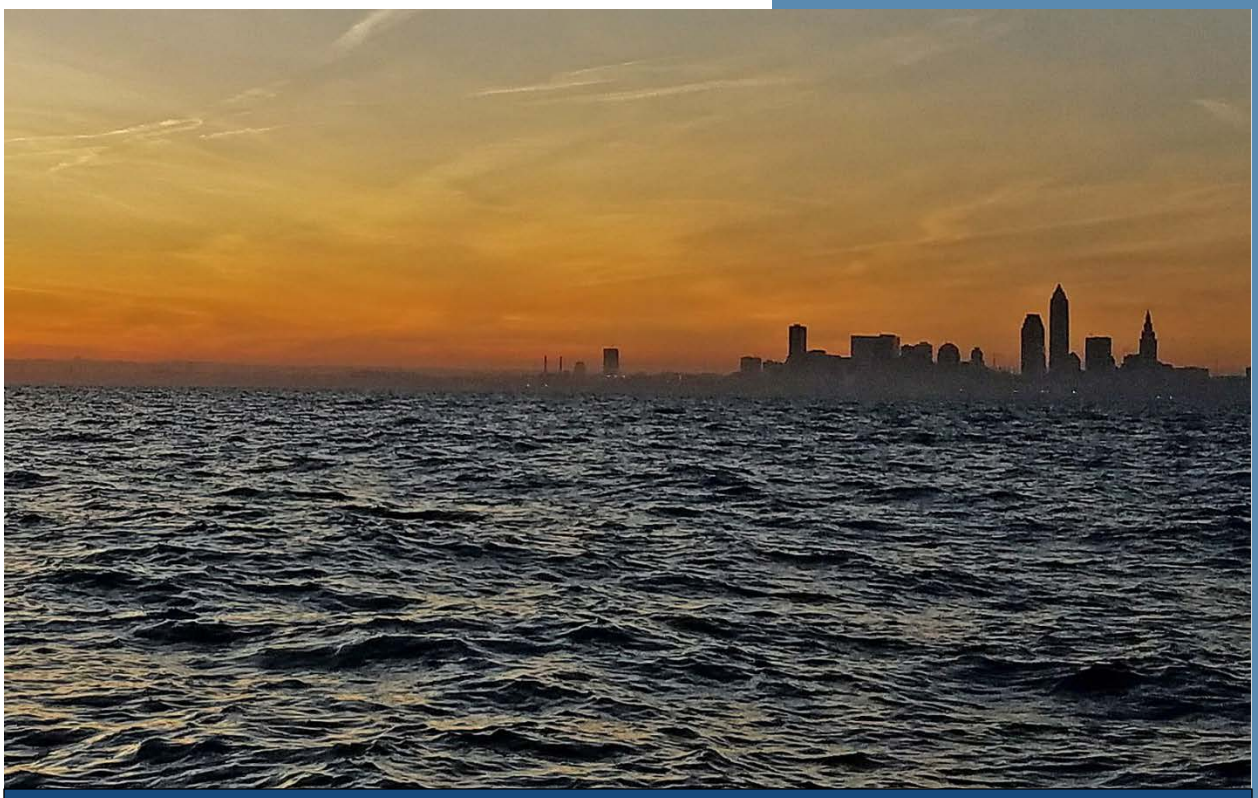

Proceedings Report on Great Lakes Coastal and Nearshore Habitat Assessment Project—Ohio

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LimnoTech
501 Avis Dr
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Funding for this project was received via Great Lakes Restoration Initiative

Workshop developed in partnership with:

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Introduction

Many Great Lakes shoreline reaches have deteriorated in function and quality due in part to land use change, shoreline alterations, coastal infrastructure, and other influences. Effective restoration actions in these dynamic, complex systems require integrated approaches to enhance coastal biodiversity and promote ecological resilience. To help facilitate the development of these approaches, National Oceanic and Atmospheric Administration (NOAA), the Coastal States Organization (CSO), and Great Lakes Coastal Zone Management Programs conducted workshops in each of the eight Great Lakes states. These workshops were an opportunity for state-level partners to influence the direction of potential future restoration actions in the Great Lakes, and to advocate for funding to be spent at state-prioritized locations for coastal management and habitat objectives.

The overarching purpose of these workshops was to convene stakeholders and partners and to identify shared coastal management principles, goals, priorities, currently available data sources, and outstanding data needs. Emphasis was on identifying, to the extent possible, place-based actions; partners who could support the planning, execution, and maintenance of restoration actions; and identifying and describing data needs associated with these preferred actions. To meet these objectives, state partners developed invitee lists that drew from a wide range of partners, including representatives from local, state, federal, and tribal organizations. A full summary of the workshop invitees and attendees is provided in Section 5.

The workshop results are based on the events of the day and participants in attendance. Organizers made an effort to invite a representative, broad based group of experts. The State of Ohio has identified additional priority projects that were not discussed during the workshop. Workshop partners from the state did not attempt to influence the outcome of the workshop as they were interested in what other opportunities may exist that they were unaware of. Workshop results are not intended to represent a comprehensive list of project concepts nor do they include the full suite of priority projects identified by the State of Ohio.

This report covers the proceedings of the one-day workshop held in Vermilion, OH on Wednesday, December 11, 2019 as well as the background materials used during the workshop.

1 Morning Session (9:30 AM – 12:30 PM)

1.1 Opening Remarks

Mike Molnar from the Coastal States Organization (CSO) started the meeting with introductions and by providing the following background on the workshops:

This series of workshops is an outgrowth of three years of work between CSO, the US Army Corps of Engineers (USACE), NOAA, other Federal Agency partners, and each of the Great Lakes State Coastal Programs to address coastal resiliency issues in the Great Lakes Region. Group efforts originally focused on developing scope of work, and securing funding for the Great Lakes Coastal Resiliency Study (GLCRS). The purpose of the proposed GLCRS was to assess coastal conditions, and develop a risk based management approach for the next 50 years. While the GLCRS did not receive funding in the FY20 USACE budget, and future direction is uncertain at this time; this workshop is an outgrowth of the GLCRS discussions and an opportunity to align state habitat restoration needs with the EPA Great Lakes Restoration Initiative (GLRI) Action Plan. Funding for the workshops provided by agreement with NOAA Office for Coastal Management via US EPA GLRI Focus Area 4. State-level partners worked together to identify and numerically rank habitat restoration projects that align with the restoration goals identified by the GLRI Focus Area 4—Species and Habitat in the draft GLRI Action Plan III (USEPA, 2019). The study area for restoration projects extends from the 15-m bathymetry contour in Lake Erie waters to the ordinary high water mark including terrestrial or inland aquatic habitats including "connecting habitats for coastal species or critical zones of influence for priority nearshore areas" (FA4 Coastal Systems Work Group) (Figure 1).

The goals of this workshop are to:

1. Identify shared coastal management principles and goals for Ohio;
2. Develop a list of coastal and nearshore habitat restoration projects for funding in FY21 and beyond that target habitat benefits for lake trout, walleye, lake sturgeon, yellow perch, cisco, and migratory birds; and,
3. Develop a list of available data, identify gaps, and prioritize data needs.

At the conclusion of all state workshops, NOAA will coordinate with other state and federal partners to identify funding mechanisms and determine potential projects to fund. NOAA OCM, NOAA Restoration Center, USFWS, USACE, USGS, EPA, and NFWF, amongst other funders, will look to this list for projects to fund.

Figure 1. Map of the Ohio Study Area

1.2 Overview Workshop and Agenda

The workshop agenda is summarized in Table 1.

Table 1. Workshop Agenda

Workshop Segment	Purpose	Format
Introduction (9:30-9:50 AM)	Describe workshop purpose, preview agenda	Welcome and introductory statements
Icebreaker Activity (9:50-10:10)	Prepare group for interactive workshop	

Workshop Segment	Purpose	Format
Shared Principles and Goals: An overview of state and regional plans (10:10-10:30)	Prepare audience for discussions by providing overview of past communicated priorities, and identifying alignments with GLRI Action Plan III Focus Area 4	Very brief presentation summarizing state-level reports and GLRI Action Plan III Focus Area 4
Identification of Coastal Habitat Principles (10:30-10:55)	Start prioritization process by considering high-level principles guiding action	Small group brainstorming and reporting cycles for two questions prompting discussion
Mid-Morning Break		
Identification of Coastal Habitat Goals (11:15-12:30)	Transition to identification of regional or species-specific goals, target 3-5 goals per region	Small group brainstorming organized by region
Lunch Break		
Identifying and Prioritizing Projects and Locations: An overview of state and regional plans (1:00-1:20)	Prepare audience for discussions of project prioritization and data needs by summarizing past projects	Very brief presentation summarizing past projects
Identification and Prioritization of Project Locations (1:20-1:50)	Roughly identify extent of potential projects and prioritize these. Complete worksheets summarizing potential project details.	Small group identification of potential projects on physical maps organized by region
Mid-Afternoon Break		
Overview of Data Availability (3:05-3:15)	Prepare audience for discussion of data gaps by summarizing presently available data	Very brief presentation of available data related to habitat
Collaborative Identification of Data Needs (3:15 – 4:15)	Identify data gaps and articulate why these data are needed. Complete worksheets summarizing data needs.	
Wrap-up and Evaluation (4:15 – 4:30)	Note forthcoming reports and request completion of evaluation forms	Paper evaluation form

1.3 Shared Principles and Goals: A Review of State and Regional Plans

Before working together to identify common habitat restoration goals and principles, LimnoTech staff gave a brief presentation highlighting regional principles and goals for habitat restoration in Lake Erie. The purpose of this presentation was to help workshop attendees consider their own principles and goals related to habitat restoration in the Lake Erie region.

LimnoTech first started by defining the terms "principles" and "goals", and then gave several examples from the GLRI Action Plan III and the Lake Erie Biodiversity Conservation Strategy (Pearsall et al., 2012). Principles were defined as foundational science-based ideas that would influence action. Goals were defined as the desired result of an action. Principles and goals from the GLRI Action Plan III and The Lake Erie Biodiversity Conservation Strategy are summarized in Figures 2 and 3. To link the regional plans to state-level planning efforts, LimnoTech also presented several principles and goals from several state-level reports (ODW, 2015; OLEC, et al., 2018). These principles and goals are summarized in Figure 4.

LimnoTech discussed how alignment exists between principles and goals defined in past reports and the objectives, commitments, and measures expressed in GLRI Action Plan III Focus Area 4 (Habitat and Species). Attendees were encouraged to identify alignment between their current principles and goals expressed during the workshop, and the GLRI action plan.

Focus Area 4: Habitats and Species	4.1. Protect and restore communities of native aquatic and terrestrial species important to the Great Lakes.	• Identify, restore, and protect habitats and provide habitat connectivity to support important species and associated habitats.
	4.2. Increase resiliency of species through comprehensive approaches that complement on-the-ground habitat restoration and protection.	• Update and implement recovery actions for federal threatened, endangered, and candidate species. • Support population-level protections, enhancements, and re-introductions for tribal, state, and Great Lakes native species of importance.

Figure 2. Summary of Focus Area 4—Species and Habitat Principles and Goals Excerpted from GLRI Action Plan III (USEPA, 2019)

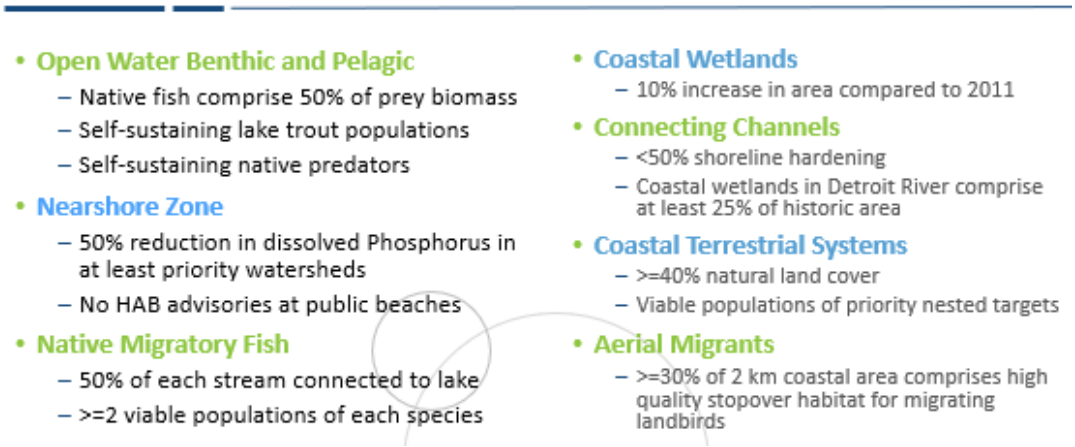

Figure 3. Summary of Select Habitat Restoration Goals Presented in the Lake Erie Biodiversity Conservation Strategy (Pearsall et al., 2015)

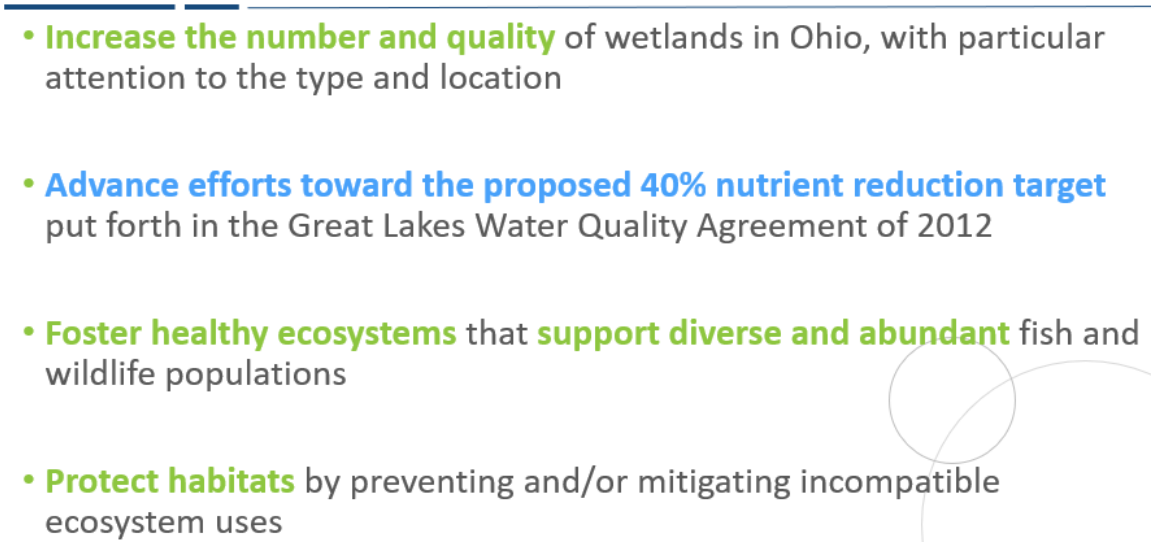

Figure 4. Summary of Select Principles and Goals from Ohio State-Level Reports (ODW, 2015; OLEC, et al., 2018)

1.4 Identifying Principles

During an approximately 25-minute interactive session, workshop attendees organized themselves into groups of approximately six people and responded to the following prompt:

1. What do you think are the key principles for achieving success in nearshore habitat restoration in the great lakes and/or your state?

Each small group reported out on three words or phrases representing the key principles underlying successful habitat restoration projects (Figure 5 and 6). The words and phrases could generally be broken into four broad categories: partnerships and planning, support, science and data, and sustainability. The full results from the first prompt are summarized in Table 2.

After each group reported out their key principles for a successful habitat restoration project, participants were asked if any principles were missing. There were several principles participants thought were missing: one related to a larger landscape perspective, one related to Ohio-specific principles, and a final one related to monitoring:

- The first "missing" principle the group discussed was about maintaining a landscape perspective, or ecosystem-based approach. There was a general desire for a strategic vision that allows for projects to be combined together in order to maximize cumulative benefit. All participants felt that projects should tie back to larger scales than the projects themselves.
- Participants also discussed whether or not these group-developed principles were too general, as opposed to Ohio-specific. One group of attendees mentioned that they tried to address this issue by referring to "innovation" in their principles. They felt that emphasizing the inclusion of innovate techniques and "tried-and-true" techniques is directly related to the dynamics of the Lake Erie system.
- Monitoring was not directly mentioned by any of the groups, but several mentioned that they thought it was heavily implied in their principles. The vast majority of attendees agreed that robust monitoring is an important principle in habitat restoration.

Following the conclusion of the principles discussion, there was one question.

- Question: Should we be considering the entire watershed [when thinking about projects]?
    - Answer: The projects we are going to discuss do not have to be small-scale, but they do have to be coastal. This is really about habitat for the priority species mentioned earlier. This workshop is being funded from GLRI Focus Area 4 funds and should remain focused on habitat as opposed to water quality or nutrients.

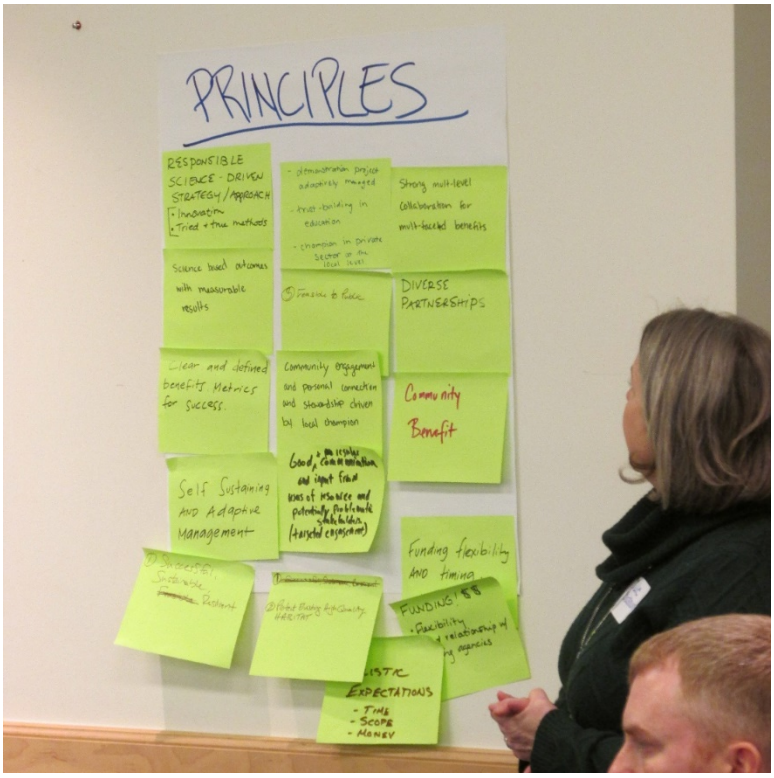

Figure 5. Snapshot of the Results from the Principles Discussion

Figure 6. Participants Working Together to Develop Common Principles

Table 2. Summary of Key Principles Reported by Each Working Group

Category	Key Principle	Further Details
Partnerships and Planning	Champion in the private sector at the local level	Much of the Ohio coastline is privately owned. You need an active private partner for coastal restoration.
	Community benefit	We intend this to be as wide as possible. You should be able to demonstrate this. Not just doing this for the "science" and "species". Also, looking to benefit the local community.
	Diverse partnerships	
	Feasibility from a social perspective	You need buy-in from the public part of it might be doing a pilot project to build a local partner
	Local champion	Community engagement, personal connection, and stewardship should be driven by local champion
	Strong multilevel collaboration for multifaceted benefits	To us this means collaboration with organizations at all levels (local, governmental, federal, NGO). Projects should benefit multiple groups and individuals.
	Trust building in education	
	Collaborative research	For the purpose of communication involving local stakeholder be sure to engage "problematic" stake holders to bring them along. If they do not participate directly, then strategically engage them.
Support	Funding flexibility	Flexible timing. Need to have dollars ready to go. Without flexibility, timing can be problematic.
	Funding flexibility	Have a good relationship with funding agencies
Data/Science	Clear and defined benefits and metrics for success	These measures could also be qualitative as well as science/data-based

Category	Key Principle	Further Details
	Demonstration project that is adaptively managed	
	Setting realistic expectations	Expectations should be met in terms of time, scope, and money
	Using responsible science driving strategies and approaches	We would like to see a mix of using innovative techniques and tried and true methods
	Science based outcomes with measurable results	
	Using demonstration projects	Use demonstration projects to test out innovative approaches. They can also be an opportunity to build our projects into laboratories and an opportunity to increase education.
Sustainability	Protection	Prioritize the preservation of high quality habitat over the restoration of lower quality habitats
	Self-sustaining and adaptive	Apply adaptive management to help feed into project sustainability
	Successful, sustainable and resilient	Specifically to climate change and all the other human disturbances

1.5 Break (15-min)

1.6 Identifying Goals

During an approximately 90-minute interactive session, workshop attendees worked together to identify a common set of goals that could be used to later prioritize habitat restoration projects. Participants self-organized into one of five groups: West, Central, East, General #1, and General #2 (Figure 7). Two "General" groups were included because many workshop participants were interested in taking a regional view of Ohio coastline as opposed to focusing on one specific portion of the coastline. The study area for restoration projects extended in from the 15-m bathymetry contour in Lake Erie to one coastal county inland. Each group was asked to develop 3 to 5 goal statements related to either a target species of interest or a region or location of interest (Figures 8 through 12).

When setting goals, participants were asked to be specific. Each goal statement needed to contain the following four elements:

1. The *subject or resource of concern*
2. The *characteristic or attribute* for the subject or resource of concern
3. The *desired future condition or conceptual target* for that attribute within a 10-year implementation timeframe
4. A measure, if possible

Using these four elements, an example of a full goal statement could be something like "hydrologic connectivity will be restored (by 10%) for fish species that spawn in upstream tributaries". It should be noted that the fourth element of a complete goal statement (a quantitative measure) was challenging for all groups. There were two primary reasons for this difficulty: first and foremost, many attendees did not know if the data they needed to quantify their goals exists; second, for data that did exist, attendees did not have access to it during the workshop and therefore were not able to determine if their measures were reasonable. Ultimately, these goal statements were developed over a short period of time (<1.5 hours), and it was not possible to refine them in light of the best available data.

Each small group reported its goal statements to the full group, and a nominal voting process was conducted to prioritize goals. The nominal voting process allowed all workshop participants to comment on goal statements that they were not able to directly participate in identifying. To vote, participants were given two dots for each region: one green and one red. For each region, participants had to select their highest priority using a green dot and their lowest priority using a red dot. The goal statements and the results of the nominal voting process are summarized in Table 3.

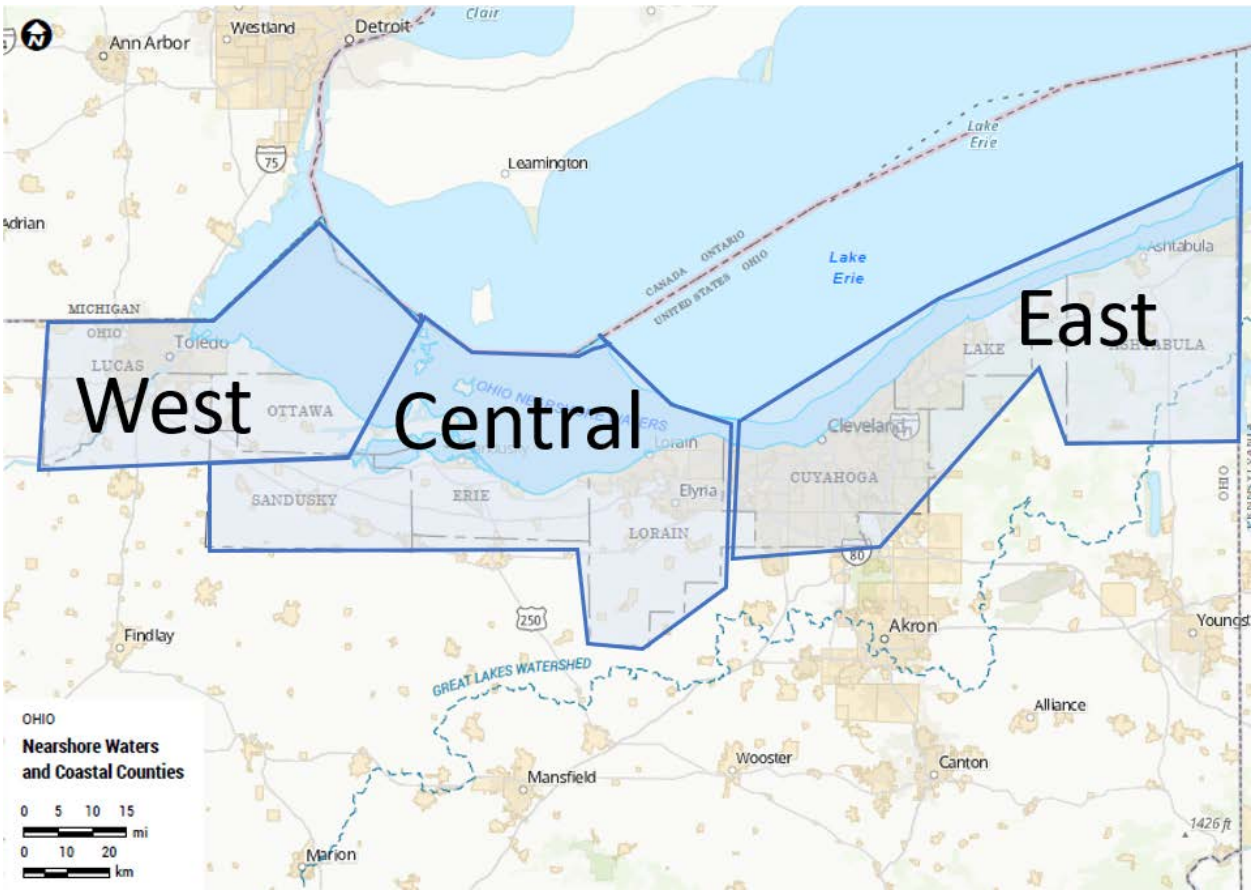

Figure 7. Map of Lake Erie Coastline and the Approximate Geographic Extent For Three of the Five Groups: West, Central, East

Figure 8. West Group Developing Goal Statements

Figure 9. General #1 Group Developing Goals Statements

Figure 10. Central Group Developing Goals Statements

Figure 11. East Group Developing Goals Statements

Figure 12. Nominal Voting on Goal Statements by Group

Table 3. Summary of Goal Statements by Region and the Results of the Nominal Voting Process

Region	Goal	Green Dot	Red Dot
West	Reconnect to-be-determined amount of aquatic habitats (wetlands, river, open water) by a to-be-determined date.	15	3
	Restore natural shoreline processes and habitats to a to-be-determined functionality for the purpose of community (people and wildlife) resiliency.	10	11
	Protect, restore, and enhance a to-be-determined percentage of wetlands by a to-be-determined date. For the purpose of open water habitat improvement (reduce spatial and temporal extent of hypoxia).	4	18
Central	Reduce hardened shoreline by reconnecting transition zone. With a target of 30 miles of shoreline.	13	10
	Maintain and protect existing coastal properties with unique habitats by reducing invasive species threats by 80%.	9	4
	Improve migratory bird nesting sites and food sources for birds by encouraging native plant growth from the existing native seed bank.	9	16
East	Protect, restore, and enhance habitat on tributaries in the central Lake Erie basin that currently have high/the highest ecosystem function.	20	2
	Habitat improvement/restoration that is equitable for the ecosystem and the public and a deliverable within 80% of public shoreline access projects.	11	11
	Utilize 100% of dredged material/sediment for habitat restoration projects.	7	16
General #1	Increase wetland connectivity by 25% in the watershed.	18	2
	25% of shoreline will be stabilized using nature-based solutions by 2030.	10	5

Region	Goal	Green Dot	Red Dot
	Increase species diversity of migratory birds and sportfish in the nearshore area by 10% by 2030.	1	23
General #2	Protect, enhance, and restore a to-be-determined acreage of coastal wetlands across Lake Erie watershed. Prioritizing: (1) potential for hydrologic connectivity; and (2) increasing connectivity of migratory corridor habitat within the coastal zone.	20	3
	Restore littoral transport and nourishment by modifying existing human structures and/or changing shoreline management practices. There are two metrics: first, measuring the net gain of cubic yards of sediment, and second, counting the number of structures removed or altered (including both public and private structures).	9	8
	Optimize spawning/nursery habitat for target fish species by a to-be-determined percentage with focus on diversity ["portfolio effect"].	2	17

2 Afternoon Session (1:00 PM – 4:30 PM)

2.1 Identifying and Prioritizing Projects and Locations: A Review of State and Regional Plans

Before working together to identify and prioritize habitat restoration projects, LimnoTech staff gave a brief presentation highlighting the different types of restoration projects targeted by the GLRI and examples of both GLRI-funded habitat restoration projects and other types of habitat restoration projects that have been funded in the state. The purpose of this presentation was to provide some background of recently completed and planned projects in the state to help spur conversations between participants.

According to GLRI Action Plan III, the GLRI funds habitat restoration projects that target the "...protection, enhancement, rehabilitation, and restoration" of ecosystems. LimnoTech provided definitions for the four types of projects and examples of projects recently completed in Figures 13 and 14 (USEPA, 2016).

Figure 13. Types of Habitat Restoration Projects as Defined by USEPA (USEPA, 2016)

Restoration Type	GLRI Funded Projects	Other Ohio Projects
Protection	Kelleys Island Preserve - Protecting Critical Habitat Preservation of 130 acres of globally imperiled & rare habitat on Kelleys Island in Ohio	Cuyahoga River West Bank Preservation This project is to acquire five conservation easements totaling 17.4 acres in the Village of Brooklyn Heights along the Cuyahoga River.
Enhancement	Restoring Hydrologic Connectivity... at Ottawa NWR... (Toledo, OH) This project will breach dikes of impounded wetlands and hydrologically reconnect 1,460 acres of coastal marsh to Lake Erie	West Creek Land Acquisition and Stream Restoration Acquisition of two areas (23 acres). Includes enhancement opportunities in 1,200 linear feet of stream
Re-establishment	Toledo Middle Grounds, OH The project will aim to convert a portion of the 28 acre site, currently a vacant lot, into a diverse wetland complex	Mentor Marsh Invasive Plant Species Control Control invasive plants and plant 6,000 trees on native emergent marsh
Rehabilitation	Fowles Marsh Habitat Restoration (OH) Cleveland Metroparks and partners will restore wetland functions and habitat on 60 acres of Fowles Marsh.	Silver Creek Restoration in Geauga Park Dist ...restore stream integrity (meanders, streamside habitat, and flow)...

Figure 14. Examples of funded projects in the State of Ohio

2.2 Identifying and Prioritizing Locations

During an approximately 90-minute interactive session, workshop attendees brainstormed potential project locations and marked up maps to document these projects (Figures 15 through 17). Each group then presented three of their proposed projects, and summarized how these locations align with principles and goals for regional habitat restoration that were developed in the morning session.

After each region pitched their top three projects, all workshop attendees were given the opportunity to vote on them using green, blue, and orange sticky dots. Attendees were asked to rank the projects within each region against each other in order to determine the top project within each region (the two "general" groups were treated as one combined region during voting). After workshop attendees voted, each project then received a score according to the scoring system summarized in Table 4. The top projects from each region then went on to a second round of voting. Participants were each given one purple dot and asked to select their top project across all of regions. This resulted in a ranking of all the top projects across all regions. This information is also summarized in Table 5. To ensure that no project information was lost, all projects that were discussed by individual groups are included in Attachment A.

There was a brief question and answer period after each group presented their proposed projects. Questions and answers by region are presented below. The answers to the questions were integrated into Table 5.

Figure 15. General #2 Group Discussing Proposed Project Locations

Figure 16. Central Group Discussing Proposed Project Locations

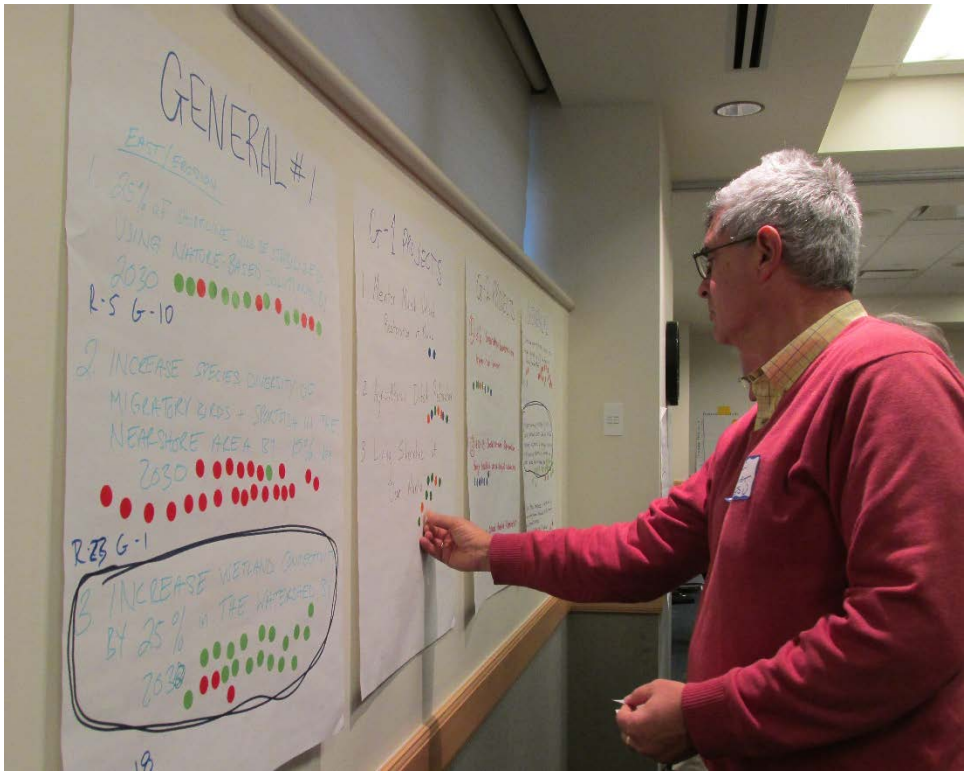

Figure 17. Participant Voting on Proposed Project Locations

Table 4. Summary of Voting System

Dot Color	Rank	Point Value
Green	First	3
Blue	Second	2
Orange	Third	1

Table 5. Summary of Proposed Projects by Region

Region	Map #	Project	Further Details	Green (1st)	Blue (2nd)	Orange (3rd)	Region Specific Score	Region Specific Rank	Final Score	Final Rank
West	1	Floodplain reconnection: restore fringe marsh/marsh migration (multiple sites)	• This is multiple projects. We want to reconnect floodplain areas (7 dots in this group) from Sandusky River to Maumee Bay State Park. Reconnecting the natural floodplain here. • 23,000 acres (from existing land that is at or below high water area). These are areas that are diked but don't serve as viable habitat. • We would need a lot of landowner buy-in • We need in-water bathymetry and floodplain dynamics, but we can use some Old Woman Creek data • Project readiness is conceptual right now	18	5	1	65	1st	9	2nd
	2	Identify and acquire properties for wetlands restoration in Western Basin	• This project is needed to help identify specific sites for restoration in the western basin of Lake Erie • We want to identify the best spots for a floodplain reconnection project. • We also want to know when these spots come available for sale	3	11	10	41	2nd		
	3	Invasive plant management	• Many diked wetlands need to be able to draw out invasive species. • We need another way to control invasive species without the dikes.	3	8	13	38	3rd		
Central	1	Putnam Marsh	• Part of Erie Metroparks (965 ac) and 3.7 miles of shoreline. • It's a fluctuating coastal marsh with annual variability.	13	3	5	50	1st	5	3rd

Region	Map #	Project	Further Details	Green (1st)	Blue (2nd)	Orange (3rd)	Region Specific Score	Region Specific Rank	Final Score	Final Rank
			• It would help to reduce invasive species coverage (Phragmites).							
	8	Landing point coastal marsh	• This project is in the backbay area of Sandusky Bay and next to Putnam Marsh. 90% design plans are complete. • We want to re-establish a nature based shoreline • The project area is 16.5 ac and directly connected to Erie Metropark. • From a public education stand point it's also a great opportunity because the city is putting a trail in here. • There are many ID'd partners here. • We are missing some geotechnical work and final design to make this ready to go • We also see this as a great pilot project that will help us understand the relationship between terracing and water levels.	7	9	5	44	2nd		
	3	Lorain impoundment	• This project is located at the mouth of the Black River. There is 150 ac that is a dredge site managed by USACE. • There is an unmaintained birding trail and are many invasive species here. • The thought is to improve this site to tie in with coastal wetland restoration project nearby. Then the two sites could work together (on shore and nearshore)	1	9	10	31	2nd		
East	1	Excellent estuarine function restoration	• These small streams are drowned valley estuaries. On the east side they are the	17	7	0	65	1st	10	1st

Region	Map #	Project	Further Details	Green (1st)	Blue (2nd)	Orange (3rd)	Region Specific Score	Region Specific Rank	Final Score	Final Rank
			smallest streams that still have functioning estuaries • We want to increase functionality. It's an urban area with a wide socioeconomic range so multiple communities would benefit. 4-5 of these streams have public land in their mouths. • (1) restore meanders • These streams do have steelhead, and lake trout. Could have sturgeon. Have a range of waterfowl. In the middle of this is 88 acres of the Cleveland Nature Preserve. • We would work closely with many partners.							
	3	Marvelous Mentor headlands dunes	• We are starting this but we need more funding. We are augmenting beach dune habitat in the state park. We want to expand the dunes west and toward the lake. We want to try a number of different techniques to restore the dunes • (1) Use sand and snow fence to capture the sand. We will also use natural material (we clean a lot of stone and driftwood off the beach. We want to use it to build structures to create sand dunes • (2) We would also like to let the project bring in old Christmas trees as well to try to create dunes • We have ID'd the wetter areas of the beach, and we would like to use extra materials to create interdunal habitat.	6	15	2	50	2nd		

Region	Map #	Project	Further Details	Green (1st)	Blue (2nd)	Orange (3rd)	Region Specific Score	Region Specific Rank	Final Score	Final Rank
			• This also coincides the removal of 3 of the western most parking lots (right now they are under water). Which we will let revert to interdunal swale/wetland • Good for birds (piping plover) • 10-12 acres total but the impact is greater • Current condition is a recreation area that attracts all demographics. • Many potential partners							
	2	Burke bioreserve	• This one is more pie in the sky • This is tearing out an airport and turning it into a nature preserve • 450 ac that is a current airport/landfill • It's politically contentious • Would need the city and the FAA, and anyone else who would like to come along • We have a lot of data needs to get this done	1	1	21	26	3rd		
General #1	3	Living shoreline at clean marina	• Deals with the first goal (25% shoreline stabilization). • This is similar to Mentor Marsh. This would be in Sandusky Harbor. Convert part of their shoreline to a living shoreline. • We have 275 marinas on the coastline; we would track everything in the case study and use it to incentivize the rest of the marinas to adapt these benefits. • Could also be adapted for homeowners.	12	0	3	39	1st	1	4th

Region	Map #	Project	Further Details	Green (1st)	Blue (2nd)	Orange (3rd)	Region Specific Score	Region Specific Rank	Final Score	Final Rank
			• Would also involve developing materials to talk to private land owners (helping us find champions) • The goal is to restore wetlands while also allowing the marina to remain fully functional • We could estimate 50-100 acres of restoration							
	2	Agricultural ditch restoration	• This is a very flat area with protected wetlands along the coast • hundreds of years of people draining and channelizing ditches leading to poor water quality • We would restore the ditches that have been channelized. We would put structures into the ditches (beaver dam analogs) to reduce channelization for the purpose of creating marsh habitat and improved in-lake water quality • It could be scaled up to create 500 ac of habitat (dependent on how much land we could get from the farmers). Totally scalable • This project would not require any excavation. A simple woven structure would be used to create a flooded marsh behind the barrier	2	4	3	17	2nd		
	1	Mentor Marsh wetland restoration at marina	• This would be a project or series demonstrating wetland restoration in a marina setting	1	3	5	14	3rd		

Region	Map #	Project	Further Details	Green (1st)	Blue (2nd)	Orange (3rd)	Region Specific Score	Region Specific Rank	Final Score	Final Rank
			• End goal is to find underutilized locations in a marina (incentivizing marinas through the clean marina program) • There are many good partnerships in Mentor Marsh already • We can do a case study around a project here to increase adaptability across the marina • Benefits: migratory birds We want this as the pilot because of the salt runoff pollution, and the erosion issues (try and pilot WL rest in that setting) used to develop lessons learned							
General #2	10-13	Coastal wetland restoration through beneficial use of dredge sediment	• Restoring coastal wetlands. Each project will be slightly different. • Targeting fish spawning but would also probably benefit birds • These sites are located near navigation channels that are already being dredged in Fairport, Lorain, Huron, and Ashtabula counties. Due to their location, they would require minimal stabilization. • These projects are in a variety of states of readiness • None of these projects are funded using FA4 Taking the dredged materials and using it as a resource (it's already being dredged)"	2	11	4	32	1st		

Region	Map #	Project	Further Details	Green (1st)	Blue (2nd)	Orange (3rd)	Region Specific Score	Region Specific Rank	Final Score	Final Rank
	5	Grassy Island habitat restoration	At the mouth of the Maumee River there are a few dredge spoil islands in place. The islands that are in place have helped to channel the flow (Grassy island is one of these). The idea would be to take/use Grassy Island to create a wetland on the other side of it, to create a clear water area for submerged vegetation. • The project would be around 200 ac. • There are many potential partners on this. • It is adjacent to a project called Cullen Park which is already under way (a few hundred acres). • This project would connect and extend this other project • This project would not require any back filling. It is simply creating submerge aquatic vegetation habitat by slowing down the water and allowing the sediment to settle out.	3	6	7	28	2nd		
	6	Conservation easements along targeted river corridor	• We want to target 500 ac of private land in Chagrin or Ashtabula Counties. • We need a method to consolidate the requests for conservation easements that people are already asking for. • We have already successfully done this in the recent past	6	2	3	25	3rd		

2.3 Break

2.4 Overview of Data Availability

Before working together to identify data needs, LimnoTech staff briefly presented their understanding of data gaps for the state of Ohio. Data gaps were described in terms of presence/absence, spatial resolution (low to high), and temporal resolution (low to high). As part of the data gap analysis, LimnoTech identified thirty-four types of data that could be useful for planning habitat restoration projects. This list of data types was generated after a review of papers produced as part of the Great Lakes Aquatic Habitat Framework (GLAHF) (Kovalenko et al., 2018; Wang et al., 2015) and an in-house review by a LimnoTech fish biologist.

In summarizing datasets, LimnoTech divided data sets into Three groups: physical, biological, and environmental (Figures 18 through 21). A glossary of terms used in Figures 18 through 21 can be found in Section 6.

- **X**
  - We have found a dataset that matches the metric
- **OK**
  - sufficient level of information for project-scale work
- **LOW**
  - The resolution of the data is technically insufficient to complete project-scale work
- **MODERATE**
  - The resolution of the data is more coarse than desired to complete project-scale work, but useable
- **HIGH**
  - There is sufficient high-resolution to use this dataset for project scale work

Spatial Resolution	Temporal Resolution
Ok	Ok
Low	Low
Moderate	Moderate
High	High

Figure 18. Summary of Short-Hand Used in Data Gap Analysis Presentation

Data Type	Present?	Spatial Resolution	Temporal Resolution	Notes
Bottom ruggedness (rugosity)				GAP
Bottom slope	X	Low	Low	Derived depth & relief
Connectivity to adjacent habitats				GAP
Hydrogeoforms	X	Low	Low	Derived depth & relief
Relative exposure index (REI)				GAP
River substrate				GAP
Spawning reefs	X	Ok	An update?	Many old srcs, 2011
Substrate composition, variability, and distribution	X	Low	Low	2015, GLAHF 30-m
Water depth	X	High	Moderate	
Wave energy	X	Moderate	Moderate	USACE modeled results
Wave height	X	Low	High	GLOS buoy (no win. data)
Discharge infrastructure: volumes and types	X	Ok	Ok	NPDES permits
Ecoregions (ecoprovinces)	X	Ok	Ok	
Dams (river access)	X	Ok	Ok	
Road crossings	X	Ok	Ok	
Shoreline classification	X	Ok	Ok	
Stream mouths (watershed pour points)	X	Ok	Ok	
Watersheds	X	Ok	Ok	

Figure 19. Data Gap Summary for Physical Data

Data Type	Present?	Spatial Resolution	Temporal Resolution	Notes
Benthos (trophic str/func)	X	Moderate	High	GLNPO points, most recent 2011
Coastal wetlands	X	Moderate	Ok	MTRI 12.5-m
Fish (trophic str/func)	X	Moderate	Low	CSMI, may not be sufficient depending on project location
Plankton (trophic str/func)	X	Moderate	High	GLNPO data, may not be sufficient depending on project location
Prevalence of invasive species	X	Moderate	Moderate	GLANSIS, most recent 2014 Phragmites stands
Submerged aquatic vegetation (presence/absence)	X	Low	Low	Mich. Tech Research Inst, 2012, 30-m
Vegetation density				GAP
Vegetation heterogeneity				GAP
Vegetation morphotype				GAP
Vegetation species composition				GAP

Figure 20. Data Gap Summary for Biological Data

Data Type	Present?	Spatial Resolution	Temporal Resolution	Notes
Chlorophyll-a				GAP
Turbidity				GAP
Suspended minerals				GAP
Water temperature (incl. timing/variability)	X	Low	Moderate	Derived from NOAA coastwatch satellite
Dissolved oxygen				GAP
Turbidity				GAP

Figure 21. Data Gap Summary for Environmental Data

2.5 Collaborative Identification of Data Needs

Data was discussed two ways during the workshop. The two-step approach was used to try to encourage and capture conversations related to data throughout the course of the workshop. The first method was to use a data wall (Figures 22 and 23). On the data wall, workshop participants had the opportunity to identify two types of datasets: those that they needed and those that they had to share. Participants were also able to qualitatively identify the spatial resolution of the data (ranging from basin scale to local scale) and the temporal resolution of the data (ranging from sampled once to sampled annually). Table 6 summarizes the data needs identified using the data wall. Additional workshop discussion items related to data needs follow this table. Data summary worksheets filled out by workshop participants can be found in Attachment B.

The second way that data was discussed was by having participants return to their lake groups. Participants were asked to consider three questions:

1. Do you have data to fill the identified data gaps?
2. What data do you need to complete your proposed project?
3. What data do you need to identify and prioritize future projects?

The answers to these questions are summarized in Tables 7 and 8.

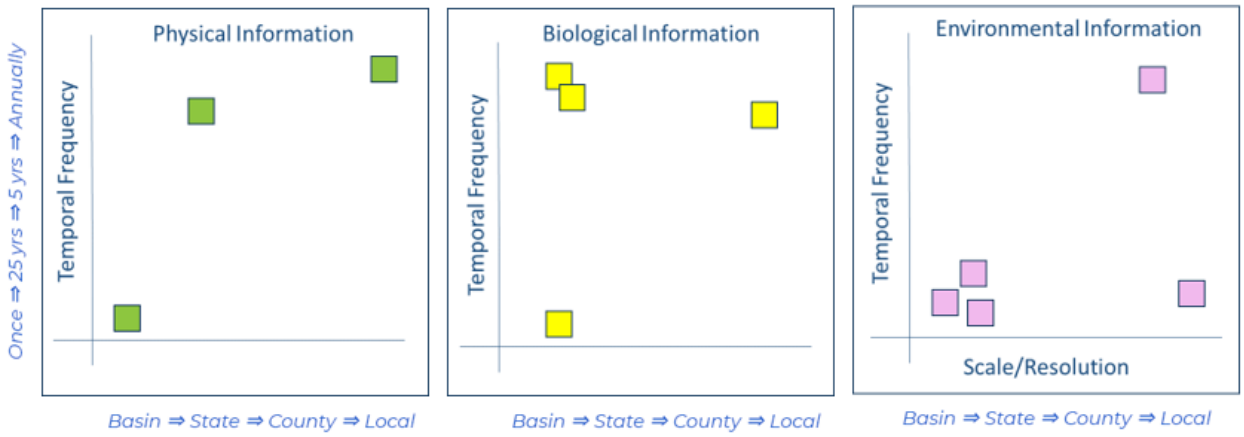

Figure 22. Conceptual Schematic of the Data Wall

Figure 23. Data Wall for Physical and Biological Data Sets

Table 6. Summary of Datasets Included on the Data Wall

Data Type	Have or Need	Description	Temporal Scale	Spatial Scale	Contact or Notes
Physical	NEED	Nearshore bathymetry	Once	Local	
	HAVE	Acres of certified clean marina managed land, parcel, and clean marina footprint in lake Erie watershed	Annual	Local	None provided
Biological	NEED	None identified			
	HAVE	None identified			
Environmental	NEED	Spawning habitat location, quality, abundance, and community characteristics	~5-25 yrs	Local	
	NEED	Quantifying realistic goals for ecosystem functionality. What are realistic numbers?	Once	Local	
	NEED	Opportunities to restore wetlands. What is the ideal amount of wetland area that needs to be restored in the western basin?	Once	Local	

Table 7. Summary of Data Sets Available to Fill Data Gaps

Region	Data Set	Contact
West	High resolution bathymetry data for Old Woman Creek	Janice Kearns Ohio DNR
	Water quality data for western Ohio tributaries	Heidelberg University
Central	Ohio EPA data sets for IBI, ICI, QHEI, and other biological data	
	Bibliography of Sandusky Bay Research prepared for Sandusky Bay Initiative	Tom Denbow, Biohabitats
East	Terrestrial vegetation diversity, heterogeneity, morphotype, species composition	Adam Wohlever Lake Erie Allegheny Partnership (LEAP) Region
	Trail and open space data for coastal counties	Northeast Ohio Regional Parks
General #1	There is a lot of data available from universities and graduate students	None listed
General #2	Social data related to housing, blight, vacancy, etc.	Samantha Miller Thriving Communities of Western Reserve Land Conservancy
	Metals data in: • Harbors • Tributaries • Sediments	John Farver, Geology, Bowling Green State University
	River substrate from I-75 to Rt 25 Vegetation density	Jeff Miner, Bowling Green State University

Table 8. Summary of Data Needs by Region and Type

Region	Need Type	What	Where	Why	Resolution	Availability
West	Project	Bathymetry of coastal estuaries	Coastal estuaries in western Ohio	For engineering and design	Local/ Once	None mentioned
	Project	Flood risk analysis	Coastal estuaries in western Ohio	For engineering and design	Local/ Once	Might be available via FEMA
	Prioritization	Pre-restoration fish, bird, and water quality data	West Ohio	Need long-term monitoring to measure success of projects after restoration. Sampling every other year would be sufficient	Local/ Annual	None mentioned
	Prioritization	Climate predictions	West Ohio	No information	Local/ Annual	None mentioned
	Prioritization	Flow dynamics in tributaries	West Ohio	For prioritization	None listed	None mentioned
	Prioritization	Model synthesis (LiDAR, flow data, others)	West Ohio	Will help identify areas of reconnection	Local/ Once	None mentioned
Central	Project	Sediment quality data and depth	Sandusky Bay	Useful for siting, design and project optimization	Local/ Annual	None mentioned
	Project	Relative exposure index at appropriate scale	Central Ohio	Useful for siting, design and project optimization	Local/ Annual	None mentioned
	Project	Hydrodynamic modeling data	Central Ohio	For engineering and design	Local/ Once	None mentioned
	Project	Lake level and wind conditions	Central Ohio	Useful for siting, design and project optimization	Local/ Annual	None mentioned

Region	Need Type	What	Where	Why	Resolution	Availability
	Project	Submerged aquatic vegetation mapping	Central Ohio	Useful for siting, design and project optimization	Local/ Once	None mentioned
	Project	Wetland monitoring established wetlands	Central Ohio	None listed	Local/ Annual	None mentioned
	Prioritization	Relative exposure index	Central Ohio	None listed	None listed	None mentioned
	Prioritization	Lake level and wind conditions	Central Ohio	None listed	None listed	None mentioned
East	Project	Mid-resolution bathymetry	Nearshore Lake Erie	Needed to understand ravine retreat and bottom structure	None listed	None mentioned
	Project	Precipitation and lake levels in light of climate change	Lake Erie Cuyahoga River to Chagrin River	Important to understanding erosion	None listed	None mentioned
	Prioritization	No data sets listed				
General #1	Project	Data on willing land owners who are likely to support these types of projects in their communities (i.e., data set of properties with conservation easements, certified clean marinas, wetland property owners)		We have a lot of ecological data, but what about socio-economic data to support projects or help prioritize projects?	None listed	Ducks Unlimited maintains GIS of priority conservation areas (CARL)
	Prioritization	No data sets listed				
General #2	Project	No data sets listed				
	Prioritization	No data sets listed				

3 Workshop Summary

3.1 Workshop Findings

3.1.1 Common Principles

Workshop participants identified four common principles that underlie many successful habitat restoration projects:

1. They involve collaborative planning and stakeholder engagement that occurs early and often to make sure all voices are heard.
2. They require funding that is reliable so that planning for the future can occur. These funds should also be flexible enough to adapt to emerging project needs.
3. They use sound science and a data driven decision-making process so that the effects of the restoration process can be quantified. And,
4. They are sustainable into the future and take into account a wide variety of environmental conditions.

3.1.2 Common Goals

The top common goal identified by workshop participants are summarized in Table 9. It should be noted that while workshop attendees were able to come to consensus around common goals, they also recognized that, in many cases, the current data is insufficient to quantitatively assess these goals. The types of baseline data that workshop attendees would like to collect are outlined in section 2.5.

Table 9. Summary of Top Goals for Each Lake Identified by Workshop Participants

Region	Goal
West	Reconnect a to-be-determined amount of aquatic habitats (wetlands, river, open water) by a to-be-determined date
Central	Reduce hardened shoreline by reconnecting transition zone. With a target of 30 miles of shoreline.
East	Protect, restore, and enhance habitat on tributaries in the central Lake Erie basin that currently have high/the highest ecosystem function
General #1	Increase wetland connectivity by 25% in the watershed
General #2	Protect, enhance, and restore a to-be-determined acreage of coastal wetlands across Lake Erie watershed. Prioritizing: (1) potential for hydrologic connectivity; and (2) increasing connectivity of migratory corridor habitat within the coastal zone

3.1.3 Identification of Workshop Priorities

The results from the habitat restoration project prioritization process are summarized in Table 10. For further details about the projects in the table, see section 2.2. For details on the inclusion of the Rogers Park Project, see section 2.2. For further information about projects that were not ranked, please see Attachment A.

Table 10. Summary of Ranked Habitat Restoration Priorities Developed by Workshop Participants

Region	Map #	Project	Further Details	Final Score	Final Rank
East	1	Excellent estuarine function restoration	• These small streams are drowned valley estuaries. On the east side they are the smallest streams that still have functioning estuaries • We want to increase functionality. It's an urban area with a wide socioeconomic range so multiple communities would benefit. 4-5 of these streams have public land in their mouths. • (1) restore meanders • These streams do have steelhead, and lake trout. Could have sturgeon. have a range of waterfowl. In the middle of this is 88 acres of the Cleveland Nature Preserve. • We would work closely with many partners.	10	1st
West	1	Floodplain reconnection: restore fringe marsh/marsh migration (multiple sites)	• This is multiple projects. We want to reconnect floodplain areas (7 dots in this group) from Sandusky River to Maumee Bay State Park. Reconnecting the natural floodplain here. • 23,000 acres (from existing land that is at or below high water area). These are areas that are diked but don't serve as viable habitat • We would need a lot of landowner buy-in • We need in-water bathymetry and floodplain dynamics, but we can use some Old Woman Creek data • Project readiness is conceptual right now	9	2nd
Central	1	Putnam Marsh	• Part of Erie Metroparks (965 ac) and 3.7 miles of shoreline. • It's a fluctuating coastal marsh with annual variability. • It would help to reduce invasive species coverage (Phragmites). • These small streams are drowned valley estuaries. On the east side they are the smallest streams that still have functioning estuaries	5	3rd

Region	Map #	Project	Further Details	Final Score	Final Rank
			• We want to increase functionality. It's an urban area with a wide socioeconomic range so multiple communities would benefit. 4-5 of these streams have public land in their mouths. • (1) restore meanders • These streams do have steelhead, and lake trout. Could have sturgeon. Have a range of waterfowl. In the middle of this is 88 acres of the Cleveland nature preserve. • We would work closely with many partners.		
General	3	Living shoreline at clean marina	• Deals with the first goal (25% shoreline stabilization). • This is similar to Mentor Marsh. This would be in Sandusky Harbor. Convert part of their shoreline to a living shoreline. • We have 275 marinas on the coastline, we would track everything in the case study and use it to incentivize the rest of the marinas to adapt these benefits. • Could also be adapted for homeowners. • Would also involve developing materials to talk to private land owners (helping us find champions) • The goal is to restore wetlands while also allowing the marina to remain fully functional • We could estimate 50-100 acres of restoration	1	4th

3.1.4 Data Needs

See section 2.5 for a tabular summary of data needs.

3.2 Next Steps

At the end of the workshop, Mike Molnar, from CSO, briefly discussed the next steps involved in this process:

- Information organization: we will sort through all the great information and develop a report that is to be shared with the coastal program
- Data gap filling: select data gaps identified during this workshop and others will be addressed for a limited portion of the shoreline from April 2020 through March 2021
- NOAA will be able to fund some engineering and design work for a subset of projects.
- Federal partners with funding available will convene during the spring to discuss the project priorities identified in the state-specific workshop and their potential fit with various funding streams.
- Continue the conversation – today has been a great conversation starter. We encourage you to continue the discussion among yourselves and partners.

4 References

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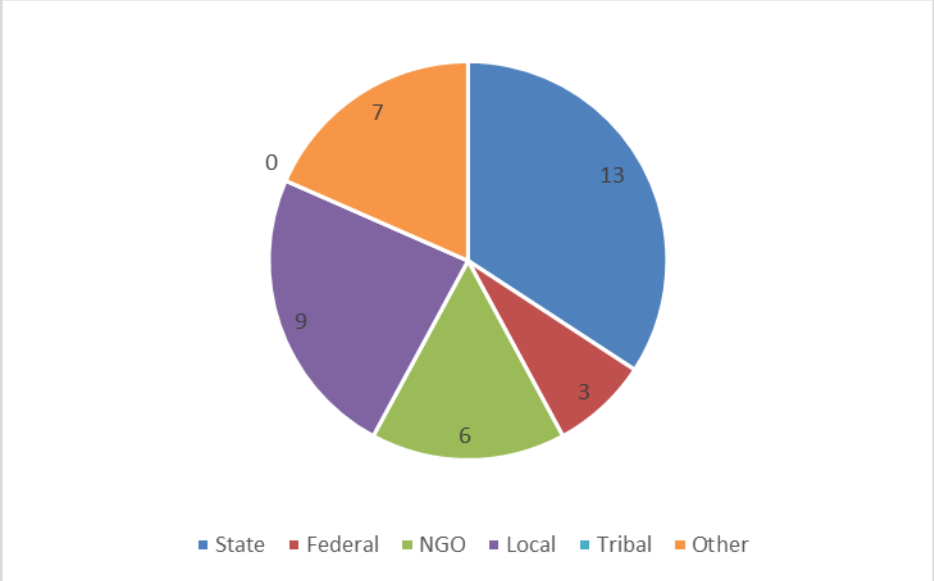
United States Environmental Protection Agency (USEPA). 2016. Wetlands restoration Definitions and Distinctions. USEPA. 2019 November 5. https://www.epa.gov/wetlands/wetlands-restoration-definitions-and-distinctions

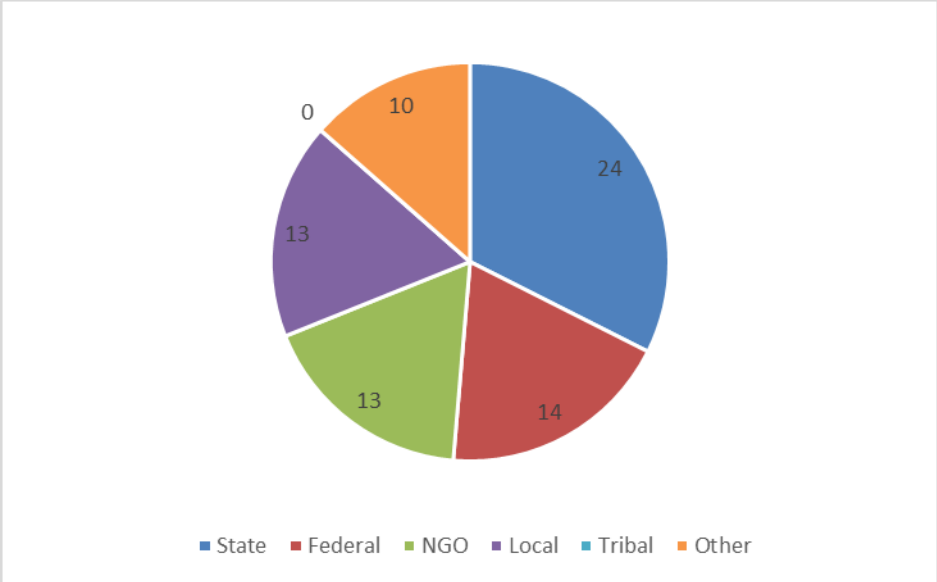
Wang, L., Riseng, C. M., Mason, L. A., Wehrly, K. E., Rutherford, E. S., McKenna Jr, J. E., ... & Robertson, M. 2015. A spatial classification and database for management, research, and policy making: The Great Lakes aquatic habitat framework. Journal of Great Lakes Research, 41(2), 584-596.

5 Workshop Summary

Breakdown of workshop invitees:



Breakdown of workshop participants:



The table below summarizes workshop participants and their contact information:

Last	First	Affiliation
Beck	Deborah	Ohio DNR
Blackburn	Julie	RESPEC
Bradley	Doug	LimnoTech
Brinks	Linden	GLOS
Coffman	Kelly	Cleveland Metroparks
Denbow	Tom	Biohabitats
Gabriel	Tory	The Ohio State University
George	Brian	Ohio DNR
Goldthorpe	Bryan	Lorain County Metroparks
Hicks	Phil	Hull, Inc
Hinterberger	Bryan	US Army Corps of Engineers
Holland	Steve	Ohio DNR
Kauffman	Tara	Erie Metroparks
Kerns	Janice	Ohio DNR
Klein	Aaron	City of Sandusky
Knight	Roger	
Kovach	Matthew	The Nature Conservancy
Kratt	Kevin	TetraTech
Kuzmick	Emily	Ohio DNR
Larick	Roy	
Lovall	Cassie	NOAA
Mackey	Scudder	Ohio DNR
Malone	Mark	Erie Metroparks
Miller	Samantha	Western Reserve Land Conservancy
Mills	Victoria	Doan Brook Partnership
Molnar	Mike	Coastal States Organization
Mountz	Liz	NOAA
Orlando	Sarah	The Ohio State University
Padilla	Julie	LimnoTech
Rofkar	Jordan	Hull, Inc
Stubbs	Bryan	Cleveland Water Alliance
Urbanski	Vince	Lake Metroparks
Weimer	Eric	Ohio DNR
Wilson	Jannah	Lorain County Metroparks
Winkler	Scott	Ohio EPA

6 Glossary

Benthos: biotic organisms that are found at the bottom of water bodies.

Ecoregion: A major ecosystem that has a unique geography and receives consistent sunlight and moisture.

Hydrogeoforms: Underwater geologic structures. Hydrogeoforms include features such as underwater reefs, plains, and ridges.

Relative exposure index (REI): The relative exposure index is the effective fetch of a waterbody scaled by mean wind speed. The effective fetch is the length of a waterbody where the wind blows in a consistent direction. Together, fetch and wind speed determine wave size and energy. Ultimately, areas with lower relative exposure index provide better fish habitat.

Trophic structure/function (trophic str/func): Describes the relationship between different organisms within the food web of an ecosystem.

Attachment A

Project Summary Worksheets

Putnam Marsh

C

Priority Project and Location Worksheet

Project number: 1

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? Reduce hardened shoreline by reconnecting transition zones
2. Which goal statements does this project *support*? Maintain and protect existing coastal properties with unique habitats by reducing invasive species threats
3. The project category (circle one):

   Protection (Enhancement) OR Restoration (reestablishment) (Rehabilitation)

4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal):
   Improve habitat by doing invasive control of Phragmites along the 3.7 miles of shoreline owned by Erie Metroparks
   "Protect & preserve the high quality Lake Erie coastal wetland as it serves as a critical food source for numerous waterfowl & migratory birds"
5. The desired change that the project intends to accomplish (improve/restore/reduce):
   Reduce invasive coverage of Phragmites to improve habitat allowing native and rare plants in the seed bank to emerge
6. Targeted species that benefits from actions:
   Waterfowl | migratory birds ~~improving~~ improved food source for migrators
7. Spatial extent/acreage: 965 acres of water, estimated 3.7 miles of shoreline
8. Current/past condition of the site:
   fluctuating coastal marsh, water depth and vegetation varies yearly
9. Social, political and physical context of the project:
   funding
10. Potential partners:
    ODNR (Natural areas & preserves), Erie Metroparks
11. Unmet data needs: ?
12. Readiness (1=ready!; 5=concept stage): (1) 2 3 4 5

Causway culvert Sheldon marsh

C

Priority Project and Location Worksheet

Project number: 2

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? Central #1 #2

2. Which goal statements does this project *support*? reconnect transition zones

3. The project category (circle one):
   Protection (Enhancement) Restoration (reestablishment) Rehabilitation

4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal):
   install culvert or bridge for additional connectivity + reduced flow velocity through causway

5. The desired change that the project intends to accomplish (improve/restore/reduce):
   improve existing habitat

6. Targeted species that benefits from actions:
   largemouth bass, bluegill, pumpkinseed sunfish, bowfin, brown bullhead, longnose gar, smallmouth bass, white bass

7. Spatial extent/acreage: small project that impacts much larger area

8. Current/past condition of the site:
   past was open shallow submergent zone, currently disconnected

9. Social, political and physical context of the project:
   install water conveyance structure through road

10. Potential partners:
    Cedar point, homeowners association

11. Unmet data needs:
    flow calculations, structural requirements

12. Readiness (1=ready!; 5=concept stage): 1 2 3 4 (5)

Lorain Impoundment

C

Priority Project and Location Worksheet

Project number: 3

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? Reduce hardened shoreline by reconnecting transition zones.
2. Which goal statements does this project *support*? Improve migratory bird nesting sites & food sources for birds by encouraging native plant growth from existing native seed bank.
3. The project category (circle one):
   Protection Enhancement Restoration (reestablishment) (Rehabilitation)
4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal): invasive species removal, shoreline stabilization
5. The desired change that the project intends to accomplish (improve/restore/reduce): restore & improve - also, include nearshore coastal wetland with dredge material
6. Targeted species that benefits from actions: migratory bird species, fish species
7. Spatial extent/acreage: 150 acres
8. Current/past condition of the site: Dredge dump site, many invasive species
9. Social, political and physical context of the project: Birding hot spot - many public entities have jurisdiction over this site.
10. Potential partners: LCRI, ODNR, Ohio EPA, Lorain County Metro Parks, US Army Corp of Engineers
11. Unmet data needs: plant diversity, what invasive species present?, bird species that utilize the site (historic natural state of property)
12. Readiness (1=ready!; 5=concept stage): 1 2 3 4 (5)

C

Priority Project and Location Worksheet

Project number: 4 - Standing Rush.

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? Reduce hardened shoreline by connection from wetland complex

2. Which goal statements does this project *support*? _____

3. The project category (circle one):
   Protection Enhancement (Restoration (reestablishment)) Rehabilitation

4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal):
   Involves no connection of wetland systems to improve fish access

5. The desired change that the project intends to accomplish (improve/restore/reduce):
   Improve fish access

6. Targeted species that benefits from actions:
   pike

7. Spatial extent/acreage: 100+ acres

8. Current/past condition of the site:
   disconnected to Sandusky Bay

9. Social, political and physical context of the project:
   Privately owned,

10. Potential partners:
    ODNR,

11. Unmet data needs:
    understanding of use of area by fish other species

12. Readiness (1=ready!; 5=concept stage): (1) 2 3 4 5

Note already portions of project funded

C

Priority Project and Location Worksheet

Project number: 6 - Cuyahoga Ship Channel

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? Reduce hardened shoreline by reconnecting nearshore areas

2. Which goal statements does this project *support*? _____

3. The project category (circle one):
   Protection Enhancement Restoration (reestablishment) Rehabilitation

4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal):
   Establish habitat pockets - enhance fish passage, survival of fish fry

5. The desired change that the project intends to accomplish (improve/restore/reduce):
   Improve habitat conditions in the shipping channels

6. Targeted species that benefits from actions:
   fish fry, larval fish,

7. Spatial extent/acreage: entire length of ~~Flats~~ channel.

8. Current/past condition of the site:
   hardened most of the length of shipping channel

9. Social, political and physical context of the project:
   urban area, revitalization of valley

10. Potential partners:
    Cleveland Metroparks, City of Cleveland

11. Unmet data needs:
    i.d. priority sites, - study underway

12. Readiness (1=ready!; 5=concept stage): 1 2 3 (4) 5

Priority Project and Location Worksheet / Landing Point Coastal Marsh / Nature Based Shoreline C

Project number: 8 – (Area 3 Coastal Wetland – Back Bay – Sandusky Bay)

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? Central / #1 (2) Reconnecting transition zone

2. Which goal statements does this project *support*?

3. The project category (circle one):
   Protection   Enhancement   **(Restoration (reestablishment))**   Rehabilitation

4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal):
   The grading, removal of dumped soil, removal of phragmites, create 16+ acres of coastal wetland.

5. The desired change that the project intends to accomplish (improve/restore/reduce):
   Improved habitat

6. Targeted species that benefits from actions:
   pike, fish fry, wading/wetland bird species

7. Spatial extent/acreage: 16.5 acres

8. Current/past condition of the site:
   Heavily altered, former airport site in Sandusky

9. Social, political and physical context of the project:
   Tie to proposed trail, environmental education

10. Potential partners:
   City of Sandusky, Erie MetroParks

11. Unmet data needs:
   geotechnical, final design. 90% design plans completed.

12. Readiness (1=ready!; 5=concept stage): 1 **(circled between 1 and 2)** 2 3 4 5

E

Priority Project and Location Worksheet

Project number: #1 ESTUARINE FUNCTION RESTORATION

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? EAST 1/2

2. Which goal statements does this project *support*? 11 RESTORE, ENHANCE, PROTECT TRIBUTARIES

3. The project category (circle one):
   Protection Enhancement Restoration (reestablishment) (Rehabilitation)

4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal):
   ENHANCE PERENNIAL ESTUARINE FUNCTION BETWEEN DOAN BROOK TO EUCLID CREEK

5. The desired change that the project intends to accomplish (improve/restore/reduce):
   RESTORE FUNCTIONALITY TO ESTUARINE SYSTEMS (4 small streams) BETWEEN DOAN BROOK AND EUCLID CREEK.

6. Targeted species that benefits from actions:
   MIGRATORY BIRDS / WATERFOWL - LAKE TROUT

7. Spatial extent/acreage: 5-7 SHORE MILES

8. Current/past condition of the site:
   HIGHLY DEVELOPED / URBAN RECREATION AREAS

9. Social, political and physical context of the project:
   HIGH OPPORTUNITY FOR EQUITY BETWEEN THE PUBLIC AND HABITAT RESTORATION - COMMUNITY DEVELOPMENT CORPORATION (CDC)

10. Potential partners:
    MUNICIPALITIES, WATERSHED GROUPS, SEWER DISTRICT, PORT AUTHORITY, COUNTY

11. Unmet data needs:
    NO OEPA SAMPLING POINTS - NO FISH DATA - NO RARE, THREATENED, ENDANGERED SPECIES DATA, IS THERE BENEFIT TO EDIBLE FISH?

12. Readiness (1=ready!; 5=concept stage): 1 (2) 3 4 5

E

Priority Project and Location Worksheet

Project number: #3 BURKE BIO RESERVE

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? East #3

2. Which goal statements does this project *support*? _____

3. The project category (circle one):
   Protection Enhancement (Restoration (reestablishment)) Rehabilitation

4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal):
   Airport removal for habitat restoration

5. The desired change that the project intends to accomplish (improve/restore/reduce):
   Restore terrestrial migratory bird habitat

6. Targeted species that benefits from actions:
   Migratory birds & bats

7. Spatial extent/acreage: 450 acres

8. Current/past condition of the site:
   Airport / landfill

9. Social, political and physical context of the project:
   Politically contentious

10. Potential partners:
    City, County, Parks

11. Unmet data needs:
    $ needed to repay FAA grants

12. Readiness (1=ready!; 5=concept stage): 1 2 3 4 (5)

E

Priority Project and Location Worksheet

Project number: #2 HEADLANDS DUNES

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? EAST #1-2, GENERAL #1-3/1-2
2. Which goal statements does this project *support*? PROTECT, ENHANCE, RESTORE TRIBUTARY HABITAT, INCREASE WETLANDS AND WETLAND CONNECTIVITY
3. The project category (circle one):
   Protection Enhancement (Restoration (reestablishment)) Rehabilitation
4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal):
   DUNE / COASTAL VEGETATION / COASTAL WETLAND AUGMENTATION + RESTORATION - VIA DUNE CONSTRUCTION AND INTERDUNAL SWALE ESTABLISHMENT USING NATURAL / ARTIFICIAL MATERIALS - REMOVAL OF UNUSED ASPHALT PARKING AREAS TO CREATE WETLANDS.
5. The desired change that the project intends to accomplish (improve/restore/reduce):
   - INCREASE DUNE HABITAT, PLANT COMMUNITIES, WETLANDS, USE HIGH LAKE LEVELS TO AN ADVANTAGE BY CREATING WETLANDS
6. Targeted species that benefits from actions:
   - MIGRATORY BIRDS - WATER FOWL - CRITICAL HABITAT PIPING PLOVER
7. Spatial extent/acreage: 10 acres
8. Current/past condition of the site:
   RECREATIONAL BEACH - GROOMED - PARKING AREAS
9. Social, political and physical context of the project:
   TOURISM, BIRD WATCHING, NATURE STUDY - ALL DEMOGRAPHICS UTILIZE THE BEACH, ONE OF THE LARGEST BEACHES ON OHIO'S SHORELINE
10. Potential partners:
    MUNICIPALITIES, NGO'S, VOLUNTEERS, SWCD, METRO PARKS,
11. Unmet data needs: ?
12. Readiness (1=ready!; 5=concept stage): 1 (2) 3 4 5

G-1

Priority Project and Location Worksheet

Project number: 1 Mentor Marsh Wetland Restoration at Marina

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? Increase wetland connectivity by 25% in the watershed by 2032
2. Which goal statements does this project *support*? general #2,
3. The project category (circle one):
   Protection   Enhancement   **(Restoration (reestablishment))**   Rehabilitation
4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal):
   wetland restoration
5. The desired change that the project intends to accomplish (improve/restore/reduce):
   improve + restore existing wetland
   – Salt treatment, pollution from marina, pilot location shared w/ Sanheven
6. Targeted species that benefits from actions:
   local/nearshore fish communities, migratory bird species
7. Spatial extent/acreage: ?,
8. Current/past condition of the site:
   currently mix of private/public developed marinas
9. Social, political and physical context of the project:
   certified clean marina, public/private partnership
10. Potential partners:
   Mentor Lagoons marina, city of mentor, Mentor Marsh + Mentor Lagoons Preserve, Coastal Management, LEMTA
11. Unmet data needs:
   nearshore fish + migratory bird species diversity data?
12. Readiness (1=ready!; 5=concept stage): 1 2 3 4 **(5)**

Ottawa County Western Basin Tributaries G-1

Priority Project and Location Worksheet

Great Black Swamp Loss of Ditching Draining

Project number (2) Agricultural Ditch Restoration

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? (2) Enhance wetland connectivity
2. Which goal statements does this project *support*? _____
3. The project category (circle one):
   Protection Enhancement (Restoration (reestablishment)) Rehabilitation
4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal): Stream-wetland restoration
5. The desired change that the project intends to accomplish (improve/restore/reduce): Improve wetland connectivity; improve water quality
6. Targeted species that benefits from actions: N/A
7. Spatial extent/acreage: 150
8. Current/past condition of the site: Active farm field
9. Social, political and physical context of the project: Increase recreation Add green space
10. Potential partners: Ducks Unlimited
11. Unmet data needs: Land Availability
12. Readiness (1=ready!; 5=concept stage): 1 2 3 4 (5)

* could be a LE-wide project

G-1

Priority Project and Location Worksheet

Project number: #3 Living Shoreline Demonstration Project

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? 25% of Shoreline will be Stabilized using nature-based Shoreline

2. Which goal statements does this project *support*? _____

3. The project category (circle one):
   Protection (Enhancement) Restoration (reestablishment) Rehabilitation

4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal):
   Shoreline Stabilization

5. The desired change that the project intends to accomplish (improve/restore/reduce):
   improve nearshore fish habitat and native vegetation while maintaining Stablization for private business owner

6. Targeted species that benefits from actions:
   Walleye, Yellow perch

7. Spatial extent/acreage: 275 marinas in LE watershed

8. Current/past condition of the site:
   hardened Shoreline

9. Social, political and physical context of the project:
   Certified Clean marina, historical challenges issues w/ SHPO

10. Potential partners:
    Sandusky Harbor Marina, Wildlife-fish monitoring

11. Unmet data needs:
    nearshore fish habitat communities

12. Readiness (1=ready!; 5=concept stage): 1 (2) 3 4 5

Potential Marinas

- Mentor Lagoons
- Sandusky Harbor
- Bay View Yacht Club
- Fairport Harbor RRA
- Cleveland Metroparks Marinas
- Gem Beach Marina?

Conferences

- Feb 26, 25, 27, 19, [illegible] 13

Data Needs

- acres of private land for marinas

Have

- acres of certified CM

G2

Priority Project and Location Worksheet

Project number: 2

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? ~~G#~~ G#2 #2

2. Which goal statements does this project *support*? G#1 #3

3. The project category (circle one):
   Protection Enhancement (Restoration (reestablishment)) Rehabilitation

4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal):
   wetland restoration

5. The desired change that the project intends to accomplish (improve/restore/reduce):
   restoring wetland habitat, fish communities, restoration spawning habitat

6. Targeted species that benefits from actions:
   walleye, yellow perch, northern pike

7. Spatial extent/acreage: 1000ac

8. Current/past condition of the site:
   former wetland, highly developed, ~~Sandusky~~

9. Social, political and physical context of the project:
   Suported by City of Sandusky, Cedar fair, close proximity for ~~so~~ educational, Sandusky water intake secondary location

10. Potential partners:
    City of Sandusky, Cedar fair, ODNR, OCM

11. Unmet data needs:
    hydrodynamic modeling, bathymetric, environmental data

12. Readiness (1=ready!; 5=concept stage): 1 (2) 3 4 5

1,3,4,5

1. Dredge
2. Wind-[illegible] fires ↓, SSV G2
3. [illegible] to create habitat for YP, walleye

Priority Project and Location Worksheet

Project number: #1 (Habitat Development at Edison Bridge Area Sandusky Bay)

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? G2.#2
2. Which goal statements does this project *support*? wetland G1 #3
3. The project category (circle one):
   Protection Enhancement **(Restoration (reestablishment))** Rehabilitation
4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal):
   wetland restoration
5. The desired change that the project intends to accomplish (improve/**(restore)**/reduce):
   Restoring wetland habitat, fish community restoration, spawning habitat
6. Targeted species that benefits from actions:
   walleye, yellow perch, ~~[illegible]~~,
7. Spatial extent/acreage: 150 acres
8. Current/past condition of the site:
   part of Sandusky Bay
9. Social, political and physical context of the project:
   ~~Suppo~~ At prime location for current to create spawning habitat
10. Potential partners:
    Sandusky, ODNR OCM,
11. Unmet data needs:
    - hydrodynamic models (current projection sediment/shoreline)
    - projected SAV production,
    - n
12. Readiness (1=ready!; 5=concept stage): 1 2 3 **(4)** 5

G2

Priority Project and Location Worksheet

Project number: ~~4 Oregon~~ 3 Grassy Island

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? habitat

2. Which goal statements does this project *support*? G2 2

3. The project category (circle one):
   Protection Enhancement (Restoration (reestablishment)) Rehabilitation

4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal):

5. The desired change that the project intends to accomplish (improve/restore/reduce):
   ~~wetland habitat~~

6. Targeted species that benefits from actions:
   walleye, yellow perch, northern pike spawn/nursery habitat

7. Spatial extent/acreage: 300 acres

8. Current/past condition of the site:
   open, shallow area of lake near mouth of Maumee River

9. Social, political and physical context of the project:
   use of dredge sediments
   no political opposition
   physical - near Maumee AOC
   keeping all waterway connections
   good access public

10. Potential partners:
    Maumee AOC, Toledo / Metro Parks, TMACOG, ODNR OCM

11. Unmet data needs:
    Hydrologic Models

12. Readiness (1=ready!; 5=concept stage): 1 2 (3) 4 5

G2

Priority Project and Location Worksheet

Project number: 6 Grassy Island + Oregon / facility 3

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? Fish habitat addition

2. Which goal statements does this project *support*? G2 2

3. The project category (circle one):
   Protection Enhancement Restoration (reestablishment) Rehabilitation

4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal):

5. The desired change that the project intends to accomplish (improve/restore/reduce):

6. Targeted species that benefits from actions: walleye, yellow perch, North Pike

7. Spatial extent/acreage: 200 acres

8. Current/past condition of the site: open water

9. Social, political and physical context of the project: some political/neighborhood opposition - Toledo/Oregon interested

10. Potential partners: Toledo, Oregon, Maumee AOC, TMACOG

11. Unmet data needs:

12. Readiness (1=ready!; 5=concept stage): 1 2 3 4 5

G2

Priority Project and Location Worksheet

Project number: 1e - Consenation Easements Along targeted River corridor

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? wetland protection + Connection

2. Which goal statements does this project *support*? _____

3. The project category (circle one):
   (Protection) (Enhancement) Restoration (reestablishment) Rehabilitation

4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal):
   ~~bonds & acquisitions~~; Consenation easements @ targeted wetland areas & river corridors

5. The desired change that the project intends to accomplish (improve/restore/reduce):
   protect multiple locations along east

6. Targeted species that benefits from actions:
   migratory birds; fish with life cycle stage(s) within the river corridor

7. Spatial extent/acreage: ~ 500 a.c. (multiple locations/owners)

8. Current/past condition of the site:
   privately owned; natural areas prioritized adjacent to rivers

9. Social, political and physical context of the project:
   privately owned, need landowner buy-in; many willing to participate

10. Potential partners:
    Western Reserve land Consenancy; Soil Consenation districts

11. Unmet data needs:
    _____

12. Readiness (1=ready!; 5=concept stage): 1 2 (3) 4 5

Priority Project and Location Worksheet

Project number: #7 -

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? wetland protection / connection acquisition
2. Which goal statements does this project *support*? wetland protection/connection
3. The project category (circle one):
   (Protection) Enhancement Restoration (reestablishment) Rehabilitation
4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal):
   land acquisition, wetland protection
5. The desired change that the project intends to accomplish (improve/restore/reduce):
   protect wetlands
6. Targeted species that benefits from actions:
   migratory birds
7. Spatial extent/acreage: 122 acres
8. Current/past condition of the site:
   forested & emergent wetland; NHD species
9. Social, political and physical context of the project:
   Conneaut city on board, adjacent to ~800 acre protected turkey Creek
10. Potential partners:
    Conneaut City; Western Reserve Land Conservancy
11. Unmet data needs:
12. Readiness (1=ready!; 5=concept stage): (1) 2 3 4 (5)

GV

Priority Project and Location Worksheet

Project number: 8 – Huron River Oxbow

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? Wetland connectivity
2. Which goal statements does this project *support*? "
3. The project category (circle one):
   (Protection) Enhancement (Restoration (reestablishment)) Rehabilitation
4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal):
   land acquisition; wetland ~~restoration~~ creation
5. The desired change that the project intends to accomplish (improve/restore/reduce):
   Protect + restore wetland area
6. Targeted species that benefits from actions:
   migratory birds; riverine/wetland fish spp.
7. Spatial extent/acreage: ~200 ac.
8. Current/past condition of the site:
   Developed / hardened shoreline; some existing parkland
9. Social, political and physical context of the project:
   Landowner interested in selling; awaiting contract. private → public use conversion/enhancement
10. Potential partners:
    Western Reserve Land Conservancy.
11. Unmet data needs:
12. Readiness (1=ready!; 5=concept stage): 1 2 (3) 4 5

GV

Priority Project and Location Worksheet

Project number: ~~#~~ #9

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? wetland protection/connectivity

2. Which goal statements does this project *support*? land aquisition, wetland protection, habitat connection

3. The project category (circle one):
   (Protection) Enhancement Restoration (reestablishment) Rehabilitation

4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal):
   acquire & CE on property w/ many wetlands

5. The desired change that the project intends to accomplish (improve/restore/reduce):
   protect in perpetuity; provide public access to property and adjacent railtrail

6. Targeted species that benefits from actions:
   migratory birds

7. Spatial extent/acreage: ~120 w/ 50% wetlands

8. Current/past condition of the site:
   Forested

9. Social, political and physical context of the project:
   Ashtabula MP takeat owner & operator/manager under contract w/ owner (current)

10. Potential partners:
    Ashtabula MP; Western Reserve Land Conservancy
    state funding in place for portion of project

11. Unmet data needs:

12. Readiness (1=ready!; 5=concept stage): (1) 2 3 4 ~~5~~

G-2

Priority Project and Location Worksheet

Project number: 3 - ~~[redacted]~~ Redhorse Wetland Re-establishment, Sandusky River

NUMBER THIS PROJECT ACCORDING TO DIRECTIONS PROVIDED DURING THE WORKSHOP. THEN WRITE THE SAME PROJECT NUMBER ON A STICKY DOT AND ATTACH THE STICKY DOT TO THE LOCATION ON THE MAP THAT CORRESPONDS TO THIS PROJECT.

1. Which goal statement does this this project *primarily* address? General #2: 2

2. Which goal statements does this project *support*? Restore acres of LE wetlands; hydraulic connectivity

3. The project category (circle one):
   Protection Enhancement (Restoration (reestablishment)) Rehabilitation

4. The proposed action (invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal):
   Wetland re-establishment with river connectivity.

5. The desired change that the project intends to accomplish (improve/restore/reduce):
   Restore acre farmfield directly adjacent to Sandusky River to flow-through wetland.

6. Targeted species that benefits from actions:
   Walleye (nursery habitat);

7. Spatial extent/acreage: ~50?

8. Current/past condition of the site:
   Farm field

9. Social, political and physical context of the project:
   Property is available,

10. Potential partners:
    Blackswamp conservancy, ODNR (H2OH), TNC, Soil & Water

11. Unmet data needs:
    Nutrient uptake; managing fish passage?

12. Readiness (1=ready!; 5=concept stage): 1 2 (3?) 4 5
    'H2Ohio project

Attachment B

Data Summary Worksheets

Data Needs for Projects and Planning Worksheet

Group: Central #1

DO YOU HAVE DATA TO FILL OUR DATA GAPS? Also, Ohio EPA data sets, including status of Watershed Plans + Restoration Priorities.

1. Data description: Have prepared a bibliography of Sandusky Bay Research as part of the Sandusky Bay Strategic Restoration Initiative

2. Location: Sandusky Bay

3. Contact: Tom Dewbow 216.906.5566

IBI, ICI, QHEI etc.

WHAT DATA DO YOU NEED TO COMPLETE YOUR PROPOSED PROJECT?

4. Data description: Sediment quality data and depths. REI at appropriate scale Fetch analysis Hydrodynamic models, data required to engineering near shore living barn structures.

5. Location: SAV mapping

6. Why is this data important: Useful for siting and design + project optimization.

7. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

Spatial Scale/Resolution

Temporal Frequency	Basin	State	County	Local
Annual				REI
5 yrs				
25 yrs				
Once				Fetch & Nearshore Hydrodynamics Models under different lake conditions (different lake level and wind conditions)

Sediment cores/profiles/physical characteristics

8. Additional Notes:

WHAT DATA DO YOU NEED TO IDENTIFY AND PRIORITIZE FUTURE PROJECTS?

9. Data description: REI data – Hydrodynamic Data –

10. Location:

11. Why is this data important:

12. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

Temoporal Frequency	Spatial Scale/Resolution: Basin	State	County	Local
Annual				
5 yrs				
25 yrs				
Once				

13. Additional Notes:

Data Needs for Projects and Planning Worksheet

Group: Central

DO YOU HAVE DATA TO FILL OUR DATA GAPS?

1. Data description:

2. Location: Lorain County Metro Parks - Conservation department - Chris Grame, Rebecah Troutman

3. Contact: rtroutman@lorraincountymetroparks.com
cgrame@lorraincountymetrbparks.com

WHAT DATA DO YOU NEED TO COMPLETE YOUR PROPOSED PROJECT?

4. Data description: habitat - biological wetland monitoring (established wetlands)

5. Location:

6. Why is this data important:

7. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

wetland monitoring

Temporal Frequency	Basin	State	County	Local
Annual				X
5 yrs				
25 yrs				
Once				

8. Additional Notes:

WHAT DATA DO YOU NEED TO IDENTIFY AND PRIORITIZE FUTURE PROJECTS?

9. Data description:

10. Location:

11. Why is this data important:

12. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

Temoporal Frequency	Spatial Scale/Resolution: Basin	State	County	Local
Annual				
5 yrs				
25 yrs				
Once				

13. Additional Notes:

Data Needs for Projects and Planning Worksheet

Group: East #1

DO YOU HAVE DATA TO FILL OUR DATA GAPS?

1. Data description:

2. Location:

3. Contact:

WHAT DATA DO YOU NEED TO COMPLETE YOUR PROPOSED PROJECT?

4. Data description: 1) Mid Res Bathymetry 2) Precipitation/Lake Levels → Modeling of in light of climate change

5. Location: 1) Near Shore Lake Erie 2) Lake Erie Cuyahoga River to Ashtabula River

6. Why is this data important: 1) 2) Understand erosion Comprehend ravine retreat and bottom structure

7. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

Temporal Frequency	Basin	State	County	Local
Annual				
5 yrs				
25 yrs				
Once				

3) aerial photos

4) historical landscape shots

8. Additional Notes:

WHAT DATA DO YOU NEED TO IDENTIFY AND PRIORITIZE FUTURE PROJECTS?

9. Data description:

10. Location:

11. Why is this data important:

12. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

Temoporal Frequency	Spatial Scale/Resolution: Basin	State	County	Local
Annual				
5 yrs				
25 yrs				
Once				

13. Additional Notes:

Data Needs for Projects and Planning Worksheet

Group: EAST #1

DO YOU HAVE DATA TO FILL OUR DATA GAPS?

1. Data description: VEGETATION DIVERSITY / HETEROGENETTY / MORPHOTYPE / SPECIES COMPOSITION

2. Location: LEAP REGION - LAKE ERIE ALLEGHENY PARTNERSHIP DNAP - ODNR - RARE - THREATENED - ENDANGERED

3. Contact: ADAM WOHLEVER -

WHAT DATA DO YOU NEED TO COMPLETE YOUR PROPOSED PROJECT?

4. Data description:

5. Location:

6. Why is this data important:

7. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

Temporal Frequency	Basin	State	County	Local
Annual				
5 yrs				
25 yrs				
Once				

Spatial Scale/Resolution

8. Additional Notes:

WHAT DATA DO YOU NEED TO IDENTIFY AND PRIORITIZE FUTURE PROJECTS?

9. Data description:

10. Location:

11. Why is this data important:

12. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

Temoporal Frequency	Spatial Scale/Resolution: Basin	State	County	Local
Annual				
5 yrs				
25 yrs				
Once				

13. Additional Notes:

Data Needs for Projects and Planning Worksheet

Group: EAST PROJECTS

DO YOU HAVE DATA TO FILL OUR DATA GAPS?

1. Data description: availability – terrestrial kbc@clevelandmetroparks.com
LEAP - Lake Ent Alleghany Partnership GIS
also North east Ohio Regional Parks

2. Location: trail & open space data for: Lorain Cuyahoga Lake Geauga Stark Summit Medina Portage

3. Contact:

WHAT DATA DO YOU NEED TO COMPLETE YOUR PROPOSED PROJECT?

4. Data description:

5. Location:

6. Why is this data important:

7. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

Temporal Frequency	Spatial Scale/Resolution: Basin	State	County	Local
Annual				
5 yrs				
25 yrs				
Once				

8. Additional Notes:

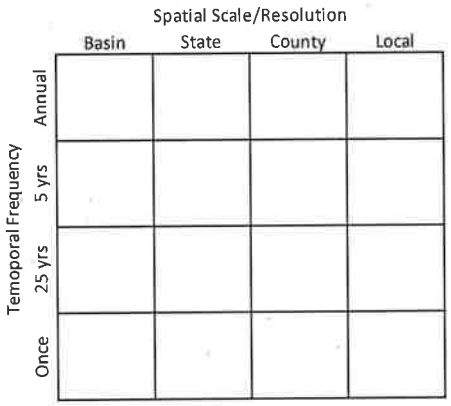
WHAT DATA DO YOU NEED TO IDENTIFY AND PRIORITIZE FUTURE PROJECTS?

9. Data description:

10. Location:

11. Why is this data important:

12. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):



13. Additional Notes:

Data Needs for Projects and Planning Worksheet

Group: General #1

DO YOU HAVE DATA TO FILL OUR DATA GAPS?

1. Data description:
Lots of data available from universities - graduate student work, etc.

2. Location:

3. Contact:

WHAT DATA DO YOU NEED TO COMPLETE YOUR PROPOSED PROJECT?

4. Data description:
Data on willing landowners who are likely to support these types of projects in their communities

5. Location: ie: dataset of properties w/ conservation easements, certified Clean marinas, wetland property owners, impervious Surface data for property owners. Social vulnerability data.

6. Why is this data important:
We have a lot of ecological data, but what about Socio-economic data to support projects or help Prioritize projects.

7. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

Temoporal Frequency	Spatial Scale/Resolution: Basin	State	County	Local
Annual				
5 yrs				
25 yrs				
Once				

8. Additional Notes:

WHAT DATA DO YOU NEED TO IDENTIFY AND PRIORITIZE FUTURE PROJECTS?

9. Data description:

10. Location:

11. Why is this data important:

12. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

Temoporal Frequency	Spatial Scale/Resolution: Basin	State	County	Local
Annual				
5 yrs				
25 yrs				
Once				

13. Additional Notes:

Data Needs for Projects and Planning Worksheet

Group: 6-2

DO YOU HAVE DATA TO FILL OUR DATA GAPS?

1. Data description:
Thriving Communities of Western Reserve Land Conservancy has a lot of social data, especially related to housing, blight, vacancy, etc.
2. Location:
statewide (land bank county data) and Cleveland area + surranding suburbs
3. Contact:
Samantha Miller 216-217-3478

WHAT DATA DO YOU NEED TO COMPLETE YOUR PROPOSED PROJECT?

4. Data description:

5. Location:

6. Why is this data important:

7. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

Temoporal Frequency	Basin	State	County	Local
Annual				
5 yrs				
25 yrs				
Once				

Spatial Scale/Resolution

8. Additional Notes:

WHAT DATA DO YOU NEED TO IDENTIFY AND PRIORITIZE FUTURE PROJECTS?

9. Data description:

10. Location:

11. Why is this data important:

12. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

Temoporal Frequency	Spatial Scale/Resolution: Basin	State	County	Local
Annual				
5 yrs				
25 yrs				
Once				

13. Additional Notes:

Data Needs for Projects and Planning Worksheet

Group: G2

DO YOU HAVE DATA TO FILL OUR DATA GAPS?

1. Data description: Western Lake Erie sediment metals (Cu, Zn, Ar, Pb)

2. Location: BGSU

3. Contact: John Farver - Geology

WHAT DATA DO YOU NEED TO COMPLETE YOUR PROPOSED PROJECT?

4. Data description:

5. Location:

6. Why is this data important:

7. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

Temoporal Frequency	Spatial Scale/Resolution: Basin	State	County	Local
Annual				
5 yrs				
25 yrs				
Once				

8. Additional Notes:

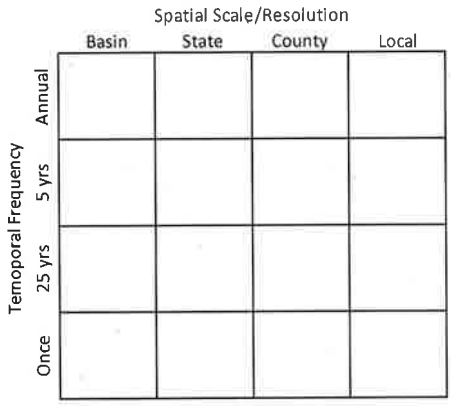
WHAT DATA DO YOU NEED TO IDENTIFY AND PRIORITIZE FUTURE PROJECTS?

9. Data description:

10. Location:

11. Why is this data important:

12. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):



13. Additional Notes:

Data Needs for Projects and Planning Worksheet

Group: G2

DO YOU HAVE DATA TO FILL OUR DATA GAPS?

1. Data description: water chemistry - primarily metals ~~nutrients~~

2. Location: Most Lake Erie tributaries

3. Contact: John Farver - Geology BGSU

WHAT DATA DO YOU NEED TO COMPLETE YOUR PROPOSED PROJECT?

4. Data description:

5. Location:

6. Why is this data important:

7. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

Temoporal Frequency	Spatial Scale/Resolution: Basin	State	County	Local
Annual				
5 yrs				
25 yrs				
Once				

8. Additional Notes:

WHAT DATA DO YOU NEED TO IDENTIFY AND PRIORITIZE FUTURE PROJECTS?

9. Data description:

10. Location:

11. Why is this data important:

12. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

Temoporal Frequency	Spatial Scale/Resolution: Basin	State	County	Local
Annual				
5 yrs				
25 yrs				
Once				

13. Additional Notes:

Data Needs for Projects and Planning Worksheet

Group: G2

DO YOU HAVE DATA TO FILL OUR DATA GAPS?

1. Data description: Metals in harbors (Cu, ...)

2. Location: BGSU

3. Contact: John Farver (Geology - project work)
Sarah Orlando

WHAT DATA DO YOU NEED TO COMPLETE YOUR PROPOSED PROJECT?

4. Data description:

5. Location:

6. Why is this data important:

7. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

Temporal Frequency	Spatial Scale/Resolution: Basin	State	County	Local
Annual				
5 yrs				
25 yrs				
Once				

8. Additional Notes:

WHAT DATA DO YOU NEED TO IDENTIFY AND PRIORITIZE FUTURE PROJECTS?

9. Data description:

10. Location:

11. Why is this data important:

12. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

Temoporal Frequency	Spatial Scale/Resolution: Basin	State	County	Local
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25 yrs				
Once				

13. Additional Notes:

Data Needs for Projects and Planning Worksheet

Group: G2

DO YOU HAVE DATA TO FILL OUR DATA GAPS?

1. Data description: River substrate – Maumee River I75 – Rt 25
Vegetation density/~~[illegible]~~ " " " "

2. Location: Lower Maumee River (I75-Rt 25)

3. Contact: Jeff Miner (BGSU)

WHAT DATA DO YOU NEED TO COMPLETE YOUR PROPOSED PROJECT?

4. Data description:

5. Location:

6. Why is this data important:

7. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

Spatial Scale/Resolution

Temporal Frequency	Basin	State	County	Local
Annual				
5 yrs				
25 yrs				
Once				

8. Additional Notes:

WHAT DATA DO YOU NEED TO IDENTIFY AND PRIORITIZE FUTURE PROJECTS?

9. Data description:

10. Location:

11. Why is this data important:

12. Estimate of temporal frequency and scale ("X" the box that matches your preferred spatial and temporal scale):

Temoporal Frequency	Spatial Scale/Resolution: Basin	State	County	Local
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13. Additional Notes: