided through conversion of older summer places to permanent homes. Nor is this process finished. In 1950, 69% of the houses in town were not occupied except during the summer; by 1960 this had dropped to 47%; today, summer homes probably still make up 30-40% of the existing housing stock.(12) Hence, even with little or no new construction there is considerable potential for population growth by adaptation of existing housing to permanent occupancy.

A.5 Characteristics of the Town

Hull is a working man's town. The lower middle class population is almost entirely Caucasian, about 43.5% of foreign stock or foreign born. As compared with the Boston Metropolitan area, it has more than the average percentage of laborers, service workers, private household workers, craftsmen and foremen, sales personnel, and managers, officers and proprietors. Compared to the same standard, Hull contributes fewer than average numbers of professional and technical personnel, clerical workers, and operatives.(13)

In 1960 about 17% of the families had incomes over $10,000 as compared to 21.3% for the Boston Metropolitan Area. In that year, both the average family income ($7,350) and median family income ($6,318) were lower than for the metropolitan area as a whole. It is a young population, with 43.5% 19 or under in 1960 as compared to 35.2% for the Boston Metropolitan Area. The median number of people per dwelling unit was 3.4 in Hull, and 3 for the metropolitan area. Most Hull residents live in single-family dwellings (89.2% in 1960); most own their own homes (72.3% in 1960). Only 4.4% of these single-family homes were valued at $20,000 or more in 1960, as compared to 25% for the Boston Metropolitan Area as a whole. The median value of such units in Hull was $12,900 as compared with $15,900 for the entire area. On the other hand, median rents tended to be higher ($97 per month) for Hull than for Boston as a whole ($82).(14) The latter can be explained by the relative shortage of multi-family dwellings and by the high rentals obtainable for housing during the summer season; property owners will demand a rental premium for year-round occupancy because of the possibility of obtaining relatively large sums for summer use only.

Hull's growth has not brought prosperity to the town. Between 1958 and 1963 the number of retail establishments decreased by 28%, their sales declined slightly, sales per capita were off by 21%, and the number of employees had dropped by 25%. All business activity showed a decline between 1963 and 1966. Payrolls were down by 12.5% and the number of employees by 29%; average salaries were up slightly from $3,340 to $4,140 (or 24% for those still employed).(15)

At the same time, the cost of government, especially of schools, has increased dramatically. As most suburban towns have discovered, even the addition to he tax base represented by new construction is not sufficient to cover the demands for services (especially schools) generated by new families. But in the case of Hull the problem is particularly acute. Since 1960,new houses have meant, typically, addition of from $15,000 to $17,000 per unit to the town tax base During the same period, conversions of existing property to year-

round use have meant an average increase in taxable value of the properties affected of something like $2,000-$3,000.[18] Of course, the newly-converted homes have been heavy consumers of town services (again, especially schools); before conversion they had helped pay these costs for others while making few demands on the town. Moreover, the personal property tax base, which has in recent years run at about 10% of the real estate base, is also subject to erosion as summer homes are converted to permanent residence. Save for boat owners and businessmen, few permanent residents in Massachusetts towns pay personal property tax because of a generous exemption afforded each household. Since it is presumed that summer residents are taking advantage of this exemption elsewhere, it is standard practice in resort communities to assess these property owners for personal property as well as real estate taxes. As summer homes pass into the hands of year-round residents, therefore, the personal property assessments must drop off. Finally, the steady demoliton of older properties in recent years undoubtedly reflects the impact of constantly increasing taxes on owners of deteriorating summer properties that might have been, under other circumstances, patched up and kept on the tax rolls.

Another problem needs to be taken into account. A few of the hilly sections of Hull installed sewers many years ago which discharge untreated waste into Hingham Bay and the Weir River. The rest of the town depends upon septic tanks and cesspools located on the building lot to take care of sewerage. The town is now under order by the Commonwealth to install sewers and a treatment plant to stop the serious pollution of the bay and the river. Ultimately, it will be necessary to tie the homes now depending on domestic waste disposal systems into the municipal sewer. Even though most of the soil is sandy, the domestic systems have always been hard-pressed because of the heavy demands put upon them by the large summer population (estimated at 40,000 people not counting day visitors)[19] and the small lot sizes (mostly 5,000 square feet). Now, with constantly increasing year-round occupation of homes in the summer resident areas, problems from overflowing cesspools and septic tanks have become of increasing concern to local health officials.[20] Even with state aid, construction of the necessary sewers and treatment plant will represent a heavy cost to Hull's taxpayers.

A.6 Recent Trends

Most of Hull's residents have moved into the town since World War II. They came to Hull because the town offered a combination of cheap housing and excellent summer recreational opportunities for adults and children alike. Lack of local business and industry meant that most of the new inhabitants had to face long daily commutation stints. The town lacks modern shopping facilities. During the summer season the residents of Hull must put up with crowding of the streets and beaches. As has been noted, the summer population climbs to about 40,000 people. This does not count the masses who stream in by bus, private automobile, and steamer to enjoy the public beach at Nantasket and the nearby amusement park area. It has been estimated that on a hot summer weekend day this influx may amount to 60,000-80,000 people. The resulting traffic jams sometimes get so bad that the police are forced to impose an embargo on any further traffic into town on such days.(21) But--considering the benefits--the inconveniences of long commuting trips, of going elsewhere to shop, and of occasionally horrendous traffic snarls seemed a small price to pay.

Moreover, there was no comparable alternative available to the newcomers. The nearby shore towns of Hingham and Cohasset had much less to offer in terms of recreation, while real estate prices were perhaps double or triple those for Hull.(22) Farther to the south, Scituate and Marshfield did offer somewhat similar recreational opportunities, but at an even greater distance from Boston in terms of road miles and probably of time as well until the opening of the Southeast Expressway. While these towns have also experienced rapid population growth, partly through conversion of existing summer homes, zoning regulations have been tighter and lot size requirements greater. The result has been that real estate costs, while much lower than for Hingham and Cohasset, have tended to be considerably higher than at Hull.

The problem facing the people of Hull has become one of wondering if they will be able to stay there. The taxes on a $12,900 house owned by a family with an income of $6,318 (the median values for 1960) were $555 in 1960; by 1968 they had risen to $890, with the end nowhere in sight. It is doubtful that the median income had experienced any-

thing like the 60% increase in real estate taxes. In 1950 the average Hull taxpayer (resident and nonresident alike) had turned over $240 to the Collector of Taxes; by 1960 the bite was $465; in 1968 it was $775. By 1968 it was costing the town about $600 per child for education (salaries, expenses, transportation) not counting new building expenses.(23) The average taxpayer with children in the schools was not coming close to meeting the costs of education of his family, let alone his share of other services. The flywheel of nonresident tax payments was chiefly responsible for keeping the situation under some degree of control, but, as has been shown above, that flywheel was losing momentum.

Projection of past trends presents an even grimmer picture. Let us suppose that Hull should attempt to continue to develop as a lower middle class bedroom community. This would mean building single-family homes on all currently vacant land and finishing the job of converting all summer homes to year-round occupancy. What effects would such a development have on the town?

Let us assume that a development pattern of this sort would have the following results. Five hundred new homes would be built at an average value of $17,500, adding $8,750,000 to the tax base. Two thousand summer residence units would be converted to permanent homes at an average cost of $5,000 each, adding another $10,000,000. About $2,750,000 in personal property assessments would be dropped from the rolls with the elimination of the summer residents, even after taking account of increases in personal property taxes levied against new boat owners and new small business ventures. Let us also assume that new businesses add $5,000,000 to the real estate property tax base.(24)

Given the above assumptions, there would be a net increase of $21,000,000 over the present $45,000,000 personal and real estate tax base. The population would probably double. The costs of local government would at least double and more than likely triple.(25) If they doubled,

the annual tax levy would amount to about $6,300,000 to be raised on a base of $66,000,000. This yields a tax rate of $95.50. If they were to triple, about $9,500,000 would have to be raised against the same base. This implies a tax rate of $144. If we assume an average home value of $15,000, the Hull citizen could look forward to a tax bill of $1,430 in the one case and of $2,100 in the other.

Recognition of this unpleasant set of facts has led the people in recent years to try to change the direction in which the town is moving. In 1961 the town established an Urban Redevelopment Authority (the first such at the town level in the entire country). While progress has been painfully slow, plans have been drawn up for redevelopment of a badly decayed business and residential area near the MDC public beach. Federal funding was obtained to support the necessary planning studies and final approval is pending for a Federal grant to clear the area of existing buildings and thus open it up to development. The necessary zoning changes have been approved by the town. The plan contemplates construction by private interests of a 100-unit motel, two 100-unit apartment units (1 and 2 bedrooms), a shopping plaza, and a marina. The motel and apartments will be on the ocean side, the marina on the bay, and the shopping plaza more or less centrally located. It is anticipated that the apartments and the motel alone will add more than $4,000,000 to the tax base. Construction of the marina will await the necessary dredging and elimination of pollution in the Weir River; its anticipated value has not yet been costed.(26)

The redevelopment project includes additional public parking near the beach on the northern end of the project. (The motel, apartments, and marina are to have integral parking.) The shopping plaza will have access to a reserved section of the MDC parking lot. the 407,000 square foot lot will provide space for perhaps 1,400 cars; only several hundred can be presently accommodated in this general area of the beach under present arrangements. Jurisdiction over the town beach in the area has been transferred to the MDC, giving it about 1.3 miles of beach as compared to 1 mile formerly.

Thus, in its urban renewal program the town has moved to add to its tax base without incurring heavy costs for schools and other services. One- and two-bedroom apartments are generally not associated with large families. At the same time, it has increased public access by non-residents of the town to Nantasket Beach. Once this project has been successfully completed, further renewal efforts are planned to revitalize decaying commercial and residential areas in the general vicinity of the public beach.(27)

Over and above the urban renewal programs, Hull has undertaken an effort to upgrade the town through zoning changes which were approved by a special Town Meeting as recently as 20 October 1969. The new zoning by-law opens up the last major tract of vacant land in the town (excluding the islands) to garden apartment development (1 or 2 bedrooms). A long stretch of the oceanside north of the redevelopment area has been rezoned to permit construction of hotels, apartment houses and town houses, and associated services such as restaurants. Another large tract on the bay side has been similarly zoned; this area could attract marina developers as well as hotels and multi-family dwellings. As before, the multi-family dwellings in both areas are to be restricted to 1- and 2-bedroom units. Two smaller areas in the more northern parts of town and the two larger islands are similarly zoned. Other sections have been zoned for various types of business or commercial enterprise or for multi-family dwellings, while about half of the town remains zoned for single-family residences.(28)

To make the plan work, lot size requirements have been altered. Lot sizes for single-unit residences have been changed from 5,000 square feet to 6,500. This just about rules out rebuilding on most existing lots. On the other hand, two adjacent lots can be combined to meet the minimum requirements of 10,000 square feet for multiple family dwellings. Coupled with these basic requirements are restrictions on lot coverage and requirements for setbacks and parking that are designed to provide for open space.(29)

Thus, it is Hull's hope that it can capitalize on its unique location by encouraging the development of improved seasonal facilities such as hotels, motels, and marinas, and by fostering the construction of multi-family housing designed to appeal to people of a higher income bracket

and smaller family size than the present norm for the town. To accomplish this it has opened up some of the prime land in the town to such commercial development and made it difficult, over the long run, for these areas to remain primarily dedicated to single-family residences.

The impact of this scheme, if it works, should be to provide a substitute for the summer resident in terms of contributing to the costs of running the town. The new enterprises will add to the tax base without creating the kind of load on the schools that is associated with single-family dwelling development. The development of controlled commercial recreation in prime areas now mostly zoned for single-family residences will also afford some increased public access to Hull beaches and waters. However, this will not be mass recreation of the sort found at the Metropolitan District Commission (MDC) beach and its associated commercial amusement area, but the type which might attract high income, low number of children families. In short, Hull is attempting to find a way to permit its present population to keep their homes by attracting higher income residents and visitors.

In our opinion, it is not clear that, even given this limited objective, Hull's present plans will be successful. There is no doubt about Hull's uniquely attractive geography, yet except for the marina the plan takes little advantage of it. The results for which they are hoping will be another example of the uninspired garden apartment-shopping center complex which could easily be built and has been built almost anywhere in suburban Boston. Such developments attract young, small, but hardly high income families and, in fact, development along these lines will make it more difficult to attract high income residents in the future.

Further, the plan does not attack the key problem in attracting high income residents and recreation which is transportation to Boston. High income, low number of children people are urban dwellers or persons with easy access to urban areas for employment and recreation. Hull's major problem from the point of view of these people is getting to Boston. If one could get to downtown Boston in, say, 20 minutes with reasonable schedule frequency, then a whole spectrum of opportunities arise: high-rise residence development, townhouses, hotels, restaurants and nighttime recreational facilities catering to Boston residents, etc. Hull could easily become the new outlet for Boston's burgeoning demand for high income, urban residences. Until

the transportation problem is solved, Hull, despite its unique geography, can at best expect to be a poorer version of the communities surrounding it to the south, which have more land and better access to Boston, for Hull will always be crowded by suburban standards.

We further feel that if Hull's transportation problems are to be solved it will be by taking advantage of the short over-the-water distance to downtown Boston either through conventional vessels, hydrofoils, or ground effect machines. It may very well pay the present residents to subsidize such service on the grounds of future effects on property values and taxes. (This argument is, of course, based on parochial benefits.) Hull does not appear to have investigated this possibility and neither have we. Our basic point in this section is to demonstrate that, whatever decisions Hull makes as a political entity, they will be only remotely related to economic efficiency.

A.7 Hull as Part of the Region

Thus far in this discussion we have been proceeding as though the Town of Hull were largely free to conduct its affairs in a manner that the inhabitants as a body think will best suit their own interests. Given that this is a free enterprise system and that the town retains the pure democracy of the open town meeting, there is a certain amount of truth to this implicit assumption. Nonetheless, it is important to point out that there are constraints operating which limit Hull's freedom of action.

The power to force development in desired directions by zoning regulation, for example, is derived from the Massachusetts legislature and is not inherent in the corporate charter (which also was of legislative origin). Arbitrary or discriminatory use of this power could lead to legislative withdrawal or modification of zoning authority.(30) The urban redevelopment process is dependent upon approval and financial support from the Federal Government as well as action by the citizens of Hull. The urban redevelopment process has enacted legislation requiring the cleaning up of polluted waters; as a consequence, the Commonwealth has ordered Hull to construct sewers and a treatment plant to eliminate its present pollution of Hingham Bay and the Weir River. Hull will receive some financial aid from the state in this endeavor, but it has no choice in the matter. By 1972, the present pollution must cease.(31)

Hull's chief assets are the waters of the bay and river and the great beach on the Atlantic Ocean. Optimum development on the bay side will require dredging for the construction of marinas. This cannot be done without approval by the Army Corps of Engineers. If development in the Weir River estuary will require the filling or draining of some of the existing marshland, this cannot be done without prior approval from the Massachusetts Department of Natural Resources. Hull's beach is publicly owned, about two-thirds by the town and one-third by the Metropolitan District Commission, an agency chartered by the Commonwealth. The town can exert some degree of control over parking regulations directed against nonresidents. The MDC area is open to all comers who can find means of transportation to the area. The MDC provides its own police force for the reservation, as well as lifeguard and maintenance services. Hull not only has no control over the area, it even pays an annual assessment to support the MDC operation. This amounted to about $47,000 in 1968, for example.(32) When automobile traffic becomes so heavy as to threaten chaos as the result of preemption of all legal and illegal parking spaces and very heavy congestion in the streets, the Hull police can exert some control by imposing an embargo on further incoming traffic into the town. Such measures are adopted only rarely, however.

Another factor affecting Hull's destiny, yet beyond its control, is the lack of good land transportation into the town. There is no rapid transit service to Hull, nor do plans for southward extension of the MBTA lines call for service to the town. Barring development of improved transportation by water, Hull must continue to depend upon bus service and the private automobile. This means reliance upon two of the three roads leading out of town. There has been discussion for years of an improved road to the north more or less along the shoreline to be known as the Shawmut Trail. Intense oppostion on the part of Hingham, Weymouth, Quincy, and Braintree through which the road would have to pass has apparently made this proposal a dead issue. Hull's other hope lies in development of a new limited access, high speed highway to replace the present inadequate Route 228 as a link to the Southeast Expressway. As a resolution adopted during a Special Town Meeting in November 1968 stated, this road is "the economic lifeline of the Town of Hull" and action to accomplish its relocation should be started "as soon as possible."(33) But the towns through which it will have to pass, notably Hingham and Norwell, have done everything possible to delay and frustrate the laying out and construction of this new road.

To summarize, Hull has exercised local initiative to attempt to force new development patterns that will reverse the recent trend of costs rising much more rapidly than the supporting tax base. As the Chairman of the Hull Planning Board put it in urging enactment of the new zoning regulations, all Hull has to sell is the water. This, he said, is "liquid gold." The town owns "the finest beach from here to Florida." To expand the tax base it is necessary to give developers an incentive to develop the waterfront. Hull, he further noted, is at a "point of no return." "Look at your tax bill," he cautioned. The rezoning was designed as a "money proposition" to "make money for the Town of Hull."(34) The same general line of argument underlies the urban renewal effort, though the techniques employed are, of course, quite different.

But, in the last analysis, Hull's success or failure in achieving its objectives will depend heavily upon forces outside its control. If the necessary Federal funds from the Department of Housing and Urban Development are not forthcoming, the urban renewal project will never get off the ground. If better transportation links with the interior and with Boston are not provided, there will be little incentive for private capital to take advantage of the new opportunities presented by the revision of the Zoning By-law. The recent expansion of the MDC area may lead to a modest increase in public recreation usage of Nantasket Beach, but Hull's plans do not call for maximum usage of its assets in the general public interest. Rather, they represent a blend of local and regional interests, with the accent--naturally enough--on the local.

What are the parochial benefits and costs to Hull of the annual summer incursion of nonresident inhabitants and day-trippers? The following are at best crude estimates but they are probably accurate within 10%. The chief contribution is, of course, in tax payments. As late as 1968 nonresidents and businessmen whose chief activity is related to summer trade probably accounted for about $250,000 of the $276,000 in personal property levy. The same groups probably contributed something like $1,600,000 of the total $2,878,000 real estate tax levy.(35) In both cases, the chief contribution is derived from the ononresidents, with relatively little attributable to those catering wholly or primarily to day-trippers.

The next big item to be considered is summer employment, which in July is twice as large as in November.(36) Assuming the same general pay scales, this would mean a

payroll of about $600,000 for the summer season. Not all of this would go to Hull residents, of course, but we can assume that perhaps $400,000 of it would. Hull receives about $40,000 a year from licenses and permits;[37] perhaps $30,000 of this is attributable to summer business. Parking meter fees add up to about $2,000; these are wholly related to summer activities, since the meters are in operation only during the summer months. Probably about $9,000 of the $12,500 received in fines and forfeitures from the Plymouth County Court are also derived from summer offenses, especially parking and motor vehicle violations.

It is clear that the nonresidents provide a major part of Hull's municipal income. What do the summer inhabitants add to the costs of running the town? Since they own about half of the property, we will charge them for half the costs of the tax collector and the assessors, or $21,700. Extra police hired for the summer cost $21,500. Police protection during the summer, and of their unoccupied property during the winter, should account for about $50,000 out of the total of $268,000 for the Police Department. Marginal fire protection costs, summer and winter, are estimated at $175,000 out of a total Fire Department cost of $382,000. Beach Patrol and Harbormaster add up to $11,000. Beach cleaning tacks on another $11,000. Out of a total recreation and related item budget of about $45,000, we will charge the summer residents with the entire summer recreation budget of $11,000. Their pro rata share of the costs of trash collection amounts to $30,000 out of a total of $71,000. This assumes no economies of in garbage collection. All of the above adds up to $311,700.[38]

This figure represents less than 6% of the total cash budget for the year and less than 15% of the total raised by taxes on real and personal estates. But this group probably paid about 51% of the real and personal taxes directly; if we add in the contributions from businesses largely dependent upon their support, their contribution increases to about 59%. The nonresidents are still, obviously, a great asset. The one-day visitors may not be, though they certainly generate some income to the local residents and some revenue to the town as noted above.

Hull pays the MDC about $47,000 a year as its share of supporting the Metropolitan Park System. In return, the MDC provides police services, lifeguard protection, beach maintenance, and trash collection in its area. The MDC pays Hull about $6,000 for the use of its dump for

disposal of refuse.[39] Were Hull to have to provide the services now furnished by the MDC, the costs might be about as great as the present assessment, assuming the same general public access as at present. Under these conditions the direct costs and benefits would appear to be a wash, while the town does derive other benefits from the employment and taxes derived from businesses directly supporting those enjoying the use of the beach and the nearby commercial recreational facilities.

On the other hand, had the MDC reservation never existed and had the 116-acre area been developed for private commercial and residential use, the Hull tax base might be about 10% larger than it now is. In 1968 this would have meant an extra $4,500,000 to be assessed; if $2,500,000 of this represented nonresidential and commercial property, the 1968 tax levy might have been on the order of $3,300,000 instead of $3,155,000 and the tax rate $66.50 instead of $69. The average household would have paid about $25 less in taxes to the town. It is not certain that the citizens of Hull feel that they derive $25 worth of benefits per household from summer invasion by hordes of steaming humanity by boat, bus, and private automobile with the consequent crowding of beaches, stores, restaurants, streets, and highways.

A.8 Increased Public Use of Hull's Beaches

Hull's preferred development pattern, if it can be made to work, will lead to a higher population density both summer and winter than now obtains. But it is not clear that it will lead to greater usage by the general public of the day-tripper variety. On hot summer weekend days the beaches are already crowded to an almost incredible degree. While the limit would seem to be parking space, this is true only so long as people obey the parking regulations. According to residents, on peak summer weekend days the visitors park wherever there is space, on public or private property (if undefended), paying no attention to posted restrictions.[40] Some feel that payment of a $10 parking fine for a day on the beach with their families is worthwhile.[41]

A number of officials have confirmed the seemingly fantastic estimates of a daytime population (including residents, summer visitors, and day visitors) of more than 100,000 people on such days. The density on the beach is such that the people who live there, or are staying there for the summer, remain at home. Even so, there is not

63-902 O - 71 - 48

even room to put down a blanket.[42] On such occasions the beach loading becomes comparable to that at Coney Island, with perhaps as little as 10-15 square feet of dry beach space per person, as compared to accepted recreational standards of 75 square feet per person.

Indeed, as the new zoning regulations take hold, the general public may find its access to the beach actually reduced. The hotels, motels, and luxury apartments will have their own off-street parking, and access to this will be strictly controlled presumably. Moreover, as high income producers to the town, they may well be in a position to demand and receive support from the police in the form of traffic control and strict regulation of parking on the streets, since the attractiveness of their developments depends upon a free flow of traffic.

It might be possible to increase public usage of the beach in the newly-zoned area by construction of parking garages back from the shore. However, it is not certain that such an operation would pay. There is no shortage of free parking in Hull during the non-summer months. Thus, a parking garage would have to depend upon a summer season of about 100 days to meet all expenses.

Estimated cost of a garage holding about 440 cars would be about $1,400,000.[43] At 5% for 20 years this could be amortized by an annual payment of $113,000. Maintenance, labor, insurance, and so on, might add another $37,000 in annual operating costs, bringing the break-even point to $150,000 per year. On average, there will be 70 weekdays and 30 Saturdays, Sundays, and holidays during a 100-day season. If the garage is open 12 hours a day, we can assume 125% utilization on the weekends and holidays and perhaps up to 100% on the weekdays. This works out to 47,300 (car-parking) days during the season. If a flat fee were to be charged, it would require about $3.25 to cover capital and operating expenses, neglecting taxes and profits. Assuming an assessment of $1,000,000 and the 1968 tax rate, taxes would add about $70,000 annually. Assuming a gross profit of about $30,000 is required by the entrepreneur, the total annual costs would come to about $250,000. This implies a parking fee of about $5.25 if a flat rate were to be charged.

Presumably, people would be willing to spend more for parking on weekends and holidays than they would in midweek. If the charge for the premium days were set at $7.50 and for the others $4.00 and if the utilization were as

postulated, the garage would meet all expenses, including taxes, and pay the suggested profit. It is not entirely clear, however, whether people would pay this much or if the suggested utilization factors could be realized. If we assume an interest rate of 10% and a fifteen-year write-off, the annual capital charges become approximately $184,000. Leaving all other costs as before, the garage will have to clear about $320,000. This implies a flat-rate parking fee of nearly $7.00. Alternatively, weekday fees of $5.00 and weekend fees of $9.00 would provide the required income. It is even less clear that people would pay this much. The conclusion, therefore, is that parking garages do not appear to be an attractive business proposition.

Even if we assume that additional parking facilities could be made to pay (whether publicly or privately owned), there is a limit to the number of people that Nantasket Beach can accommodate. And that limit is already approached or exceeded on hot summer weekend days. The fact that a public beach and (currently) free public parking exist at Hull acts as a magnet to draw the inland population to the town. When they find that so many others have had the same idea, that there is no more legal parking and no more room on the public beach, the natural reaction is to intrude on areas nominally reserved for the residents of the town. The mere existence of general public facilities gives these out-of-town visitors the feeling that they have a right-of-access to the beach. Having gone to the trouble to get there, they are not ready to turn around and go home again, even though this may mean affecting the rights of others.

Paradoxically enough, the natural conflict between local and regional interests is sharpened, not lessened, by dedicating part of a scarce resource to general public use. Hull's residents undoubtedly feel that they have done a great deal for the general public in turning over more than a third of the town's beach to them. They resent movement of outsiders into areas reserved for those who live in the town. They receive important disbenefits in the form of traffic, confusion, and so on, even when the day visitors keep to the MDC area. They feel that they should be left free to enjoy the rest of the beach, since it is the possible use of the beach that has led them to buy homes there or to pay heavy summer rentals. As noted above, the out-of-town visitors care little about such niceties. They want to go to the beach, period.

When the population pressure was less this conflict was not so sharp. Few people lived in the town permanently. They undoubtedly received benefits, either directly or indirectly, from the money spent in the town by the visitors to the MDC area. Most of Hull's development took place before 1920, in the pre-automobile era. Thus, it was not easy for those using the MDC beach at Nantasket to intrude in great numbers on the portions of the beach used by residents. Now, with a larger population demanding access to the shore and with the mobility resulting from widespread ownership of automobiles, the picture has changed.

Where the local interests involve only a handful of people it is possible to resolve such conflicts by expropriation in the name of the higher general good. This was done on Cape Cod when the National Seashore was established there. It might happen some day in towns such as Duxbury where a beach as good or better than Hull's is largely restricted to purely local use. In cases such as these, general regional planning can proceed almost as if no local interests are involved, as if the development were starting from scratch. But, in cases like that of Hull, where the local interests are substantial and where provision for the general interest has already imposed real costs on the local inhabitants, the answer to regional problems would appear to lie in sympathetic attempts to make the best possible adjustments of the present conflicts, not in imposing new usage patterns from on high.

If Metropolitan Boston is going to need more and better public recreation facilities, it will not be able to squeeze them out of towns like Hull. The answer will almost certainly have to be found in the creation of brand-new recreational opportunities in areas now not so employed at all or available only to a handful of the people in the region.

A.9 Possible Governmental Roles

Hull is already obtaining Federal assistance in its urban redevelopment efforts. The state (Metropolitan District Commission) provides police and maintenance services in the part of the beach under its jurisdiction, though Hull does have to share in some of the costs of this operation. (It paid a levy of about $47,000 in 1968.) The state will also share part of the costs of the new sewage system which it is requiring Hull to install. There seems to be little else that government can do to assist

Hull in solving its problems or to provide better access to Hull's facilities for the general public. As noted, those facilities are already used to near capacity much of the time, and reach a saturation point on occasion.

One possible exception is to be found in the two uninhabited islands in Hull Bay. While Hull's new zoning ordinance contemplates development of these for commercial recreation, it may be that they could be put to better use as part of an integrated public recreational development of the Harbor Islands. Should this be done, it would be desirable to provide Hull with some compensation for the acquisition of these potentially valuable assets. Also, it would seem only fair to plan the financing and operating of the project in such a way that Hull was not expected to pay a major contribution towards the costs simply because the islands lie within its political jurisdiction.

A.10 Conclusions

Hull's potential is already being fully employed, or nearly so, during much of the summer season. On hot weekends the beaches and roads become saturated to the extent that the local police have to embargo any further automobile travel into the town.

While more recreational facilities are badly needed in the general metropolitan area, it is not easy to see how these can be provided at Hull short of tearing the whole town down and transforming it into a public reservation. This would be politically impossible and economically inefficient. Hull aready suffers a great deal of inconvenience, and some costs, as a result of the summer invasion of hordes of day-trippers. While the nonresident homeowners more than pay their way, it is not certain that the town receives compensation from those using the MDC beach commensurate with the inconvenience and other indirect costs incurred by the residents (both permanent and summer).

It is always difficult to balance regional and local interests, perhaps especially so at Hull. It would be difficult indeed to convince the people who own property at Hull that measures to provide even greater public access to their resources would be to their benefit. Where such resources are so controlled by local private or public owners that they are grossly underutilized in terms of the larger need, good arguments can be made for taking the property with compensation. Since Hull's beaches are already

used by a very large number of nonresidents, this argument does not hold for further public development there. Any further increase in the use of Hull by nonresidents (Peddocks Island and Bumkin Island excepted) could only serve to lessen the advantage of the town to the residents without granting them any compensating benefits. The townspeople and their elected officials could be expected to resist any such plan strenuously and effectively.

Through redevelopment and new zoning, Hull is attempting to cope with a serious cost of services problem. The old character of the town as a bustling resort dominated by single-family summer houses and practically empty in the winter is changing. The conversion of summer residences to year-round homes increases the costs of services much more than it does the tax base. Present residents are asked to subsidize the education of incoming children. Hull has instituted plans to attract high-income, small-family households by encouraging apartment construction and rezoning. It is not clear that these plans take sufficient advantage of Hull's geography or sufficient cognizance of the importance of access to Boston.

In summary, the decisions made by a locality such as Hull are based almost entirly on parochial effects. They are divorced both from the discipline of the private market and from considerations of regional welfare. Their value and efficacy depend almost entirely on the imagination and wisdom of a few town leaders who often represent special interests within the locality itself and rarely command the technical training or experience to see the locality as part of the region nor the financial powers to implement plans based on such a viewpoint.

APPENDIX A FOOTNOTES

1. Information provided by Mr. John Tierney of Hull Redevelopment Authority staff.

2. 1968/1969 Transportation Facts - Boston Region (hereafter cited as Transportation Facts).

3. At present Hull's clam flats are closed because of pollution.

4. There is sand on the beaches and offshore, but any mining of this would be strongly resisted by the town, the metropolitan District Commission, and the State Department of Natural Resources.

5. "Land Utilization and Marketability Study, Town Center Project #1, Hull, Massachusetts," (9 October 1967), prepared by Giroux and Company for the Hull Redevelopment Authority. (Hereafter cited as Giroux)

6. Data on number of houses is to be found in the assessors reports in the Annual Report of the Town of Hull for the year cited. Population data are from the Annex, unless otherwise noted.

7. Through 1910 the annual assessors reports broke the assessments into resident and non-resident categories. Later estimates based on numbers of houses, population, and (for 1920) examination of published list of value of properties which showed about four times as much property in the hands of non-residents as belonging to residents.

8. See Giroux.

9. 1969 population estimate from Hull Redevelopment Authority.

10. There were 3106 houses in 1939 and 3163 in 1946. In 1968 there were 4076. There have been perhaps 100-200 demolitions during this period as well.

11. See Giroux.

12. Ibid.

13. Ibid.

14. School costs taken from Annual Reports.

15. Assessment data from Annual Reports.

16. Based on analysis of building permits data in Annual Reports and interviews with Mr. John Tierney of Hull Redevelopment Authority.

17. The 40,000 figure appears in the report of the Board of Health - Health Agent (Annual Reports 1966). Mr. John Bray a longtime resident and Executive Director of the Hull Redevelopment Authority, believes that the summer population is more likely something less than 30,000 but that the day trippers would easily raise it to more than 40,000 on an average weekday.

18. See reports of Board of Health in Annual Reports. For instance, in 1968, 195 sewage overflow problems and 28 drainage of surface water problems were reported. In 1967, there were 288 and 30, respectively.

19. Information supplied by Hull Police Department and confirmed by MDC Police, Nantasket Division, and Messrs. Tierney and Bray of Hull Redevelopment Authority.

20. Giroux gives some data on comparable real estate values. Additional information obtained in personal interview with Walter Hall Realty Company personnel.

21. Tax levies based on assessments for the years indicated. Education costs from Annual Report (1968).

22. These estimates have deliberately been made on the high side. If past trends continued, the new housing would not have such a high average value and the conversions would run at about $3,000. As noted earlier, the actual trend in recent years has been one of decline, not growth, as the population expanded.

23. The chief problem, of course, would be school costs. Low-cost housing would continue to attract young people with large and growing families as in the past.

24. See Hull Redevelopment Authority brochure, Those Thirty Acres, and Giroux.

25. Information from Messrs. Bray and Tierney of Hull Redevelopment Authority.

26. See Hull Zoning By-Law as revised by Special Town Meeting of 20 October 1969.

27. Ibid.

28. See report of Permanent Sewer Commission in Annual Report (1968).

29. Transportation Facts.

30. Annual Report (1968).

31. Address from the floor by Thomas Cox at Special Meeting, 20 October 1969.

32. These are estimates

33. See Annex.

33. Data on income to town treasury from Annual Report (1968).

34. Data on expenses from Annual Report (1968).

35. Annual Report (1968).

36. Interview with Mr. John Bray of Hull Redevelopment Authority.

37. Information from MDC Police - Nantasket Division.

38. Interview with Mr. John Bray.

39. Costs based on costs of garage built at M.I.T. in 1961, adjusted for inflation. Data supplied by Mr. Robert Cavanaugh of M.I.T. Buildings Department.

APPENDIX B

THE PILGRIM POWER PLANT

B.1 Introduction

The Boston Edison Company is presently constructing a 655 megawatt nuclear power plant on 500 acres of shoreline property on Cape Cod Bay four miles south of Plymouth, Massachusetts. The site contains about 4000 feet of rocky shoreline and will include two stone breakwaters 2000 and 900 feet long, standing 16 feet above mean low water.

The study group thought that the investigation of the wisdom of this location would enable us to demonstrate the application of some of our cost-benefit techniques, the feeling being that there might exist substantial external costs associated both with the plant's thermal effect on the marine ecology and with the effects of an industrial installation on neighboring residential and recreational properties.

B.2 Effects on the Marine Ecology

The plant's circulating water system has a flow rate of 320,000 gallons/minute which removes 4.38×10^9 Btu/hr of heat. The full power temperature rise is 28°F. The water velocity into the intake structure is 1.5 ft/sec, while that at the discharge structure is 8 ft/sec.[1] The intake water is taken from about 8 feet below mean low rates (12 feet below msl) while the discharge is at the surface at mean low water. The prime reason for the low level and low speed of the input is to avoid mixing of the warmer surface waters into the coolant. However, these characteristics also make it possible for all but the slowest species to avoid being sucked into the cooling system. The coolant water is carried in three ten-foot pipes: two inlet and one discharge to the reactor structure. The maximum of the mean daily temperatures at the site through the 1967 and 1968 summer is 65°F at the surface and 57°F at the seabed in 20 feet of water.

A physical model of the thermal pattern of the effluent was constructed at M.I.T. The horizontal scale was 1:250 and the vertical scale 1:40. The model was run under several tide and current situations which in this area runs essentially parallel to the shoreline, flowing SE on the incoming tide and NW on the outgoing. However,

these tidal components are very small, and thus the current at any time depends primarily on the time history of the wind. The heated plane was confined to the upper five feet of water. Table B.1 shows the surface areas within the various isotherms as observed on the scale model. These areas were observed to be essentially independent of the tide and current situations. Since the ambient temperature is rarely above 65°F in the subject areas, it is only in a very small volume that temperatures above 80°F will be experienced.

These low temperatures are primarily a product of the general coastal current which flows southward along the entire northern New England coast. This coastal current is an extension of the Labrador Current. Its diversion to the east by Cape Cod results in a sharp increase in the summer seashore temperatures on the south side of Cape Cod, making Cape Cod a formal barrier. The current also sets up a counterclockwise motion in the nearly circular bay.

The cooling effect of the coastal current is aggravated in the summer by the prevailing southwesterly winds which produce surface water flow out of the bay which is compensated for by a subsurface flow of cooler waters into the bay. As a result of this effect, Plymouth is known among bathers to be as cold a swimming area as beaches 50 miles north of Boston.

On the other hand, the occasional northeaster will reverse this effect and can raise the temperature of the water in the bay by as much as 10°. Thus, it will be during a late summer northeaster that the temperature rise in the water in the discharge will be most critical to the marine inhabitants of this water.

Economically the most important marine activity which may be affected by the plant's thermal output is lobstering. In the 2400-acre area between the two ledges which bracket the plant site, some 10,000 lobster pots are fished at the height of the season. The Massachusetts Division of Marine Fisheries placed the total 1966 Plymouth lobster landings at 550,000 lobsters.(2) Local sources estimate that something less than half of these lobsters came from areas off the plant site. These lobsters would have a gross landed value of some $300,000.

It appears that the plant will have almost no effect on the lobster population since what little temperature

effect there is is confined to the upper five feet of water. However, lobster larvae are planktonic or free swimming for the first two or three weeks of life, often swimming on the surface during this period. It is possible that these larvae could be affected by the plant either through the thermal effluent or by being sucked into the system.

It is symptomatic of our present state of knowledge of the sea that it is not known whether the population of adult lobsters in the plant area grow up in the locale or migrate into the region over the bottom as adults from offshore populations, as many people believe. Even if the lobsters do spawn in the area, they will certainly not be affected by temperature rises of less than 5° (acclimated lobsters, both adult and young, can withstand temperatures up to 85°), and the surface area which has a greater rise is less than 70/2240 = 3% of the local lobster fishing area. Further, the fact that this intake is 8 feet below mean low water and the larvae prefer the surface implies that it is unlikely that they will be swept into the coolant stream. This low intake will also have advantages from the point of view of fouling for species, such as barnacles, dwell in the very near surface waters.

We conclude that with high probability the thermal effect on the local lobster population will be insignificant.

There is only one other marine activity of economic importance in the area (currents prevent silt deposition for shellfish grounds and the density of lobster pots makes fin fishing difficult) and that is the harvesting of the alga, Irish Moss, whose collagen is used in the papermaking and pharmaceutical industries. This plant grows attached to rocks and stones from the low water level to a depth of 25 feet. It requires, therefore, a rocky bottom. The shoreline in front of the plant is the center of a mile-long belt which contains the only presently harvested Irish Moss south of Maine. The annual harvest of Irish Moss from the area amounts to about 750,000 pounds (dry weight) and supports one family and about 15 college students during the summer. Its landed value is certainly less than $50,000 annually. Its marginal net value is undoubtedly less than half this amount.

Little is known about the temperature sensitivity of Irish Moss other than it does not grow south of Cape Cod

and, therefore, is undoubtedly more sensitive than the lobster. Once again, if we can assume that the rise must be at least 1.5° for any noticeable effect, then the affected area will be a small percentage of the harvesting area. Perhaps of more importance will be the disturbance to the plant population during construction of the breakwaters. This may be balanced by the additional sites for growth provided by the completed breakwaters. In any event, the owner of the industry has gone on record at public hearings that he does not disapprove of the plant.

In summary, the effects of thermal effluent on the local marine ecology do not appear lare primarily because:

a) the waters into which the discharge takes place are extremely cool even in the summer.

b) the thermal effects are limited to a very small portion not only of the overall area of the body of water, but even of the local fishing grounds.

TABLE B.1

Dimensions of and Area within the Predicted Isotherms for Surface Temperature Rises above Ambient Temperatures for the Pilgrim Station

Temperature Rise above Ambient (°F)	Length of Area (ft)	Width of Area (ft)	Predicted Area (Acres)	Comparable Area* Surface Cooling Only (Acres)
20°	430	110	1.1	248
10°	1100	250	6.3	725
5°	3400	900	70.3	1203
3°	5900	1300	176	1557
2°	8400	2200	425	1834

*This column is shown for purposes of comparison only, and represents the area within the designated isotherms which would be required if the temperature reduction resulted only from surface cooling.

B.3 Solid Wastes

Table B.2 summarizes the solid wastes discharged by the plant into the bay.[3]

Sodium hypochloride is used as an antifouling agent in the salt water cooling system. It will be used at levels which will result in a residual concentration of free chlorine in the discharge waters of approximately 1 ppm. This is 5-10 times the lethal concentration for most bacteria and is close to the threshold for the majority of plants and plankton under continuous exposure. The last column of Table B.1 indicates that little surface cooling occurs in the high temperature waters, thus the decreases in temperature can be regarded as indicating the amount of dilution of the effluent. For example, a temperature of 3° above ambient would indicate a dilution factor of approximately 28°/3° or 9. Thus, one can argue that toxic concentrations of chlorine will be confined to an area of tens of acres.

However, the long-term effects of less than immediately toxic levels of chlorine in marine organisms is not well known. It is known that low levels of chlorinated hydrocarbons have the ability to markedly decrease the photosynthesizing capabilities of phytoplankton. Thus, this effect bears watching.

In the effluent of estuaine power plants in the Chesapeake significant greening of oysters has been observed and this phenomenon has been traced to copper in the condenser tubes released by corrosion and concentrated by the shellfish. There has been no analysis of this problem for Pilgrim. It can be expected to be less of a problem because of the lack of oysters and clams in the discharge area and the greater dilution. Nonetheless, the heavy metal concentration in the local lobsters should be monitored carefully.

The annual release of radioactivity into Cape Cod Bay is estimated to be between 7 and 50 curies.[4] This radioactivity will be primarily in the form of isotopes of cobalt, manganese, iron, chromium, and zinc. Assuming 50 curies/year, the radioactivity of the circulating water will be on the average increased by 90 picocuries per liter or about 2% of the maximum permissible concentration in potable water, according to the AEC. At present, the radioactivity of the coastal waters is about 300 picocuries per liter.

TABLE B.2

SUMMARY OF ESTIMATED ANNUAL STATION EFFLUENTS

DISCHARGED TO CAPE COD BAY

Type	Annual Volume	Annual Radioactivity Additions	Chemical or Heat Additions
a. THERMAL(1)			
Circulating Water	1.5×10^{11} gals	Below limits of 10 CFR20(2)	4.3×10^{9} Btu/hr(3)
Service Water	5.5×10^{9} gals	Below limits of 10 CFR20(2)	7.8×10^{7} Btu/hr(3)
B. RADIOACTIVE			
Clean Radwastes	Normally reused in station		
Chemical Radwastes	4.0×10^{6} gals	7-50 curies	8.6×10^{5} lbs of Na_2SO_4
C. NON-RADIOACTIVE			
Make-up System	2.9×10^{6} gals	None	66,000 lbs of dissolved solids and 2,200 lbs of particulates

(1) Normal operation at rated load.

(2) Ocean cooling water is naturally radioactive. The radioactive content of the station effluent will be increased slightly during the controlled release of liquids from the radioactive waste system. The liquid effluent from the radioactive waste system will be below the limits specified in 10CFR20 after mixing with the cooling water.

(3) Addition of hypochlorite to these systems is expected for about one hour each day resulting in residual chlorine of approximately 1 ppm in the effluent during this period.

The extent to which this added radioactivity will build up in the bay depends on the amount of interchange between the bay's waters and those of the open ocean. This interchange is a product of three forces:

1) tidal currents;

2) the counterclockwise rotation of waters in the bay due to coastal extension of the Labrador current;

3) wind-induced currents.

The volume mean depth of Cape Cod Bay is about 100 feet and the average tidal excursion 9.3 feet. Thus, the fractional change in volume of the bay during one tidal cycle is 9.3%.

Pritchard indicates that 70-80% of the water which leaves a coastal bay on an ebbtide returns on the next flood tide.(5) We feel that, due to the extremely wide mouth of the bay and the fact that tidal actions move a unit of water only about 6 miles per cycle at the mouth, a higher proportion of the ebbtide waters will return. Therefore, we feel that perhaps 90% of the waters that leave the bay due to tidal action will return on the next tide. This implies that 2 x .09 x .1 = .018, or something less than 2% of the bay's volume will be interchanged per day due to tidal action.

Of more importance is the counterclockwise flow described earlier. Integration of the velocity isopleths of this current indicates a mean absolute flow of .3 ft/sec. The area of the mouth of the bay is approximately 1.6×10^7 ft^2. If we assume that the one-way flow extends over 1/3 of the mouth, then the volume of water moved is about 1.4×10^{11} ft^3 per day, which is about 9% of the volume of the bay.

Calculations of the interchange due to the winds requires wind current data as a function of depth, which is presently unavailable. However, surface currents generated by wind averages about 2% the wind speed and it is well known that in the Cape Cod Bay area the wind currents are almost always considerably larger than tidal currents. Further, winds can persist from the same direction for several days. A 15-knot wind for 48 hours will move surface waters 15 miles considerably further than the tidal excursions we expect at the mouth. Therefore, we

expect the winds to be at least as important an interchange mechanism on the tides.

In summary, the net interchange of 10% per day suggested by Pritchard does not seem unreasonable. This implies that the mean residence time of any pollutant in the bay is about 10 days.

The amount of water processed through the plant in a 10-day period is about 6.2×10^8 ft^3 which is about 1/2500 of the volume of the bay. Thus, it does not appear that general radioactive build-up will be a problem. However, the ability of shellfish to concentrate radioactive metals is well known. Therefore, the concentration of radioactivity will have to be carefully monitored in the local lobster.

In summary, it does not now appear that this plant will have any great effect on the neighboring marine ecology. However, certain important uncertainties remain. We note with approval Boston Edison's funding of a $277,000 study of the ecological effects on the marine biology to extend over the two years preceding the start-up of the plant and the two years following.

We suggest that this study could usefully be tied into the Marine Biology Laboratories' detailed biological survey of the entire Cape Cod Bay conducted over the last two years under O.N.R. sponsorship. We also feel that provisions for long-term monitoring of the local ecology should be made. Finally, we should emphasize that our tentative conclusions about the biological effects of this plant are not generalizable. By American standards, Cape Cod Bay is an unusually cold body of water with quite unique flushing characteristics. It is doubtful if such a combination exists in more than a handful of areas long the United States coast.

B.4 The Benefits and Costs Imposed on the Surrounding Land Areas by the Plant

The other area where the plant can effect costs and benefits not accounted for in the marketplace results from the introduction of an industrial operation into a light-to-medium density residential area. It was thought, for example, that the plant could have substantial effects on surrounding summer property values.

The property begins just south of Rocky Point, a 50-foot-high outcropping, north of which the shore turns sharply westward. As a result, there are no shoreline

63-902 O - 71 - 49

residences to the north of the plant from which the plant can be seen. To the south of the plant, there is another shoulder placing the plant in a hollow. Further south of the plant the shore turns slightly westward. As a result the plant can be seen only from several hundred yards of non-plant shoreline property. Interviews with seven of the twenty-two homeowners in the area indicated that, in their opinion, the plant had had no effect on property values and that, in their view, the effects of the increased local payroll (during construction the plant employs 400 people and it will have a permanent payroll of 50 people) more than balanced any detrimental effects. Only one person, the owner of a cranberry bog surrounded by plant property, has expressed opposition to the plant, but she was unable to marshal any support from other local interests. However, since the survey was taken in October, no summer residents were included, who presumably would place less value on parochial benefits.

The land behind the plant rises to 300 fet within a mile of the shore, placing the entire plant below the skyline and thus decreasing the visual impact to any offshore observer.

Finally, an interesting example of internalization has occurred in this problem. The owner of the property abutting the plant to the south and thus most affected by it was the owner of the property upon which the plant is presently building. Thus, in buying the property, the power company had to compensate this individual for the costs they would impose on him as a neighbor.

In short, it appears that the perceived external costs of the plant are small and more than compensated, in the neighbor's view, by the plant's effects on the local economy.

We must emphasize that, from the region's point of view, this latter is a wash. The same effects would be observed wherever the plant was located. The only exception to this statement is if there are differentials in unemployment in the region. If there are differentials in unemployment, the opportunity cost of labor to the economy will be lower in the high unemployment area than in the low unemployment areas. Since a private utility company operates on market wage rates rather than marginal social costs of labor, this can result in inefficient plant location in the face of variations in unemployment. However, these differentials

are unlikely to be large in even a moderately free labor market with a moderate amount of worker mobility. With respect to the case at hand, Plymouth was suffering a higher than regional unemployment rate due to the closing of the local cordage industry. On the other hand, it would be interesting to know how many ex-ropemakers are working on the plant. In summary, the parochial benefits to the economy of the neighborhood of the plant's location should rarely be an important consideration in plant location, since similar effects will be experienced wherever the plant is located.

Similarly, with respect to the external disbenefits of the plant, given that a plant will be built, it is the differentials in these disbenefits with location that are important. Since an important consideration in the value of shoreline land is its scenic beauty, we expect there would be cases where substantial differences in these disbenefits between shoreline and non-shoreline locations might occur. This differential would have to be balanced against the added costs of the inland location which include not only additional pipe and pumping costs, but also additional transporting of equipment costs since present-day power generation equipment is so large that it must be transported by water. These costs will almost always dictate a shoreline location. As we have seen, shoreline locations do exist where the external cost of a plant can be kept small. But this example also indicates that almost anywhere a plant is suggested it will meet with local approval on grounds which, from the region's point of view, are a wash. Thus, local forces cannot be expected to generate opposition in proportion to the external disbenefits of the particular location.

It is of more than passing interest that, while the plant occupies some ten acres of property, Boston Edison purchased over 500 acres. This is, in part, a response to AEC regulations and, in part, provision for future additions. However, it suggests that public recreational use of most of this land could be complementary to the power generation proper. Florida Power and Light's installation at Turkey Point is an example. Boston Edison seems at least vaguely aware of this possibility and is providing for public access to the breakwaters, including a footbridge from one breakwater to the other. However, the possibility of more intensive recreational use of the upland property should be investigated. It is symptomatic of the political organization of the public's interest in the shoreline that the

Massachusetts Department of Natural Resources, which licenses the plant to eject wastes into the bay, has shown no interest in the public development for recreation of the land upon which the plant stands, despite the fact that this department contains the Forest and Parks Division which is charged with planning for outdoor recreation for the state.

APPENDIX C

STRATEGIES FOR HANDLING THE DEMAND FOR OIL IN NEW ENGLAND

C.1 Introduction

The purpose of this study is to assay possible development plans for oil processing and distribution in New England and the demands that these functions will place on the coastal zone. This study considers first the possibilities for a refinery in New England and then examines various distribution schemes with and without a refinery. It concludes:

a) A refinery in New England would result in very substantial savings in fuel costs to the region. If the entire savings were passed on to the consumer, the savings would have a present value of about five hundred million 1966 dollars at an inflation-free interest rate of five percent over the next forty years. That means the savings would be an equivalent to the increase in wealth which would result if each person in New England were given about $450.

b) The savings measure the amount that the region must be willing to pay in order to avoid such external costs of a refinery as the industrialization of a wilderness area, and air and water pollution. If the region values the external disbenefits at more than this figure for all possible locations of the refinery, then a New England refinery should not be built. If it values it at less than this figure, for at least some locations, then the net present value for these locations will be positive and the refinery should be built at that location which maximizes this net present value.

c) Clearly, the existence and location of this refinery is a very serious question and one in which non-market costs and benefits should play an important role if extremely serious misallocations are to be avoided. It does not appear that, at present, these effects are being properly weighed. Secondary or wash benefits appear to be being given undue weight.

d) Given that a refinery is built, the most efficient distribution scheme, neglecting possible differentials in the frequency of oil spills, involves direct shipment via barges from the refinery to local distribution centers. If no refinery is built, the most

efficient distribution scheme involves shipment via large product tankers to two transshipment terminals using monomoors - one in Boston's outer harbor and one in the Portland area. From these terminals oil would be transported via pipeline to Boston and Portland and via barges to outlying ports. Such a scheme is not only more efficient in terms of market costs than the present highly distributed net of terminals, but it probably has advantages with respect to oil pollution as well.

C.2 The Outlook for a Refinery

The primary sources of supply of crude oil to the Eastern U.S. are Venezuela, Libya and Nigeria. This crude oil currently arrives in foreign tankers of an average size of 100,000 deadweight tons and is fed primarily to the Delaware River refinery complex. Should refinery capacity be added to the New England area, there would be negligible change in crude oil transportation costs as the distance is approximately the same. The advent of petroleum reserves reaching the East Coast via the Northwest Passage though may change the picture. The additional 500 miles that specialized icebreaking tankers would travel to reach Delaware rather than to a New England refinery amounts to an additional cost of $0.24 per ton of crude oil. This cost is attributable to fuel, wages and capital costs. The specialized tankers capable of traversing the Arctic Ocean will be much less efficient than normal tankers in the open ocean. Use of an icebreaking tanker in open water incurs a high penalty because of its higher initial cost. A New England terminal offers a considerable incentive in view of the fact that oil companies anticipate in excess of 15,000 tons per day of Alaskan crude oil to be utilized on the East Coast.*

The size of the modern crude oil tankers is another reason for interest in the New England area. Future crude oil tankers will have displacements in excess of 250,000 tons. These ships draw 60 to 70 feet. There are no presently developed harbors on the U.S. East Coast

*There is also the possibility that oil will be found in commercial quantities off the New England coast; however, we do not consider this eventuality explicitly in this report.

capable of handling these large ships.

The coast of Maine is one of the few places where drafts of 70 feet can be accommodated in sheltered areas. For example, Machias Bay could accommodate ships with a draft up to 100 feet in sheltered waters within one-quarter mile of the shore. Deep harbors such as these can be found in no other area on the East Coast.

Single point monomoor facilities can off-load petroleum at a rate of $0.08 per ton. The proximity of a Maine refinery to the off-load site means that crude oil could reach the refinery buffer storage tanks for a cost of not more than $0.10 per ton. The cost for supply of the same ton of crude oil to a Delaware River refinery is approximately $0.64 per ton since the refineries are about fifty miles from water deep enough to accommodate the tankers.

Table C.1 shows savings in initial crude oil delivery costs for foreign and Alaskan crude oil when new refinery capacity is located in New England rather than in the Delaware refinery complex.

TABLE C.1

Differential Costs for Oil Shipment to Delaware River Area and Machiasport

Refinery Site	Transportation Differential		Offloading Cost		Differential Cost	
	Foreign	Alaskan	Foreign	Alaskan	Foreign	Alaskan
Delaware River	0	$.24	$.64	$.64	$.64	$.88
Machiasport	0	0	.10	.10	.10	.10
			Savings -------		$.54	$.78

This shows that a crude oil transportation cost saving of $0.54 cents per ton of foreign crude oil and $0.78 per ton of Alaskan crude oil is realizable for new East Coast refinery capacity located in Maine rather than in Delaware. These savings are before product distribution and must be combined with differentials in the cost of

distribution of the refined product before total differentials in transportation costs can be determined.

The average refinery unit processes about 100,000 barrels of crude oil per day. This is equivalent to approximately 5 million tons of product per year. As shown in Table C.2, New England demand can be expressed in terms of required refinery units.

TABLE C.2

Projected Refinery Units Needed

Year	1966	1980	2000
Product Demand tons/year	26,000,000	34,000,000	50,000,000
Refinery Units Needed to Meet Demand	5.2	6.8	10

It is assumed that existing refinery capacity in the Delaware River area is capable of supplying approximately six of the "refinery unit," or about 30 M tons/year. By 1972, refinery operations at Machiasport could become a reality. This initial refinery could be expected to supply all northern New England regional product demands except Boston, Portsmouth and Salem. Therefore, the new crude oil supplies could justify even more capacity in New England. Table C.3 presents the value of savings resulting from consumer proximity to the refinery; i.e., a short run for an intracoastal tanker is shown. Future refineries might also be located in the New England area as the need for refineries to supply New York, New Jersey and Connecticut increases. This growth rate is not currently available. The possible savings in distribution costs are given in Table C.3, assuming that only enough capacity to serve New England north of Cape Cod is constructed. The product tanker rates for distributing petroleum products are computed from typical costs for short tanker runs given by the Maritime Administration. In the next section, a more detailed analysis of alternative distribution schemes is given.

TABLE C.3

Harbor	Distance from Machias	Distance from Phila.	Distance Differential Miles	Products Tanker Size and Cost per ton mile	Year	Petroleum Throughput tons	Annual Savings in 1966 Dols.
Bucksport	124	552	428	37,500 DWT @ $.0009	1966	1,497,000	$1,025,000
				69,800 DWT @ $.0006	1980	1,975,000	1,014,000
				114,700 DWT @ $.0005	2000	2,935,000	1,256,000
Searsport	135	541	406	37,500 DWT	1966	637,000	$ 414,000
				69,800 DWT	1980	843,000	410,000
				114,700 DWT	2000	1,250,000	507,500
Portland	158	485	327	37,500 DWT	1966	4,000,000	$2,100,000
				69,800	1980	5,290,000	2,076,000
				114,700 DWT	2000	7,850,000	2,567,000
Portsmouth	203	458	255	37,500 DWT	1966	1,600,000	$ 653,000
				69,800 DWT	1980	2,110,000	646,000
				114,700 DWT	2000	3,140,000	801,000
Salem	326	436	200	37,500 DWT	1966	945,000	$ 302,000
				69,800 DWT	1980	1,249,000	300,000
				114,700 DWT	2000	1,855,000	371,000
Boston	239	436	197	37,500 DWT	1966	17,000,000	$5,360,000
				69,800 DWT	1980	22,500,000	5,320,000
				114,000 DWT	2000	33,400,000	6,580,000

In short, it appears that foreign oil can be refined and distributed in New England for about one dollar per ton less than it would cost to do the refining in the Delaware River complex. If Alaskan oil is used, this differential rises to $1.25/per year. Further, the Delaware River refineries are presently operating near capacity, thus additional capability will have to be built.

We therefore expect the oil companies to attempt to meet future New England demands with New England refineries whether or not Alaskan oil is available and whether or not a free trade zone is established. We expect, therefore, the oil companies to be desirous of constructing a minimum of two 100,000 barrel/day refinery units by 1980 in New England and a maximum of 8, if present Delaware capacity is transferred to serving other locations. By the year 2000, we expect them to have plans for a minimum of five and a maximum of 11. The most recent proposal, that of Atlantic World Ports, called for prompt construction of a 300,000 barrel per day unit. Under our assumption, the projected net present value of the savings, namely, the one dollar per ton over the next 40 years, which would result with New England refining in 1966 dollars at 5% is $540,000,000 and at 8% $430,000,000. That is, each man, woman and child in New England would have to put aside about $450 now to make up the differential in heating costs over the next 40 years.

C.3 Nonmarket Considerations

Existence of such large savings does not necessarily imply that a refinery should be built in New England. If the region is willing to pay this amount to avoid the external disbenefits of a refinery located anywhere in New England, then it should not be built. Further, there is some evidence that the region does place a high value on the detrimental aspects of a refinery. Attempts to build a refinery in the Narragansett Bay area in the middle fifties were frustrated by local opposition to such an installation. On the other hand, if nonmarket considerations are going to rule against a refinery, then the last section implies they must be very large indeed, and thus deserve considerable study. It is not clear that such study is taking place.

Given that a refinery is to be built somewhere, then one must weigh locational differentials in these nonmarket effects in deciding where to place the refinery.

In this respect, the two leading contenders for the location of, at least, the first New England refinery complex present an interesting and important problem in nonmarket effects.

The most commonly suggested location is Machias Bay. Machias Bay is the easternmost embayment in the mainland U.S.A. located some 40 miles from the Canadian border and 210 miles northeast of Boston. Machias Bay has over 100 feet of sheltered water less than a one-quarter mile from shore with immediate access to open water. The area is almost completely undeveloped. The peninsula upon which the proposed refinery would stand, Point of Main, contains only four houses. Three organizations have expressed interest in Machias Bay. The original proposal emanated from Occidental Petroleum. However, it was tied to the establishment of a free trade zone and a change in the import quotas. Atlantic-Richfield has bought options to lease several thousand acres and has not tied their offer to a change in the oil import laws. Recently, Atlantic World Ports has applied for oil import quotas and announced plans to build a refinery in Machiasport.

Another location which is receiving increasing attention is Casco Bay, specifically Long Island, three miles off Portland. Long Island contains about 400 acres and can accommodate drafts to 70 feet. Long Island already contains a 600,000 bbl underground oil storage facility on a 181-acre trace formerly owned by the Navy. King Resources, an oil importing concern, recently bought the site and has announced plans to build an eight billion bbl storage facility. A storage facility of this size without a refinery is pointless. Therefore, we can be sure that King Resources has a refinery in mind. King's plans have generated considerable opposition among the island's 300 year-round residents and local citizen's groups have brought suit against the City Council, who in June, 1969, rezoned the area from residential to industrial. At present, the matter is unresolved and King has indicated it will not proceed with any construction until the issue is decided.

The choice between these two locations* should be

---

*We do not intend to imply that these are the only two possible alternatives. Maine is uniquely blessed with sheltered deep water. Other possibilities include Muscongus Sound and Penobscot Bay.

based on economics in the wide sense. That is, is it more consistent with the region's values to locate a refinery in a remote, almost wilderness, area in which very few people presently live, even though this choice would result in a critical modification of an entire scenic area, or to locate the plant on a residential island abutting an area which is presently rather highly industrialized (Portland already handles 20 millions of tons of oil per year), even though this would result in severe dislocation of the present residents and the further scenic deterioration of an area, which while no longer as beautiful as Machiasport serves many more visitors than Machias Bay?

We suggest that this locational problem deserves the most thorough kind of cost-benefit analysis for we can be sure of at least two things:

1) The location of this refinery will have an irreversible impact on the future development of the Maine coast; and

2) The unaided private market cannot be expected to pick that location which is most consistent with the values of the citizens of Maine and of the entire New England region not only because of the externalities involved, but because in a project of this size the developer can use parochial benefits to coerce not only a local community but an entire state. Further, competitive forces aren't really operative in this situation. Whoever builds the first refinery will have a monopoly over the region which it can expect to enjoy for many years.

The profits that the refineries can extract in this situation are simply transfer payments from the consumer to the refiner. Based upon these profits, the developer will find it easy to buy off all but the most determined organized opposition to the location he chooses in his private interest, whatever the merits of that location. Most of the present proposals involve 15% of gross profits to the state of Maine and 10% of gross profits to the other New England states. It will take a tough-minded legislator indeed to say that taxing oil users in this manner is not preferable to forcing the refiner to lower his prices instead.

There is no alternative to competent investigation by a public agency of the costs and benefits of all the

various locations from a regionwide point of view and to tight public control of the resulting monopoly. We see no evidence that such investigation is taking place. In fact, we feel that the Maine agencies involved are placing too much emphasis on parochial benefits, which will occur wherever the refinery is located and thus are not a function of location. Further, it appears that the State of Maine is not driving as hard a bargain with potential builders as it might, in part because of over-counting of parochial benefits and in part because of the relative ease with which public funds can be raised through the refinery's monopoly powers.

In short, if there was ever a situation where detailed cost-benefit analysis should be applied to a coastal zone development, the problem of discovering that location, if any, for a New England refinery, which is most consistent with the values of all of New England, is such a situation. Needless to say, in the time frame of the present study any attempt at such analysis would have been irresponsible.

C.4 Distribution Policies for New England Oil

C.4.1 Introduction

This section surveys some of the economics of the distribution of the refined petroleum products to New England. It seems clear that the bulk of this distribution will continue to be by water. The following three questions then arise:

1) Should the product tankers service directly the six or seven ports which presently receive significant quantities of oil?

2) Should the product tankers ship only to a major transshipment terminal whereupon distribution takes place by barge?

3) If a refinery is built in New England, should product tankers be used at all?

Taborga ( ) has shown that the trade-off between the economies of scale associated with a small number of very large transshipment terminals and the added distance and transshipment costs associated with intermediate terminals implies that the typical regional development distributional pattern will be:

a) A phase in which there is a large and growing number of small terminals, each demand center being served by an associated terminal.

b) A more developed phase in which the economies of scale associated with transshipment begin to operate and indicate initial consolidation of sets of the individual terminals into large transshipment terminals which serve subregions.

c) A mature phase in which, if the economies of scale warrant, this consolidation process continues until the entire region is served by a single transshipment terminal. This process appears to be well advanced in the Western Europe-Bantry Bay, Ireland situation.

In this context, the question then becomes one of determining the degree to which New England has progressed through this sequence.

C.4.2 Assumptions

For the purposes of this study, demand is referred to as total tons of oil products without making any effort at disaggregation. The reasons behind this assumption are:

a) Determination of marine terminal characteristics and size is dependent on total throughput,

b) Demand by product for the New England area is not readily available,

c) The differences in specific gravity of different products can be disregarded in a general survey of the type being attempted here, given the preponderance of fuel oils.

The rate of increase of oil-products demand will be assumed to be approximately 2 per cent per year. This assumption is based on a study made by Arthur D. Little, Inc., in 1964-65.* The relatively small growth rate reflects the increasing share projected for nuclear plants in the power generation of the region.

Using 1967 as a base year, the following table gives the relative and absolute values of demand.

---

*"Projective Economic Studies of New England."

TABLE C.4

Petroleum Demand by State

	Demand (1967) (tons)	Per Cent
New Hampshire	2,414,000	8.0
Maine	4,050,000	13.4
Massachusetts	22,120,000	73.3
Vermont	1,510,000	5.3
Total	30,094,000	100.0

The demographic patterns of the four states considered have been assumed stable; in other words, relative growth will not exist among them. This assumption is equivalent to saying that the spatial distribution of demand will not suffer significant variations in the time span considered by the study and that all net increases of demand will always be "allocated" in the same proportion to each state.

The main ports to be considered as potential locations for oil terminals are Machiasport, Penobscot River, Searsport and Portland in Maine, Portsmouth in New Hampshire, and Boston and Salem in Massachusetts.

Table C.5 shows marine distances between all locations considered.

TABLE C.5

Distances between New England Ports
(Nautical Miles)

	Pen. River	Sears-port	Port-land	P'ts-mouth	Salem	Boston	Machias-port
Penobscot River	--	13.3	104.0	137.5	164.0	178.3	127.2
Searsport	13.3	--	90.6	124.3	151.0	165.0	114.0
Portland	104.0	90.6	--	50.8	83.5	97.8	146.0
Portsmouth	137.5	124.3	50.8	--	46.7	61.2	177.3
Salem	164.0	151.0	83.5	46.7	--	21.4	195.6
Boston	178.3	165.0	97.8	61.2	21.4	--	207.8
Machiasport	127.2	114.0	146.8	177.3	195.6	207.8	--

With respect to terminal technology, only monomooring systems will be considered. Earlier studies have shown monomooring to be the most cost-effective mooring system in the New England context.

The costs assumed as typical for all terminals are shown in Table C.6.

TABLE C.6

Construction and Operating Costs of Terminals

Number of Berths	Monomoor Cost	Underwater Pipeline Cost
1	$1,800,000	$1,500,000
2	$1,800,000 x 2	$ 700,000
3	$1,800,000 x 3	$ 700,000
4	$1,800,000 x 4	$ 900,000

Tank Farm on Shoreline = $18.00/Ton of Storage

Operating Costs:

Number of Berths	Tank Farm Crew Cost/Year	Line Running Launches (Deprec + Operating)/Year
1	$150,000	$150,000
2	$210,000	$150,000
3	$260,000	$150,000
4	$290,000	$300,000

The summary of unit costs above assumes similar conditions in all locations to be studied. This assumption should be modified to reflect an individual analysis of each situation if the type of methodology presented here were actually to be applied.

We have based our analysis on use of 69,800 deadweight ton product tankers throughout the life of the system. A more detailed analysis would entail predicting the growth in ship size through the life of the system or,

better yet, employing expected value analysis as described in Chapter II, and postulating a distribution of product tanker sizes throughout the life of the system.

Distribution can be attempted by means of either pipelines or some form of maritime transportation. A pipeline in general has the disadvantage of little flexibility, since it cannot respond to the changes in optimal distribution strategies which occur with the growth and consolidation of a regional economy. Furthermore, the New England coast is concave. This implies that sea distances are shorter than land distances. But maritime transportation is generally competitive with pipelines over the same distances. The possibility of submarine pipelines does not seem an advisable alternative either, since the savings in distances are more than offset by the higher cost for materials and construction of the pipeline and by the operational complications associated with floating pumping stations along the pipeline.

With these facts in mind, our emphasis has been placed on marine transportation. The question then becomes one of deciding whether to ship from the refineries with product tankers directly to the shoreside distribution points or to transfer from the product tankers at a limited number of major terminals, using barges to supply the shoreside distribution points not served by the major terminals. The costs of transshipment must be balanced against the higher utilization of capital afforded by the barge system.

The barge costs cited are based on seagoing barges which are pushed rather than pulled by the towboat. Pushing has the advantage that the towboat-barge combination operates as one hull with consequent savings in power due to lowered wave resistance. It also is a more maneuverable and basically less hazardous system than towing. However, it should be noted that the pushing of barges in open sea conditions is barely the state of the art. However, the technological problems remaining appear far from insuperable.*

---

*The problem of the coupling of towboats and barges in high seas conditions has not been properly researched yet, mainly on account of lack of visible need for it. It is hoped that this study will make apparent the current importance of such research.

63-902 O - 71 - 50

Figures C.1 through C.3 show operational and cost characteristics of a pushed barge system.

C.4.3 Specific Cases

We have chosen to study three alternative major New England oil distribution systems:

I. A Distributed System. This system employs direct shipment via product tankers from the refinery to terminals at

Penobscot River	
Searsport	Maine
Portland	
Portsmouth	New Hampshire
Boston	Massachusetts
Salem	

II. System Employing Primary Consolidation. Here product tankers service Portland and Boston only and further distribution is by barge.

III. Complete Consolidation. Here all transshipment is handled from a single major terminal.

Two possibilities are considered under alternative III.

a) Tankers arrive at Boston only. This alternative corresponds to a minimum distribution cost configuration as can be seen by multiplying entries in the matrix of distances (Table D.5) times the demand at the destination and adding over each row. Boston has the least ton miles to be distributed with this arrangement.

b) The main terminal is in Machiasport, Maine.

As we shall see, analysis of this last alternative allows us to make the statement that, if a refinery is built in New England, all distribution should take place in barges directly from the refinery.

In all cases, inland distribution is treated as a parameter not having any impact on the comparison of alternatives being attempted.

The areas of influence for each port are as follows (as shown by 1967 data):

Portsmouth: Handles 66% of demand in New Hampshire.

Portland: Handles 100% of demand in Vermont, 34% of demand in New Hampshire and 57% of demand in Maine.

Penobscot River: Handles 30.5% of demand in Maine.

Searsport: Handles 12.5% of demand in Maine.

Salem: Handles 5% of demand in Massachusetts.

Boston: Handles 95% of demand in Massachusetts.

C.4.4 Summary of Evaluation Results

A comparison of alternatives is made on the basis of minimum present value costs to serve the demand shown in Table C.4 with this demand escalated at 2% per year.

Each alternative has four main items, berths and storage at the terminals, and barges and towboats, if transshipment is required (as in b and c). The present value calculations have been made for interest rates of 5% and 8%. 1970 U.S. dollars have been used throughout. Ten knots average speed has been used for barges and towboats.

Case I. Distributed System

TABLE C.7

Throughput at Each Terminal (millions of tons)

Ports	1970	1985	2000
Penobscot River	1.31	1.76	2.37
Searsport	0.53	0.71	0.95
Portland	4.91	6.61	8.89
Portsmouth	1.69	2.28	3.06
Salem	1.17	1.58	2.13
Boston	22.23	30.20	40.62

TABLE C.8

Arrival Rates (Ships/Month at Each Terminal)

Port	Year 1970	1985	1990
Penobscot River	1.37	1.84	2.48
Searsport	0.55	0.74	0.99
Portland	5.11	6.88	9.25
Portsmouth	1.76	2.37	3.18
Salem	1.22	1.64	2.21
Boston	23.20	31.20	42.00

C.4.5 Summary of Costs of Distributed System (Case I)

In the distributed system no transshipment is required and we must concern ourselves with terminals only. Table C.7 gives the annual operating costs and the present value costs for the terminals to service a distributed system in New England.

TABLE C.9

Yearly Costs and Total Present Value Cost for Terminals

Terminal	Yearly Cost 1970	1985	2000	Total Present Value Cost Int. Rate 5%	Int. Rate 8%
	Thousands of Dollars			Dollars	
A*	935	935	950	15.32×10^6	11.4×10^6
Boston	2,627	3,122	3,425	48.40×10^6	36.46×10^6
Portland	1,529	1,529	1,800	27.03×10^6	18.76×10^6
Total present value costs for 4 Case A terminals, Boston and Portland				134.71×10^6	100.82×10^6

*Terminal A stands for any of the following terminals: Penobscot River, Searsport, Portsmouth, Salem.

Primary Consolidation (Case II)

In Case II the tanker terminals are built only at Boston and Portland. Boston serves Massachusetts and Portland the rest of the region. Existing tanker berths and tank farms would be used as barge berths.

TABLE C.10

Arrival Rates Ships/Month at Each Terminal

	Year		
Port	1970	1985	2000
Portland	8.79	11.83	15.90
Boston	24.42	32.84	44.21

TABLE C.11

Costs for Primary Consolidation System

	Annual Cost (Millions of Dollars)			Total Present Value Cost (Dollars)	
	1970	1985	2000	Int. Rate 5%	Int. Rate 8%
Fleet	2.364	2.952	3.638	46.75×10^6	35.20×10^6
Boston Terminal	2.627	3.122	3.425	48.75×10^6	36.46×10^6
Portland Terminal	1.529	1.529	1.800	25.03×10^6	18.76×10^6
and the total present value costs are:				120.53×10^6	90.42×10^6

Final Consolidation (Case III)

For both Cases I and II the same total rate of arrivals applies. As in Case II existing tank farms and tanker berths are used as barge berths at an opportunity cost of zero.

TABLE C.12

Arrival Rates Ships/Month

	Year		
	1970	1985	1990
Boston or Machias	33.21	44.67	60.11

TABLE C.13

Case III Annual and Present Value Costs

	Annual Cost (Millions of Dollars)			Total Present Value Cost (Dollars)	
	1970	1985	2000	Int. Rate 5%	Int. Rate 8%
Fleet c1)	3.846	4.055	4.587	64.50×10^6	49.60×10^6
Fleet c2)	6.990	7.420	7.980	114.30×10^6	86.42×10^6
Terminal	2.720	3.247	3.683	49.90×10^6	38.78×10^6

TABLE C.14

Total Present Value Costs for Terminals at Boston and Machias

Case IIIa)	5% Interest	8% Interest
(Boston)	114.40×10^6	88.38×10^6

Total Yearly Cost in 1970 = $6,566,000

Case IIIb)	5% Interest	8% Interest
(Machias)	164.20×10^6	125.20×10^6

Given the remoteness of Machiasport with respect to the principal comsumption centers, the cost of using it as a transshipment center is prohibitive because of distribution costs alone. This situation is removed if IIIb) corresponds to the distribution problem associated to a refinery center in Machiasport. In such a case, costs of storage and tanker berths at the terminal are part of the F.O.B. price of the oil products at the refinery center.

Thus, we are avoiding a transshipment by placing a processing plant at the transshipment point and, therefore, (and only if we do so) the cost of the terminal should not be added to obtain the total of IIIb). The only cost in this case would be the fleet costs associated to the distribution operations. This alternative we have labeled IIIbR.

TABLE C.15

Case IIIbR. Present Value Costs

CaseIIIbR	5% Interest ($)	8% Interest ($)
(With refinery center)	114.30×10^6	86.42×10^6

TABLE C.16

Cost Summary

	Total Annual Cost in 1970 (millions of dollars)	Total Present Value Cost ($) 5%	8%
I	7.896	134.88×10^6	101.02×10^6
II	6.520	120.18×10^6	90.02×10^6
IIIa)	6.566	114.40×10^6	88.38×10^6
IIIb)	9.710	164.20×10^6	125.20×10^6
IIIbR	6.990	114.30×10^6	86.42×10^6

In summary, New England is approximately at the stage at which final consolidation of its oil distribution system should take place. If refined products continue to be shipped into the region from Delaware Bay, then the region should be seriously considering the construction of one or two transshipment terminals with subsequent distribution by barge. The cost difference we have indicated between one regionwide terminal in Boston and a pair of terminals in Boston and Portland is not large and the decision between these two alternatives should undoubtedly depend on factors we have left out of the analysis, such as externalities implied by transshipment terminals, differentials in frequency of oil spills, etc.

If a refinery is built in New England, even at a location as remote from the demand centers as Machiasport, the fact that alternative IIIbR is cheaper than alternatives II and IIIa indicates that no transshipment should take place and distribution should be via barge direct from the refinery.

Notice that IIIbR is not the predicted present value distribution costs associated with a refinery at Machiasport, but the costs of moving the oil from the Delaware River through Machiasport, deleting transshipment costs. II and IIIa are also based on oil originating in Delaware. Hence, the comparison is consistent. If the oil was actually processed in Machiasport, the costs of both systems would be reduced by the product tanker costs from Delaware to New England and the costs of II and IIIa increased by the product tanker costs from Machiasport to the shoreside or transshipment terminal, respectively. Hence, we can be sure that direct shipment from a refinery at Machiasport is indicated. Since Machiasport is the New England refinery location most remote from the demand centers, this conclusion will hold a fortiori for any other possible location. In short, if a refinery is built, it would serve as the final consolidation terminal.

1970 *1971*

Policy Positions

of the

NATIONAL GOVERNORS' CONFERENCE

August 1970

63-902 O - 71 - 51

NATIONAL GOVERNORS' CONFERENCE
Executive Committee

1969-1970

GOVERNOR JOHN A. LOVE, Colorado—*Chairman*
GOVERNOR ALBERT P. BREWER, Alabama
GOVERNOR WINTHROP ROCKEFELLER, Arkansas
GOVERNOR DON SAMUELSON, Idaho
GOVERNOR KENNETH M. CURTIS, Maine
GOVERNOR WARREN E. HEARNES, Missouri
GOVERNOR ROBERT E. MCNAIR, South Carolina
GOVERNOR CALVIN L. RAMPTON, Utah
GOVERNOR ARCH A. MOORE, JR., West Virginia

1970-1971

GOVERNOR WARREN E. HEARNES, Missouri—*Chairman*
GOVERNOR JACK WILLIAMS, Arizona
GOVERNOR ROBERT D. RAY, Iowa
GOVERNOR MARVIN MANDEL, Maryland
GOVERNOR FORREST H. ANDERSON, Montana
GOVERNOR WILLIAM T. CAHILL, New Jersey
GOVERNOR ROBERT W. SCOTT, North Carolina
GOVERNOR FRANK L. FARRAR, South Dakota
GOVERNOR LINWOOD HOLTON, Virginia

F. - 1

NATIONAL GOALS ARE NEEDED

There is a need for the President and Congress to set national goals in the fields of ecology, environment, conservation, and population. It would simplify the direction of state and local efforts if they could mesh their goals with national goals. These goals should stand out as signal flags on the halyards of our ship of state so that all could see them and understand them.

F. - 2

STRONG STATES IN THE FEDERAL SYSTEM ARE NEEDED

There must be a constant recognition of the need to place as much responsibility as possible in planning and action at the state and local levels, including such action that might necessitate interstate compacts. The unique abilities of State and local government to recognize priorities at the grass roots level should be respected and understood by the Federal Government. State governments should be permitted to set higher minimum standards than the Federal Government in the fields of environmental management and conservation.

The States need as much flexibility as possible in adjusting state and local programs to those needs unique to the area, economy, etc. Therefore, the bloc grant approach to federal planning and action funds disbursement is preferred over categorical grants.

F. - 3

MORE RELEVANT EDUCATIONAL EFFORTS IN ENVIRONMENT, CONSERVATION, AND POPULATION ARE NEEDED

We must recognize the urgent need for the teaching of environment, conservation, and population as a major basic educational requirement in primary, secondary, and higher education. Curricula of traditional offerings at all levels of education need to be examined for their relevance to the rapidly changing conditions of environment, natural resources, and population.

The competition for students' attention to a wide range of study matter should not be allowed to prevent a full understanding of the natural forces at play on this planet. Too often in the past, students have not been adequately taught the subjects of environment, conservation, and population, and have not learned the interrelationship of these subjects. Yet failure to understand this relationship could possibly spell mankind's doom if informed action based on knowledge is not taken by the public.

States should require a constant updating of educational curricula in order to strengthen the offerings in environment, conservation, and population.

F. - 4

A NATIONAL VOLUNTARY POPULATION DISTRIBUTION POLICY IS NEEDED

The United States needs to develop a national policy on voluntary population distribution. It is now projected that the population of the United States will rise from 200 million people at present to more than 300 million people by the year 2000.

Our Nation has practiced population distribution incentives in the past through such devices as the Homestead Act. A new and fresh approach to population distribution at the present time is needed.

The social and economic problems of overpopulated areas include ghettos; poverty; mass transit demands; overloaded educational, health, and recreational services; pollution of air and water; increased crime; and a growing level of individual frustration and nervous tensions.

On the other hand, underpopulated areas are suffering high economic and social costs as well. These costs are brought on by an inadequate tax base and too few people to support necessary institutions on a community basis such as schools, churches, hospitals, recreational areas, etc.

Environmental management and conservation become excessively costly because of the severe population imbalance between the overpopulated States and those which are underpopulated.

The Federal Government, through its inadvertent and uncoordinated planning and programs, is one of the major factors in creating population imbalance.

There are remedies that should be attempted to alleviate population imbalance. Subsidized low interest rates could be offered on loans for industrial expansion in underpopulated areas. Manpower training programs to assure an employee supply to industries which would expand outside of congested areas could be implemented. A revamping of the Interstate Commerce Commission freight rates, which now make economic expansion virtually impossible in some underpopulated areas, could be adjusted to permit industrial expansion in underdeveloped areas.

Federal tax incentives might be given to industries that locate away from overpopulated areas. Special federal grant programs to strengthen the desirability of living in underpopulated areas might be made. Grants for educational, health and recreational services necessary in order to attract people to live in areas now considered underpopulated would lessen the cost and burden of trying to provide these same services to the same people if these people are attracted to densely populated areas.

F. - 5

NATIONAL AND STATE COASTAL ZONE POLICY PLANNING AND MANAGEMENT ARE NEEDED

A. National Coastal Zone Management

The coastal zone presents one of the most perplexing environmental management challenges. The thirty-one States which border on the oceans and the Great Lakes contain seventy-five percent of our Nation's population. The pressures of population and economic development threaten to overwhelm the balanced and best use of the invaluable and irreplaceable coastal resources in natural, economic, and aesthetic terms.

To resolve these pressures, two actions are required. First, an administrative and legal framework must be developed to promote balance among coastal activities based on scientific, economic, and social considerations. This would entail mediating the differences between conflicting uses and overlapping political jurisdictions.

Second, efforts must be made to gain additional knowledge of the nature of the coastal zoning and the multiple effects that different uses would have upon our environment.

States must assume primary responsibility for assuring that the public interest is served in the multiple use of the land and water of the coastal zone. Local government cannot be expected to cope with the broad spectrum of interrelated coastal problems, nor can local political subdivisions be expected to make their judgments consistent with those of many interlocking political jurisdictions.

Coastal states, because of unique conditions existing along their shorelines, have advantages in coping with coastal zone planning and management that the Federal Government does not have. The Federal Government, however, should establish incentives and assistance to help the coastal states prepare plans and action.

The ultimate success of a coastal management program will depend on the effective cooperation of federal, state, regional, and local agencies. At the federal level, this would require the development of goals and an administrative framework which would avoid the existing duplication, conflict, and piecemeal approach that is too often typical of federal planning assistance programs. Any federal legislation which attempts to establish a coastal program must allow States the necessary flexibility for creating management instruments most suited to their specific conditions.

Basic to a coastal management program are the funds necessary to plan and take action. The requirements for coastal zoning management are so urgently needed in the Nation's interest that federal monies must be made available to the States at a level which will not only provide incentive, but will allow an adequate program to be developed based on federal, state and local participation.

Any attempt to diminish the federal financial participation or to shift the burden to the States will result in irreparable delay and inadequacy in bringing under control the serious coastal environment and natural resource conservation problems.

B. Coastal States Organization

In recognition of the need for preserving the invaluable and irreplaceable marine resources of the Nation, and in response to the National Governors' Conference policy statement calling for the formation of a maritime states organization to pursue those ends, the Coastal States Organization was established.

Among its responsibilities, the Organization will:

(a) contribute to the development of common policy regarding national coastal zone management legislation and programs, and serve as spokesman for the maritime states, territories, and trust territories on marine and coastal affairs;

(b) provide mutual assistance in solving common State and inter-marine resource problems; and

(c) serve as a clearinghouse for information relative to marine activities of the member States.

In affirmation of the responsibilities and powers of the States in the management of marine and coastal affairs, and in recognition of the purpose of the Coastal States Organization to further these goals, the Governors urge all eligible States to become members of the Organization, and encourage the full cooperation of all States, inland as well as coastal, in the efforts of the Organization.

F. - 6

A CHANGE IN NATIONAL ATTITUDES TOWARD NON-REPLACEABLE NATURAL RESOURCES IS NEEDED

There is a growing need to establish a new attitude in America among consumers which differentiates between quality of living and standards of living, as well as quantitative consumption and quality of life.

For example, we should examine the wisdom of our present system of reduced electric power rates as a reward for heavy consumption when that consumption might be beyond the electric consumption needed for a specific business or residence.

A flat rate for an adequate amount of electric energy based on the size of family or industrial need could be established. Sharply rising rates for electric consumption above the adequate standard set would provide a penalty for that waste which does not contribute to our economy or to the quality of living.

The consumption of non-replaceable coal in the thermo-generation of electricity which is wasted does not add to the quality of life and is an example of squandering natural resources without significant benefits to mankind.

Waste of fresh water cannot be tolerated indefinitely. Less than one percent of the water on the face of the earth is potable. In the face of rising populations and per capita water use, we are faced with the need to conserve our precious water resources by eliminating unnecessary waste. Wasted water adds nothing to our quality of living.

The same principle which applies to the wasteful use of electric energy and potable water can be applied to the use of petroleum products in our automobile engines. States should consider a policy of encouraging smaller but adequate engines through sharply graduated license fees which discourage larger than necessary engines that do not contribute to the quality of living. There are far too many vehicles in use today which wastefully consume the non-replaceable crude oil resource and add unnecessary pollutants to the air.

The national attitude which equates some forms of waste with a high quality of life needs to be changed. Waste does not add to the quality of life, but in fact denies a high quality of life to future generations.

F. - 7

STATE LAND USE PLANNING IS NEEDED

There is an interest and need for a more efficient and comprehensive system of national and statewide land use planning and decision-making. The proliferating transportation systems, large-scale industrial and economic growth, conflicts in emerging patterns of land use, the fragmentation of governmental entities exercising land use planning powers, and the increased size, scale and impact of private actions have created a situation in which land use management decisions of national, regional and statewide concern are being made on the basis of expediency, tradition, short-term economic considerations, and other factors which are often unrelated to the real concerns of a sound land use policy.

Across the Nation, a failure to conduct sound land use planning has required public and private enterprise to delay, litigate, and cancel proposed public utility and industrial and commercial developments because of unresolved land use questions, thereby causing an unnecessary waste of human and economic resources and a threat to public services, often resulting in decisions to locate utilities and industrial and commercial activities in the area of least public and political resistance, but without regard to relevant environmental and economic considerations.

The land use decisions of the Federal Government often have a tremendous impact upon the environment and the patterns of development in local communities; that the substance and the nature of a national land use policy ought to be formulated upon an expression of the needs and interests of state, regional, and local government, as well as those of the Federal Government. Federal land use decisions require greater participation by state and local government to insure that they are in accord with the highest and best standards of land use management and the desires and aspirations of state and local government.

The promotion of the general welfare, and to provide for the full and wise application of the resources of the Federal Government in strengthening the environmental, economic and social well-being of the people of the United States, we believe, is a continuing responsibility of the Federal Government, but should be consistent with and recognize the responsibility of state and local government for land use planning and management.

There should be undertaken the development of a national policy, to be known as the National Land-Use Policy, which shall incorporate environmental, economic, social and other appropriate factors. Such policy shall serve as a guide in making specific decisions at the national level which affect the pattern of environmental and industrial growth and development on the federal lands, and shall provide a framework for development of interstate, state and local land use policy.

The National Land Use Policy should:

1. Foster the continued economic growth of all States and regions of the United States;

2. Favor patterns of land use planning, management and development which are in accord with sound environmental principles and which offer a range of alternative locations for specific activities and encourage the wise and balanced use of the Nation's land and water resources;

3. Favorably influence patterns of population distribution in a manner such that a wide range of scenic, environmental and cultural amenities are available to the American people;

STATE LAND USE PLANNING IS NEEDED (cont'd.)

4. Contribute to carrying out the federal responsibility for revitalizing existing rural communities and encourage, where appropriate, new communities which offer diverse opportunities and diversity of living styles;

5. Assist State Government to assume responsibility for major land use planning and management decisions which are of regional, interstate, and national concern;

6. Facilitate increased coordination in the administration of federal programs so as to encourage desirable patterns of environmental, recreational, and industrial land use planning; and

7. Systematize methods for the exchange of land use, environmental and economic information in order to assist all levels of government in the development and implementation of the National Land Use Policy.

Intelligent land use planning and management provides the single most important institutional device for preserving and enhancing the environment and for maintaining conditions capable of supporting a quality life while providing the material means necessary to improve the national standard of living.

F. - 8

FULL FUNDING AND IMPLEMENTATION OF STATE COMPREHENSIVE OUTDOOR RECREATION PLANS IS NEEDED

Remaining undespoiled natural areas of wetlands, forests, plains, deserts, and mountains are being exploited and despoiled at an alarming rate. The expenditure of outdoor recreational funds should not be diverted from the urgent need to acquire and protect these natural areas.

Crash funding programs that seek to carve urban parks in the midst of urban glut are dramatic examples of inadequate planning. The overcoming of inadequate planning in the past through crash programs should not be allowed, through the monopoly of limited funds, to perpetuate inadequate planning, insufficient preservation, and too little and too late acquisition for future generations.

Meanwhile, however, we must also recognize that these long range plans are being eroded by present and increasing pollution of our water resources.

The National Governors' Conference, therefore, calls upon the Congress and the Administration to support also the appropriation of the full 1.25 billion dollars authorized by the Congress for the construction of waste water treatment plants. Any retreat from this promised federal commitment will further delay the day when American citizens will have access to adequate supplies of unpolluted water for recreational and other uses. Further delay will also increase the construction costs involved in bringing about clean waters, and it will represent a betrayal of those States which have, through prefunding, relied on past federal promises that funds would be forthcoming by now.

Full funding and implementation of state comprehensive outdoor recreation plans and national sewage treatment plant construction programs is the best means of solving both short-run and long-run recreational problems of megalopolis.

F. - 9

A REVITALIZATION OF FORESTRY BY ALL OWNERSHIPS IS NEEDED

There is an urgent need to revitalize forestry efforts nationally on all ownerships. The timber supply situation has pointed up the need for strong direction by the Administration.

The future demands for lumber and forest products will provide increased competition between the many uses of a shrinking forest land base. There are presently substantial acreages of state, private and federal lands potentially capable of producing forest products, but are in need of reforesting.

Proven timber management practices could be instituted by the Forest Service and the Bureau of Land Management and other public and private forest management agencies to promote increased or high yield timber growth on existing timber-producing lands, provided funds were made available for this purpose.

The Federal and State Governments need to establish a policy to encourage reforesting of denuded publicly-owned commercial forest lands.

Existing programs need to be strengthened to offer greater inducements for private landowners to reforest their lands. A great number of public values would thus accrue, beyond those to the landowner individually. Such benefits as establishing and improving watersheds and water quality, arresting soil erosion, improving flood control and stream sedimentation, wildlife habitat and recreational opportunities would result. The increased fiber would contribute to the housing needs of a growing Nation.

POLICY POSITIONS
and
FINAL REPORT

INTERGOVERNMENTAL RELATIONS COMMITTEE
of the
NATIONAL LEGISLATIVE CONFERENCE

affiliated with
The Council of State Governments

August 1970

REPORT OF THE NATURAL RESOURCES TASK FORCE

The Task Force on Natural Resources has been charged with the responsibility of assisting the Intergovernmental Relations Committee in analyzing issues and developing policies relating to the quality of the environment, and to the wise and rational development of the nation's natural resources. In carrying out this mandate, the Task Force has sought to identify the major federal-state issues, and to assign priorities and courses for action.

The problems that beset the environment have been amply documented. There is no need to elaborate here on the indiscriminate use and abuse of limited natural resources which has visited so great and deleterious a burden upon the air, the water, and the land. What does bear repeating, however, is the interdependent nature of all problems, whatever their classification. If the pleasure of living is adversely affected by one problem, the resolution of others will not provide the quality of life necessary to a happy and fruitful existence.

The task force recognizes the dual nature of environmental problems, embracing as they do the intrinsic conflict between the development of natural resources and the control of pollution. In this light, it accepts the challenge of achieving full utilization of natural resources within the limitations imposed by sound and effective conservation practices. To that end, it has structured its own activities to focus independently on natural resources and environmental management and to provide the forum for synthesizing opposing interests.

Within the context of this responsibility, the Committee wishes to express genuine concern for the integrity of the American political system in the face of the inevitable strains that will be put upon it as a result of the extraordinary efforts that are necessary to achieving the goal of enhanced environmental quality. Inherent in the urgent public thrust for action is a tremendous risk of neglecting those basic principles which are built into the structure of government for the preservation of American federalism. This danger derives principally from the nature of initial government response to the need for environmental control, which is almost wholly regulatory in character, and so dependent upon the police power of the State. Whatever means this Committee finds requisite to the accomplishment of its ends, they must accord with the principle that, insofar as it is possible, primary responsibility should be placed at the lowest administrative level commensurate with the efficient dispatch of the assignment.

Federal Funding of Water Projects Within the States

1. *The cost/benefit ratio analysis taken alone and in narrow context, as the basis for funding water projects within the States, has outlived its usefulness, and hence must be broadened in concept.*

2. *There is need for a new formula (basis) for federal funding of water projects within the States; a formula which includes factors other than economic factors imposed upon the primary users of the water. These factors must be agreed upon by the States and the Federal Government, and must encompass regional, national and international perspectives.*

3. *New concepts should be inculcated into the formula which serve the public interest including:*

   a. *Water pollution environmental control factors,*
   b. *Recreational factors,*
   c. *Aesthetic factors,*
   d. *Regional and national considerations.*

4. *Additional consideration should be given to:*

   a. *Reduced interest rates in the pay back plans,*
   b. *A longer pay back period.*

Federal-State-Local Programs for Environmental Management

The effective management of the environment can become so restrictive of traditional personal rights, that support should be given to the establishment of programs for planning and implementation at the lowest level of government capable of carrying out assigned responsibilities.

In this respect, the States should be in the position of being the prime planners, implementors, and policemen of the environment; utilizing local administration and federal funding where appropriate. The development of a program of this type in States would prevent a federal takeover of environmental control, with all its accompanying police power, which is inconsistent with the American concept of federalism.

Therefore, federal legislation should develop grant assistance programs to encourage, but not require, state efforts to:

1. *Establish a state planning and supervisory pollution control agency.*

2. *Provide assistance to local agencies in developing bond or other financing for capitol programming.*

3. *Institute state supervision of standards enforcement at the local level.*

4. *Utilize interstate cooperation to achieve these ends.*

Coastal Zone Management

The need for coastal zone management legislation derives from the inestimable importance of the estuarine and coastal environment to the Nation's economy, environmental health and quality of life. The overwhelming pressures of modern industrial society threaten the complete degradation of these vital areas. The development of a coordinated federal-state approach to the solution of coastal problems began only recently with pilot studies conducted by the Marine Sciences Council.

While federal and local government involvement is essential to any effective coastal management program, States must assume primary responsibility for assuring that the public interest is served in the multiple use of the land and water of the coastal zone.

In this context, the optimal state role should include the following propositions:

1. *A coastal zone coordinating council consisting of any agency heads possibly involved in coastal zone management should draw a state plan for the zone following an inventory. Management plans should be flexible enough to involve multiple agencies.*

2. *A coastal zoning board within the framework of state constitutions should be given the statutory power to implement the plan by assigning wet lands and affected uplands to specific management authorities. The board should have power of eminent domain.*

3. *In areas where interstate activities must be involved interstate agreement should be reached spelling out zoning for maximal protection of the involved coastal resources.*

The Federal role should adhere to the following criteria which must apply to any federal legislation:

Criteria for Evaluation of Federal Legislation

The key to evaluating any legislation which attempts to establish a coastal program lies in the flexibility it allows States for creating management instruments most suited to their own specific conditions. States should not be bound, for example, to the creation of one powerful agency for performing all coastal management functions. This is particularly important with regard to the implementation of state plans. Providing flexibility does not foreclose the designation of a single agency as the state authority for receiving and administering federal coastal grants.

No matter how well a coastal authority bill is drawn, lack of money to implement it expeditiously will drastically reduce its effectiveness. Action in this area has such great consequences for the Nation, and moneys available to the States are so limited, that a matching ratio of 2/3 federal, 1/3 state funding is clearly needed. Thus coastal legislation must be adequately funded and properly apportioned if it is to be successful. Anything less may prove dysfunctional to the stated goal.

Localities must participate fully in the planning process. Legislation which seeks to completely override local autonomy can only invite determined opposition instead of needed cooperation, particularly in the initial planning stages. All levels of government must be built into the planning process in the most efficacious manner to achieve the requisite ends of enlightened resource management.

To summarize these criteria, federal coastal zone management legislation should be:

1. *Flexible. No special state coastal agency.*

2. *Non pre-emptive. No blanket pre-emption of local zoning authority.*

3. *Adequately funded. No lightly funded, heavily worded project grants.*

4. *Properly shared. 2/3 federal - 1/3 state to provide incentive.*

Multiple Use of Water

The Intergovernmental Relations Committee of the National Legislative Conference urges that States study and implement the Multiple Use Concept for water, including use, re-use and priority controls over such use by individual States and on a multi-state basis thru interstate compacts and international treaties, where applicable.

State Air Pollution Control

It has been asserted that: "All civilization will pass away, not from a sudden cataclysm like a nuclear war, but from gradual suffocation in its own wastes." While this statement may be somewhat dramatic, the facts of one form of waste alone, air pollution, are nothing less than astounding. The hundreds of millions of tons of aerial garbage dumped into the U.S. atmosphere each year constitute a prodigious waste of potentially valuable resources. These pollutants are damaging health, defacing buildings, and despoiling crops. They cannot be tolerated.

The States assume primary responsibility for the health and well being of their citizens. They accept the challenge of providing clean air for people, whatever their number or density.

To achieve this end, they must be able to plan for the control of air pollution from all sources, to implement the requisite programs, and to enforce compliance with standards established to meet their respective needs. Such intent implies that States must be allowed to:

1. *Establish air quality control regions of appropriate dimension, whether regional, state or interstate.*

2. *Federal standard setting authority in regard to stationary sources should be limited to ambient air quality.*

3. *Establish ambient or emission standards stricter than those set by the Federal Government, where warranted.*

4. *Retain the authority to enforce regulations which they promulgate.*

5. *Develop multi-jurisdictional approaches to the solution of common air pollution control problems and urge that Congress expedite action on any necessary, state approved interstate compacts.*

6. *Federal air pollution control programs should be funded to the full extent of authorization to provide grant assistance to the States for planning and implementing programs for the control of air pollution.*

NATIONAL LEGISLATIVE CONFERENCE

"FOR SERVICE TO STATE LEGISLATURES"

SECRETARIAT: THE COUNCIL OF STATE GOVERNMENTS

OFFICE OF THE SECRETARIAT
IRON WORKS PIKE
LEXINGTON, KENTUCKY 40505
PHONE: (606) 252-2291
ED CRANE
SECRETARY

OFFICE OF FEDERAL-STATE RELATIONS
1735 DeSALES STREET, N.W.
WASHINGTON, D.C. 20036
PHONE: (202) 737-9717
EARL MACKEY, DIRECTOR OF
FEDERAL-STATE RELATIONS

PROPOSED

POLICY POSITIONS

AND

FINAL REPORT

INTERGOVERNMENTAL RELATIONS COMMITTEE

OF THE

NATIONAL LEGISLATIVE CONFERENCE

August - 1971

with offices in

ATLANTA
3384 Peachtree Road, N.E.
Atlanta, Georgia 30326

CHICAGO
1313 East 60th Street
Chicago, Illinois 60637

NEW YORK
36 West 44th Street
New York, New York 10036

SAN FRANCISCO
211 Sutter Street
San Francisco, California 94108

REPORT OF THE TASK FORCE ON NATURAL RESOURCES

The Natural Resources Task Force has been charged with the responsibility of analyzing issues and developing policies relating to the quality of the environment and to the wise and rational development of the nation's natural resources. In carrying out this mandate, the task force has sought to identify the major federal-state issues and to assign priorities and courses for action.

The problems that beset the environment have been amply documented. There is no need to elaborate here on the indiscriminate use and abuse of limited natural resources which has visited so great and deleterious a burden upon the air, the water, and the land. What does bear repeating, however, is the interdependent nature of all problems, whatever their classification. If the pleasure of living is adversely affected by one problem, the resolution of others will not provide the quality of life necessary to a happy and fruitful existence.

The Task Force recognizes the dual nature of environmental problems, embracing as they do the intrinsic conflict between the development of natural resources and the control of pollution. In this light, it accepts the challenge of achieving full utilization of natural resources within the limitations imposed by sound and effective conservation practices. To that end, it has structured its own activities to focus independently on natural resources and environmental management and to provide the forum for synthesizing opposing interests.

Within the context of this responsibility, the Committee wishes to express genuine concern for the integrity of the American political system in the face of the inevitable strains that will be put upon it as a result of the extraordinary efforts that are necessary to achieving the goal of enhanced environmental quality. Inherent in the urgent public thrust for action is a tremendous risk of neglecting those basic principles which are built into the structure of government for the preservation of American federalism. This danger derives principally from the nature of initial government response to the need for environmental control, which is almost wholly regulatory in character, hence dependent upon the police power of the State. Whatever means this Committee finds requisite to the accomplishment of its ends, they must accord with the principle that, insofar as it is possible, primary responsibility should be placed at the lowest administrative level commensurate with the efficient dispatch of the assignment.

In carrying out its assigned or assumed responsibilities, the Natural Resources Task Force faces new priorities and problems:

1. Expansion of responsibilities of the Task Force's work program to include land use planning and related management approaches to protecting the environment.
2. Increased demand on the time of the individual members for committee meetings and testimony before Congress.
3. The need for identification of expertise on a state legislative level to supplement the activities of the Task Force as expert witnesses in Washington.
4. The need for increased communication and dialogue between the Task Force and the legislative committees involved in resource and environmental planning, protection and management.

63-902 O - 71 - 52

In spite of present limitations, the Task Force represented the National Legislative Conference in testimony before House and Senate committees of the U.S. Congress on water pollution control, land use planning, coastal zone management, ocean dumping and the Interstate Environment Compact.

The Task Force hopes, in the future, to further increase its activities in Washington so that the role of the States in the federal system becomes ever stronger.

The following issues and policy positions are built principally on the substantive base developed in last year's report, with the addition of statements on land use planning, water pollution control, erosion control, power plant siting, Interstate Mining Compact and the Interstate Environment Compact.

Federal-State Water Pollution Control

Efforts to abate the pollution of our vital water resources will be successful only if they include the fullest cooperation and coordination of all levels of government with a clear definition of their respective roles.

The Intergovernmental Relations Committee of the National Legislative Conference, therefore, recognizes that strong federal support is essential to effective state and local programs. To that end, it urges that federal water pollution control legislation should contain the following provisions:

1. *Financing*
   a. *Increased levels of funding for all programs.*
   b. *A higher sharing ratio of 75 percent federal and 25 percent state and local.*
   c. *Full reimbursement for States which have prefinanced the federal share to municipalities.*
   d. *100 percent federal grants to States for implementation of requirements under new amendments to the federal water pollution control legislation.*
2. *Planning*
   a. *Consolidation of federal planning programs including both administration and funding.*
   b. *Increased levels of support for state and local planning programs.*
3. *Standards*
   a. *Minimum national standards to prevent further degradation of water resources.*
   b. *Non-preemption of state authority to establish standards higher than those set by the federal government.*
4. *Enforcement*
   a. *Left to the States if the problem dealt with has little or no interstate effect.*
   b. *Where the problem arises from interstate pollution, the Governor or Pollution Control Board should be able to enter into interstate compacts spelling out the understanding by each State (or province.)*
   c. *Where disagreement persists or lack of initiative toward a compact continues, the Federal Court shall have jurisdiction and shall order necessary compliance by any or all parties.*
   d. *Amend 1899 Refuse Act to allow state permit systems to prevail where they are adopted pursuant to an approved implementation plan.*
   e. *Transfer enforcement provisions of 1899 Refuse Act to the Environmental Protection Agency.*

5. *Interstate Arrangements*
   a. *Encourage Congressional action which would facilitate interstate agreements for more effective state water pollution control programs.*
   b. *Review existing river basin commissions to determine environmental impact of ongoing programs.*

Federal Funding of Water Projects Within the States

The cost/benefit ratio analysis taken alone and in narrow context, as the basis for funding water projects within the States, has outlived in usefulness, and hence must be broadened in concept.

Therefore, the Intergovernmental Relations Committee of the National Legislative Conference believes that:

1. *There is need for a new formula (basis) for federal funding of water projects within the States; a formula which includes factors other than economic factors imposed upon the primary users of the water. These factors must be agreed upon by the States and the Federal Government, and must encompass regional, national and international perspectives.*
2. *New concepts should be inculcated into the formula which serves the public interest including: water pollution environmental control factors, recreational factors, aesthetic factors, and regional and national considerations.*
3. *Additional consideration should be given to reduced interest rates in the pay back plans and longer pay back period.*

Multiple Use of Water

The Intergovernmental Relations Committee of the National Legislative Conference urges that the States study, plan for and implement the Multiple Use Concept for water, including the following areas of concern:

1. *Source of the watersheds and the priority of controls thereover.*
2. *The use and re-use of water, including diversion systems thereof for irrigation, navigation, industrial, agricultural and municipal purposes.*
3. *The use or non-use of interstate compacts and international treaties respecting the use and re-use of water.*
4. *Means of enforcement of water use controls by state and federal court systems or by international judicial panels.*

Federal-State-Local Programs for Environmental Management

The effective management of the environment can become so restrictive of traditional personal rights, that support should be given to the establishment of programs for planning and implementation at the lowest level of government capable of carrying out assigned responsibilities.

In this respect, the States should be in the position of being the prime planners, implementors, and policemen of the environment; utilizing local administration and federal funding where appropriate. The development of a program of this type in States would prevent a federal takeover of environmental control, with all its accompanying police power, which is inconsistent with the American concept of federalism.

Therefore, the Intergovernmental Relations Committee of the National Legislative Conference recommends that federal legislation develop grant assistance programs to encourage state efforts to:

1. *Establish a coordinated approach to environmental planning and management on a state, regional and local basis.*
2. *Provide assistance to local agencies in developing bond or other financing for capital programming.*
3. *Institute state supervision of standards enforcement at the local level.*
4. *Utilize interstate cooperation to achieve these ends.*

Land Use Planning

Land use planning is hardly a new function of government; indeed, there is evidence of it in this country as far back as the late 1600's. But it is coming in for renewed emphasis and in a new perspective with today's increasing awareness of environmental considerations.

Land use planning is the key to environmental management and provides the wherewithal to assure the wisest use of our resources and the most efficient means of guiding growth for the mutual good of all citizens.

The Intergovernmental Relations Committee of the National Legislative Conference believes that the planning process should involve, in appropriate degree and with regard to applicable lands, each level of cooperation among separate agencies within the same level of government.

The Committee recommends that federal legislation should set broad national policy and should encourage and assist the States to prepare and implement land use programs for the protection of areas of critical environmental concern and the control and direction of growth and development of more than local significance.

The Committee further urges that each State should:

1. *Set policy and establish guidelines for land use within its borders, with particular emphasis on environmental considerations and balanced useage.*
2. *Direct the implementation of comprehensive local land use plans in conformance with such guidelines.*
3. *Reserve for itself direct determination of land use only in instances which it deems of impact or importance beyond the scope of a single locality to determine.*
4. *Set policy with regard to the creation of new communities.*

Erosion Control

Land erosion is a very important factor in water pollution. One aspect of this problem is that the use of commercial fertilizers, insecticides and herbicides has increased to its present extent with indications that their use will further increase. Presently, erosion is partially controlled on only a small proportion of tilled land, and many areas of untilled land contribute to stream pollution.

Therefore, the Intergovernmental Relations Committee of the National Legislative Conference believes it behooves state and local government as well as the Federal Government to encourage and assist in a broad program of erosion control, both financially and educationally.

Coastal Zone Management: The Role for States

The need for coastal zone management legislation derives from the inestimable importance of the estuarine and coastal environment to the Nation's economy, environmental health and quality of life. The overwhelming pressures of modern industrial society threaten the complete degradation of these vital areas. The development of a coordinated federal-state approach to the solution of coastal problems began only recently with pilot studies conducted by the Marine Sciences Council.

While federal and local government involvement is essential to any effective coastal management program, States must assume primary responsibility for assuring that the public interest is served in the multiple use of the land and water of the coastal zone.

In this context, the Intergovernmental Relations Committee of the National Legislative Conference urges that the optimal state role should include the following propositions:

1. *A coastal zone coordinating council, consisting of any agency heads possibly involved in coastal zone management, should draw a state plan for the zone following an inventory. Management plans should be flexible enough to involve multiple agencies.*
2. *A coastal zoning board within the framework of state constitutions should be given the statutory power to implement the plan by assigning wet lands and affected uplands to specific management authorities. The board should have power of eminent domain.*
3. *In areas where interstate activities must be involved interstate agreement should be reached spelling out zoning for maximal protection of the involved coastal resources.*

Coastal Zone Management: Criteria for Evaluation of Federal Legislation

The key to evaluating any legislation which attempts to establish a coastal program lies in the flexibility it allows States for creating management instruments most suited to their own specific conditions. States should not be bound, for example, to the creation of one powerful agency for performing all coastal management functions. This is particularly important with regard to the implementation of state plans. Providing flexibility does not foreclose the designation of a single agency as the state authority for receiving and administering federal coastal grants.

No matter how well a coastal authority bill is drawn, lack of money to implement it expeditiously will drastically reduce its effectiveness. Action in this area has such great consequences for the Nation and moneys available to the States are so limited that a matching ratio of 2/3 federal, 1/3 state funding is clearly needed. Thus coastal legislation must be adequately funded and properly apportioned if it is to be successful. Anything less may prove dysfunctional to the stated goal.

Localities must participate fully in the planning process. Legislation which seeks to completely override local autonomy can only invite determined opposition instead of needed cooperation, particularly in the initial planning stages. All levels of government must be built into the planning process in the most efficacious manner to achieve the requisite ends of enlightened resource management.

Therefore, in summary, the Intergovernmental Relations Committee of the National Legislative Conference recommends that federal coastal zone management legislation should be:

1. *Flexible; no mandated all-embracing state coastal agency.*
2. *Non pre-emptive; no blanket pre-emption of local zoning authority.*
3. *Adequately funded; no lightly funded, heavily worded project grants.*
4. *Properly shared; 2/3 federal - 1/3 state to provide incentive.*

STATE OF RHODE ISLAND & PROVIDENCE PLANTATIONS
EXECUTIVE CHAMBER
PROVIDENCE

FRANK LICHT
GOVERNOR

July 30, 1971

The Honorable John O. Pastore
United States Senate
Washington, D.C. 20510

Dear John:

I am pleased to inform you that the State of Rhode Island has enacted legislation which provides for effective management of this state's coastal resources. This legislation received final passage by the General Assembly on July 14, and has received my approval.

This legislation has been under consideration in Rhode Island for more than two years. The act is based on recommendations submitted by the "Governor's Technical Committee on the Coastal Zone" on March 1, 1971. In preparing its recommendations, this Committee reviewed the many coastal zone management bills pending before Congress at that time. The Committee attempted to frame its proposals in a manner which would promote the maximum possible coordination of state and federal efforts in this field.

Several principles emerged from the work of the Governor's Committee in its study of coastal resources management, and from the General Assembly's deliberations. I want to bring these principles to your attention, and urge that they be given careful consideration in relation to the coastal zone management bills presently before you.

First, it is essential that the states be given maximum flexibility in establishing administrative mechanisms for management of their coastal resources. The Governor's Committee studies show that a wide variety of approaches to this problem are feasible, but that prospects for legislative acceptance and successful operation are enhanced by designing a mechanism geared to the specific needs and traditions, and the existing governmental organization, of each state. This means that each state will respond to this problem in a somewhat different way.

Second, strong reluctance is encountered to the further extension of the authority to acquire land, construct and operate facilities, and incur debt to new or existing agencies. Each state has these basic governmental powers, and has developed methods of using these powers. The states can employ these powers in managing their coastal resources without specific delegation of full authority in all areas to the agency responsible for coastal resources management. In many cases, this agency will be more effective through the coordination of the actions of others, who have the various powers enumerated above, than through direct action on its own.

Third, there is equally strong resistance by local governments to dilution of their authority to regulate land development and use in favor of a coastal resources management agency at the state level. This authority has been vested in local governments for approximately fifty years by virtually every state. This pattern will not easily be reversed, or even modified to any significant extent, no matter how worthy the objective of such changes. It is evident that a more rational approach to the regulation of land development and use requires action at a level other than that of local government, and probably requires use of a joint or multi-layered approach by state governments or regional mechanisms and local governments. However, our experience makes it apparent that this re-alignment of a basic power of local government will be achieved, if at all, only through intensive study and careful development, extending over a period of several years.

These principles have important implications for the coastal zone legislation which you are now considering. They demand that federal legislation take a flexible approach to these and other areas in order to bring about an effective state-federal partnership. They make it evident that federal legislation should place primary emphasis on the end product, effective management of our coastal resources, rather than on the specific techniques used by the states to achieve this objective.

In short, Rhode Island's experience points up the need to give the states the widest possible latitude in formulating specific responses in the areas of governmental organizations, distribution of powers, and administrative techniques, while federal legislation emphasizes the standards and goals of coastal resources management. I hope that you will take our experience into account in your current deliberations, because I believe that this experience reflects the real needs of the states for federal programs in this very important and highly sensitive area.

Warmest personal regards.

Sincerely,

Frank Licht
GOVERNOR

coastal states organization

Chairman
DR. WILLIAM J. HARGIS, JR.
Director, VIRGINIA INSTITUTE OF MARINE SCIENCE
Gloucester Point, Virginia 23062

Vice Chairman
DR. L. S. St. AMANT
Director, LOUISIANA WILDLIFE AND FISHERIES COMMISSION
400 Royal Street, New Orleans, La. 70113

Executive Committee
ARTHUR W. BROWNELL
Commissioner, DEPARTMENT OF NATURAL RESOURCES
Leverett Saltonstall Building
100 Cambridge Street, Boston, Ma. 02202
CLYDE A. ELTZROTH
Chairman, S.C. WILDLIFE RESOURCES COMMISSION
P.O. Drawer 457, Hampton, S.C. 29294
C. H. McCONNELL
Chief Engineer, DEPARTMENT OF FORESTS AND WATER
P.O. Box 1467, Harrisburg, Pa. 17120
DR. Y. R. NAYUDU
Executive Secretary, COAST COMMISSION
Office of the Governor
Juneau, Alaska 99801
DR. HARRIS B. STEWART, JR.
Director, AOML-ESSA RESEARCH LABORATORIES
901 South Miami Avenue, Miami, Fl. 33130
ROBERT C. WALKER
Director, DEPARTMENT OF NAVIGATION AND OCEAN DEVELOPMENT
California Resources Agency
1416 Ninth Street, Sacramento, Ca. 95814

THOMAS H. SUDDATH
Secretary-Treasurer
Executive Director, OCEAN SCIENCE CENTER OF THE ATLANTIC COMMISSION
P.O. Box 9986
Savannah, Georgia 31402
(912) 234-0206

3 August 1971

Honorable John O. Pastore
Senate Commerce Committee
Congress of the United States
Suite 5202 - New Senate Office Building
Washington, D. C.

Dear Senator Pastore:

At their meetings in 1969 and 1970, the Governors of the entire Nation expressed unanimous concern for the future of the resources and environments of the Coastal Zone. The Coastal States Organization, consisting of gubernatorially appointed delegates of the coastal states, shares the conviction that planning, management, research and engineering development for the Coastal Zone must be rapidly increased at state and federal levels. Because of these concerns the delegates of the Organization unanimously voted the attached resolution which I am pleased to forward to you.

Almost three years has passed since the "Stratton" Commission first recommended the Coastal Zone as a National priority. Unfortunately, the much needed a) National Coastal Zone Management Program and its ancillary activity; b) the National Coastal Zone Research Program have neither been legislated nor funded. We wish to urge that both be developed and implemented as rapidly as possible. The Coastal Zone is in deepening trouble!

The Coastal States Organization has been much distressed over the delay in the development of the National Coastal Zone Management Program. Especially disturbing are delays apparently caused by a) difficulties of definition, and b) attempts to bury the special features, urgencies and support of the Coastal Zone and its problems into an overall land use program.

The Coastal States Organization greatly fears that to bring the problems of the Coastal Zone into an overall national land use program may cause intolerable delays in solution of immediately pressing Coastal Zone difficulties. We are further convinced that a national land use program will be much too broad and will not give the attention needed to the problems of oceans and coastal waters and their beaches and wetlands and nearby fastlands. The Coastal Zone is water, oceans and estuaries, coastal and ocean bottoms, beaches and wetlands all with special features and problems. As indicated by the Commission and by the National Council on Marine Resources and Engineering Development, they require special attention. This is not to imply that land use is not involved--it is! However, the problems of the Coastal Zone are sufficiently different as to warrant separate attention.

The Coastal States Organization is convinced that difficulties in definition are more apparent than real and that within the framework of a properly prepared bill such as H.R. 9229 or S.582 the Coastal States, themselves, can prepare suitable definitions--within justifiable guidelines. After all, in a manner of speaking the Coastal States are the Nation's Coastal Zone--at least governmentally and within certain limits.

We wish to urge and enlist your continuing support in the rapid development of the National Coastal Zone Management Program and its companion program the National Coastal Zone Research Program. If we can do anything to expedite and assist in their development, passage and effective implementation, please do not hesitate to contact us. We are ready to move!

Sincerely yours,

William J. Hargis, Jr., Ph.D.
Chairman, Coastal States Organization

WHEREAS, the environments and resources of the Coastal Zone are unique and separate, presenting problems of management distinct from those generally found within non-tidewater or non-maritime land masses, and

WHEREAS, this Nation's Coastal Zone is socially, politically and commercially complex, and

WHEREAS, the Coastal Zone is under rapidly increasing pressures from growth of population, commercialization, industrialization and recreational use, and

WHEREAS, these multiple-use pressures have reached intolerable proportions--threatening to damage present and future uses,

NOW, THEREFORE, BE IT RESOLVED, That we, the Coastal States Organization, representing as we do, the states which interface with the Oceans, estuaries, the Gulf and Great Lakes, do hereby forcefully urge:

1. That the National Coastal Zone Management Program be developed as a distinct entity, and
2. That appropriate legislation establishing a National Coastal Zone Management Program be enacted as rapidly as possible by the Congress, and
3. That this legislation consider the needs, interests and constitutional responsibilities of the individual coastal states, and

4. That the program be enacted promptly and funded effectively by the appropriate state and federal agencies.

We further urge that special attention be devoted to enacting, funding and developing at state and national levels, the scientific and engineering research and development programs necessary to bring about effective planning and management in the Coastal Zone.

For the Delegates,

William J. Hargis, Jr., Ph.D.
Chairman, Coastal States Organization

O