

Final Evaluation Findings

Kachemak Bay

National Estuarine Research Reserve

May 2009 to September 2018

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Summary of Findings

The Coastal Zone Management Act requires the National Oceanic and Atmospheric Administration (NOAA) to conduct periodic evaluations of the performance of state and territorial programs participating in the National Estuarine Research Reserve System. This evaluation conducted by the Office for Coastal Management examined the operation and management of the Kachemak Bay National Estuarine Research Reserve for the period from May 2009 to September 2018. During the evaluation period, the Kachemak Bay National Estuarine Research Reserve (Kachemak Bay Research Reserve) transitioned from one state host agency to another. The Alaska Department of Fish and Game was the state host agency from May 2009 through June 2015, and the University of Alaska Anchorage from July 2015 through the site visit in September 2018. The evaluation focused on three target areas: partnerships, science communication, and support and program administration. The four programmatic sectors addressed by all of the national estuarine research reserves are research, training, education, and stewardship.

The findings in this evaluation document will be considered by the NOAA Office for Coastal Management in making future financial award decisions concerning the research reserve. The evaluation came to these conclusions:

Accomplishment – The Kachemak Bay Research Reserve’s Coastal Training Program is highly regarded in the region for its critical role in convening and coordinating partners that might not otherwise work together to collectively address challenging coastal management topics. The Coastal Training Program is viewed as a leader in communicating research findings to ensure that they can be used by coastal decision-makers.

Accomplishment – The Kachemak Bay Research Reserve’s Semester by the Bay program is a partnership with the University of Alaska Anchorage, Kenai Peninsula College–Kachemak Bay Campus, and other organizations in Homer. This program has provided high-quality, hands-on research and field experiences to students from around the country.

Accomplishment – The Kachemak Bay Research Reserve’s Master Naturalist Program and similar initiatives involving local businesses and guides have increased the ecological and scientific knowledge of tour operators and guides to enhance the visitor experience for tourists, an important economic driver in the area.

Accomplishment – The Kachemak Bay Research Reserve has completed a number of research publications related to its watershed-monitoring program that were directly applied to inform local policy and permitting issues.

Accomplishment – Through a collaboration with Alaska’s public health community, the Kachemak Bay Research Reserve has established a highly effective chain of communication to develop press releases about critical data the network has been collecting on harmful algal blooms.

Accomplishment – The Kachemak Bay Research Reserve is commended for its successful transition to a new host agency, the University of Alaska Anchorage. Without much precedent in the reserve system for such a transition, staff members did not have a model to follow. Working together with the Alaska Department of Fish and Game and the University of Alaska Anchorage, the staff members were able to develop a mutual operating framework, and the effort progressed well, securing local support and partnerships to advance the effort.

Accomplishment – The Kachemak Bay Research Reserve worked successfully with the Kachemak Bay Research Reserve Community Council, a key contributor to the successful transition to the University of Alaska Anchorage. The Community Council worked on the site’s behalf to garner community and legislative support and funding.

Recommendation: The NOAA Office for Coastal Management recommends that the Kachemak Bay Research Reserve work with partners to revisit the Kachemak Bay Environmental Education Alliance online matrix to raise the visibility of its educational offerings and further leverage its activities with others’ work.

Recommendation – The NOAA Office for Coastal Management recommends that the Kachemak Bay Research Reserve develop a communications plan to help the reserve more cohesively coordinate its science communication activities and assist with the rebranding of the organization regarding its state agency host, different program locations, and new capacities.

Recommendation – The NOAA Office for Coastal Management recommends that the Kachemak Bay Research Reserve update the reserve system’s national research database with historical research and update the research database at least once a year with recently published journal articles, and ongoing research within the reserve to communicate the breadth of research and monitoring projects. The reserve system agreed in 2018 that all sites will update this database at least once a year at minimum.

Recommendation – The NOAA Office for Coastal Management recommends that the Kachemak Bay Research Reserve submit a habitat map for the site to the NOAA Office for Coastal Management by March 31, 2020.

Recommendation – The NOAA Office for Coastal Management recommends that the Kachemak Bay Research Reserve develop a timeline that is agreed to by all relevant parties for transferring the Bay Avenue lab from the Alaska Department of Fish and Game to the University of Alaska Anchorage and submit the timeline to the NOAA Office for Coastal Management.

Necessary Action – The Kachemak Bay Research Reserve must submit a draft management plan to the NOAA Office for Coastal Management by June 30, 2020.

Conclusion: This evaluation finds that the University of Alaska Anchorage is adhering to the requirements of section 312(a) of the Coastal Zone Management Act, 16 U.S.C. § 1458(a), in the operation of the Kachemak Bay National Estuarine Research Reserve.

Program Review Procedures

The NOAA Office for Coastal Management evaluated the Kachemak Bay National Estuarine Research Reserve in fiscal year 2018. The evaluation team consisted of Jean Tanimoto, evaluation team lead, and Bree Turner, site liaison, both from the NOAA Office for Coastal Management. The evaluation team also included William Reay, Director of the Chesapeake Bay–Virginia National Estuarine Research Reserve. The support of the Kachemak Bay Research Reserve staff members was crucial in conducting the evaluation, and their assistance is most gratefully acknowledged.

NOAA sent a notification of the scheduled evaluation to John Stalvey, Dean of the College of Arts and Sciences, University of Alaska Anchorage, and published a notice of intent to evaluate the Kachemak Bay Research Reserve in the *Federal Register* on August 2, 2018. The Kachemak Bay Research Reserve posted a notice of the public meeting and opportunity to comment in the *Homer Town Crier* in Homer, Alaska, on August 8, 2018.

The evaluation process included a review of relevant documents and a survey of stakeholders, which helped identify three target areas for the evaluation: partnerships, science communication, and support and program administration. A site visit was conducted from September 17 to 20, 2018, where the evaluation team held group discussions with stakeholders and program staff members. The evaluation team also discussed the target areas with reserve staff members who helped identify issues and workable solutions to maintain and improve the implementation of the reserve's programs. In addition, a public meeting was held on September 19, 2018, at 12:00 p.m. as part of the Kachemak Bay National Estuarine Research Reserve's Community Council meeting at the Alaska Islands and Ocean Visitor Center, 95 Sterling Highway, Homer, Alaska, to provide an opportunity for members of the public to express their opinions about the implementation of the reserve programs. Furthermore, given that the program was transitioned from the Alaska Department of Fish and Game (ADFG) to the University of Alaska Anchorage, the team met virtually with ADFG leadership to discuss program accomplishments, challenges, as well as the transition.

Stakeholders and members of the public were also given the opportunity to provide written comments via email or U.S. mail through Friday, September 28, 2018. No written comments were received.

Final evaluation findings for all national estuarine research reserves highlight the reserve's accomplishments in the target areas and include recommendations that are of two types:

Necessary Actions address programmatic requirements of the implementing regulations of the Coastal Zone Management Act and of the reserve's management plan approved by NOAA. These must be carried out by the dates specified. Failure to address necessary actions may result in a future finding of non-adherence and the invoking of interim sanctions, as specified in the Coastal Zone Management Act §312(c).

Recommendations are actions that the office believes would improve the program, but which are not mandatory. The reserve is expected to have considered the recommendations by the time of the next evaluation or by the dates specified.

Evaluation Findings

Partnerships

The Kachemak Bay Research Reserve has formed a number of strategic partnerships with other state and federal agencies, as well as the private sector and nongovernmental organizations, to leverage resources, increase effectiveness, and advance coastal management priorities.

Examples of Key Efforts

While the Kachemak Bay Research Reserve is the largest in the system, covering over 370,000 acres, the community within which the reserve staff operates is quite small and tight-knit. In remote communities with limited resources, partnerships are critical to accomplishing the individual goals of the reserve as well as the larger goals of the conservation and science community in the Kenai Peninsula. After assessing comments received through the partner survey and during the site visit, it is clear that the Kachemak Bay Research Reserve staff is well integrated into these communities and has provided both leadership and support to partners across the different sectors it interacts with. These partnerships have resulted in decision-making by resource managers that is more informed, increased private sector engagement and education, and access to science and educational opportunities for students from Alaska and across the country.

Reserve staff members are able to achieve these positive outcomes by serving in the critical role of convener. One way that they bring partners together is through the Coastal Training Program trainings and symposia. Many partners mentioned during the site-visit focus groups that they rely on the Coastal Training Program to help communicate research findings and engage with stakeholders to ensure that research findings are used by coastal decision-makers. The Coastal Training Program coordinator was mentioned in particular as a helpful and reliable partner in pulling together resource managers in the region to enable these conversations and collaborations.

The Kachemak Bay Research Reserve also works closely with local nonprofits and academic institutions to provide hands-on, experiential learning opportunities. An example of this is the Semester by the Bay program, which is a partnership with the University of Alaska Anchorage, Kenai Peninsula College–Kachemak Bay Campus and other organizations (through the associated internship programs) in Homer. The Kachemak Bay Research Reserve has been a key partner in providing hands-on research and field opportunities for students from across the country. This program is currently offered in the spring, but there are plans to expand the program to other times of the year. It has been identified as an opportunity to expand the reach of the University of Alaska Anchorage and offer this exceptional experience to more students.

In addition, the Kachemak Bay Research Reserve has formed several partnerships with local businesses, including the tour companies (including kayak guides and fish charters), to build local capacity concerning communicating ecological and scientific information to their customers and clients. The joint training of summer seasonal staff members through the Master Naturalist Program is an example of how partners worked together to share resources and expertise to quickly increase knowledge in the Homer area. This work resulted in an increased understanding and application of local scientific information used by fishing and kayak guides, among others, adding value to the services provided. This effort involved the following partners: Center for Alaskan Coastal Studies, U.S. Fish and Wildlife Service, Alaska Department of Parks and Recreation, NOAA, Pratt Museum, and others.

Among the important partnerships that the Kachemak Bay Research Reserve has been a part of is the Kachemak Bay Environmental Education Alliance. This partnership had previously developed, among other things, an education program matrix in an effort to understand the breadth of education programming so that partners could leverage each other's efforts and avoid duplication. This allowed partner organizations to more effectively provide needed formal and informal education programming in the Homer area and broader Kenai Peninsula. Partners attending the site-visit focus groups strongly recommended the need for the partners to revisit this matrix and update it with new programs and opportunities. An updated matrix could also be used by the Kachemak Bay Research Reserve staff members as they re-evaluate their education program offerings as part of their management plan update.

Finally, several partners commented over the course of the site visit on the various partnerships that the Kachemak Bay Research Reserve's researchers have with academic researchers, land managers, and federal, state, and local agencies in the area. The reserve does not directly manage the land within the site boundaries, so it depends on partnerships to both conduct research and provide results of that research back to the land managers and stakeholders, allowing for more informed management decisions. One partner commented specifically that they would not be able to conduct their own research without the partnership with the Kachemak Bay Research Reserve's assistance with monitoring and analysis. Other partners, including the City of Homer and others, mentioned that the scientific information generated and shared by the site is invaluable and a trusted source of unbiased information.

The Kachemak Bay Research Reserve staff and partners identified several opportunities to continue to collaborate in the future. These opportunities include continuing to expand its partnerships with the private sector, further integrating with the University of Alaska Anchorage to expand the reach of the university to student populations around the state, and working with local education partners to coordinate and collaborate on programs that leverage each other's work and build more robust formal and informal educational opportunities.

Findings for Partnerships

Accomplishment – The Kachemak Bay Research Reserve's Coastal Training Program is highly regarded in the region for its critical role in convening and coordinating partners that might not otherwise work together to collectively address challenging coastal management topics. The Coastal Training Program is viewed as a leader in communicating research findings to ensure that they can be used by coastal decision-makers.

Accomplishment – The Semester by the Bay program is a partnership with the University of Alaska Anchorage, Kenai Peninsula College–Kachemak Bay Campus and other organizations in Homer. This program has provided high-quality, hands on research and field experiences to students from around the country.

Accomplishment – The Master Naturalist Program and similar initiatives involving local businesses and guides have increased the ecological and scientific knowledge of tour operators and guides to enhance the visitor experience for tourists, an important economic driver in the area.

Recommendation: The NOAA Office for Coastal Management recommends that the Kachemak Bay Research Reserve work with partners to revisit the Kachemak Bay Environmental Education Alliance online matrix to raise the visibility of its educational offerings and further leverage its activities with others' work.

Science Communications

Science communications is an area that crosses programs within the Kachemak Bay Research Reserve. Each sector, education, stewardship, training, and research, has a role to play in the successful communication of local data and scientific information to various communities that the Kachemak Bay Research Reserve works with.

Examples of Key Efforts

Many partners expressed in both the partner survey and the site-visit focus groups that the Kachemak Bay Research Reserve is a trusted source of high-quality data and scientific information. Partners appreciated the staff's open and accessible approach to sharing data and its role as a neutral, third-party source of information, particularly for watershed and headwaters-related information. This information sharing has enabled more informed decision- and policymaking in the public and private sectors, increased educational opportunities, and successful science-oriented outreach. Audiences that the reserve has reached with its education and outreach activities include the public, formal and information educators, the public and private sectors, and scientific and academic communities.

The reserve staff members have used both traditional and innovative ways of reaching out to a wide and varied audience. Some examples of successful outreach programs to different audiences include the following:

Formal and informal education audiences – The Art and Science Collaborative–Alaskan Kids Know Climate Change and Project GRAD Kenai Peninsula projects are good examples of ways that the Kachemak Bay Research Reserve works with local educators and community groups to provide both formal and informal educational opportunities. The Art and Science Collaborative fostered an innovative collaboration among scientists, elementary students, and artists to understand the impacts of local climate change. The project resulted in increased understanding of climate change impacts from the local community level to the Alaska State Legislature. Collaborations with the Project GRAD Kenai Peninsula program address local middle- and high-school science needs and has extended the reserve's reach into nearby, under-served communities.

Resource managers and decision-makers – As a trusted resource for local scientific information, the Kachemak Bay Research Reserve has been successful in communicating its research findings to partners and policy makers. An example provided at the site-visit focus group was the research done by reserve staff members on juvenile salmon habitat. The findings from the research demonstrated the value of watershed nursery habitats and the connections between the landscape and estuarine and coastal habitats to juvenile salmon. This information was used by both local fishermen as well as local policy makers to help inform regional decision-making and in developing new rules. Information like this is communicated in various formats, including peer-reviewed journal articles, science symposia like the Kachemak Bay Science Conference, and community presentations. This research and the ability to communicate it effectively has had a direct impact on resource management and decision-making.

Recreational and subsistence shell fishing communities – The development of the Harmful Species Program is an outstanding example of successful science communication with community partners, local agencies, and the private sector. Particularly in the last several years as harmful algal blooms have become an important issue for the region, the volunteer monitoring network was able to detect life-threatening harmful algal bloom outbreaks that would have significant public health implications and impact both commercial and recreational shell fishing in the area. The Kachemak Bay Research Reserve has worked along with state agencies to develop relationships with both subsistence and recreational shell fishers to quickly communicate when a harmful algal bloom is occurring, which has resulted in decision-making that is better informed.

Public and nontraditional audiences – The Kachemak Bay Research Reserve has created outreach programs to reach the public and nontraditional audiences. A great example of this is the Barley and O.A.T.s (Outdoor Adventure Talks). This program is a way to spotlight nature-based recreation throughout Alaska through short talks hosted at a local brewery. This offers an informal setting to disseminate information and network with the intention of reaching a broader audience than usually targeted.

To deliver outreach and education programming, the Kachemak Bay Research Reserve staff takes a cross-program approach. Each sector at the site, including education, stewardship, training, and research, contributes to the goals of this target area, incorporating outreach components into many of their projects to reach a wide audience. Comments received from partners indicated that a strength of the reserve is the ability to communicate the science at the appropriate level for the intended audience.

Within the evaluation period, the reserve has had significant growth in the number of outreach products and activities produced or provided annually to identified coastal decision makers, K-12 students, and the public that communicate the site's research, education, and training. In 2012, the site reported 65 such products or activities. By 2017, the site reported 188 products or activities through their annual progress reports. However, the Reserve has not kept up-to-date the reserve system's national research database with research and monitoring projects as well as associated communication products. The national research reserve database is a critical tool for understanding the landscape of the reserve research and monitoring projects.

One challenge identified during the site-visit focus group meetings was the transition of the reserve host agency. The Kachemak Bay Research Reserve was housed previously under the Alaska Department of Fish and Game Sport Fishing Division. In 2015, the Kachemak Bay Research Reserve transitioned to a new host agency, the University of Alaska Anchorage. While partnering with the Department of Fish and Game, the reserve was located in the Alaska Islands and Oceans Visitor Center, which served as a wonderful venue to run many successful education and outreach programs. With the transition came a move to a different facility and new agency education priorities, which has changed the approach of the reserve to some of its education and outreach activities. The leadership and staff are currently taking the site-management plan update as an opportunity to refocus attention on their education strategy.

In the future, reserve staff members have indicated that they are looking to expand outreach and education opportunities to not only include traditional audiences, such as educators and resource managers, but also continue to build and strengthen relationships with local businesses.

Findings for Science Communication

Accomplishment – The Kachemak Bay Research Reserve has completed a number of research publications related to its watershed-monitoring program that were directly applied to inform local policy and permitting issues.

Accomplishment – Through a collaboration with Alaska’s Public Health community, the Kachemak Bay Research Reserve has established a highly effective chain of communication to develop press releases about critical data the network has been collecting on harmful algal blooms.

Recommendation – The NOAA Office for Coastal Management recommends that the Kachemak Bay Research Reserve develop a communications plan to help the reserve more cohesively coordinate its science communication activities and assist with the NERR rebranding of the organization regarding its state agency host, different program locations, and new capacities.

Recommendation – The NOAA Office for Coastal Management recommends that the Kachemak Bay Research Reserve update the reserve system’s national database with historical research and update the research database at least once a year with recently published journal articles, and ongoing research within the reserve to communicate the breadth of research and monitoring projects. The reserve system agreed in 2018 that all sites will update this database at least once a year at minimum.

Support and Program Administration

Over the course of this evaluation period, the Kachemak Bay Research Reserve has undergone many changes, including staff changes, transition to a new host agency, and so on, that have impacted its ability and approach in administering the program.

Examples of Key Efforts

In 2015, the Kachemak Bay Research Reserve transitioned host institutions from the Alaska Department of Fish and Game to the University of Alaska Anchorage. This transition brought with it many challenges and opportunities. Throughout the transition, the Kachemak Bay Research Reserve received significant support from various partners and community groups in continuing the operations of the site while working through the changes.

The Kachemak Bay Research Reserve was housed in the Alaska Department of Fish and Game during the first half of the evaluation period. The Department of Fish and Game staff worked closely with the Kachemak Bay Research Reserve on many successful research and education programs. In 2014, the state decided that the Alaska Department of Fish and Game was no longer able to serve as the lead agency for the reserve, and the department worked with reserve staff and NOAA to transition the program, as well as some of the property associated with the reserve, including the new site offices. The Alaska Department of Fish and Game continues to support and partner on projects with the Kachemak Bay Research Reserve in areas of mutual interest.

Site-visit focus groups, as well as the public meeting, held in conjunction with the Kachemak Bay National Estuarine Research Reserve Community Council (Community Council) meeting, revealed the pivotal role that the Community Council plays as an advisor to the reserve, especially during the transition of the administration of the reserve from the Alaska Department of Fish and Game to the University of Alaska Anchorage. The Community Council is an advisory group of volunteers and agenc

representatives that serves as a sounding board and a good place to test messages with community members, a means for communicating the work of the reserve and discussing upcoming issues and challenges facing the region, and a place to develop and deepen partnerships with community groups and agencies. When the idea of transitioning to a new host agency first came up, the Community Council was invaluable in helping to reach out to the state legislature to provide an extended timeline for the transition and funding to sustain the site while they identified a new host agency. Community Council meetings, as well as opportunities that the Community Council created, provided a good venue to communicate the work of the site, which helped to generate and sustain support for the site during the transition.

In 2015, the University of Alaska Anchorage became the lead agency for administering the reserve. The university worked quickly to bring the Kachemak Bay Research Reserve staff and programs into the Alaska Center for Conservation Science at the University of Alaska Anchorage. As with all transitions, there was a considerable learning curve with administrative processes, but the university has successfully integrated the staff and administrative processes, eventually providing significant support in terms of grant submission and management, procurement processes, website development and maintenance, and IT support. The university was able to develop a building fund that collects funds generated on site and holds them in an account to be used for future building maintenance. The university has also worked diligently to look for ways to incorporate the work of the reserve, as well as take advantage of the opportunities it provides university faculty and students for field study and research.

Not surprisingly, a transition to a new state agency is significant and challenging. In the time of transition, the efforts of the staff were largely focused on maintaining core functions and following through on commitments made before the transition. During this time, there was significant staff turnover, with several staff members serving in multiple or acting positions. The regulations require three core staff members: the site manager, the education coordinator, and the research coordinator. Several partners commented during the site visit on the dedication and hard work of the staff during the transition, recognizing that many of them took on additional duties during that time. All three of these positions were filled by acting staff members over the course of the transition. The education coordinator performed the duties of acting site manager for almost three years, impacting the work of the education program. At the time of the site visit, the site manager and the education coordinator were filled with permanent hires. The research coordinator position, which was occupied by an acting research coordinator, has been permanently filled.

Besides staffing challenges, learning or creating new administrative processes took time away from some of the programmatic work of the site. Some communication challenges were identified during the transition between host agencies, and reporting was not as consistent as it had been in the past. According to conversations with partners and staff members, these administrative processes have improved significantly as the staff members have settled in to their partnership with the University of Alaska Anchorage, and they are able to focus more of their attention on developing programs and conducting research and monitoring.

Another requirement of the National Estuarine Research Reserve System is that reserves must revise their management plan at least every five years. The reserve's most recent management plan covers the years 2012-2017. The work of updating the management plan coincided with the transition to a new agency. Discussions between the reserve and NOAA led to the development of a new timeline for submitting an updated draft management plan. At the time of the site visit, the reserve is out of

compliance with this requirement, but is on track with the mutually agreed-upon timeline for revising the management plan. Additionally, reserve staff have begun developing habitat maps using the *Standard Operating Procedures for Mapping Land Use and Change in the National Estuarine Research Reserve System* (May 2015). The habitat map will provide valuable baseline information as the reserve continues to move forward with coastal and watershed ecology research and monitoring programs. A required component of the System-wide Monitoring Program, the completed maps will facilitate the analysis of habitat change within the reserve and across the national system. Since the site visit, the reserve has made considerable progress on the maps. The NOAA Office for Coastal Management encourages the reserve in its efforts to complete the National Estuarine Research Reserve System habitat map and submit it for approval.

One of the items that remains outstanding in the transition between agencies is the transfer of the Bay Avenue Laboratory property to the University of Alaska Anchorage. The lab is occupied by the Kachemak Bay Research Reserve and is used as its System Wide Monitoring Program lab, as well as storage for its research and field equipment. It is currently owned by the Alaska Department of Fish and Game, which has successfully transferred other associated property to the university. A timeline should be identified by the partners to complete this transfer.

Moving forward beyond this transition, there are many opportunities that have been identified to continue the good work of the reserve. A recommendation heard several times during the site visit is to continue to work closely with University of Alaska Anchorage administration, faculty, and staff to develop programming that will increase participation from students, as well as additional internship opportunities in Homer that advance workforce development to improve linkages with the university.

Findings for Support and Program Administration

Accomplishment – The Kachemak Bay Research Reserve is commended for its successful transition to a new host agency, the University of Alaska Anchorage. Without much precedent in the reserve system for such a transition, staff members did not have a model to follow. Working together with the Alaska Department of Fish and Game and the University of Alaska Anchorage, the staff members were able to develop a mutual operating framework and the effort progressed well, securing local support and partnerships to advance the effort.

Accomplishment – The Kachemak Bay Research Reserve worked successfully with the Kachemak Bay Community Council, a key contributor to the successful transition to the University of Alaska Anchorage. The Community Council worked on the site’s behalf to garner community and legislative support and funding.

Necessary Action – The Kachemak Bay Research Reserve must submit a draft management plan, to the NOAA Office for Coastal Management by June 30, 2020.

Recommendation – The NOAA Office for Coastal Management recommends that the Kachemak Bay Research Reserve submit a habitat map for the site to the NOAA Office for Coastal Management by March 31, 2020.

Recommendation – The NOAA Office for Coastal Management recommends that the Kachemak Bay Research Reserve develop a timeline that is agreed to by all relevant parties for transferring the Bay Avenue lab from the Alaska Department of Fish and Game to the University of Alaska Anchorage and submit the timeline to the NOAA Office for Coastal Management.

Evaluation Metrics

Beginning in 2012, national estuarine research reserves began assessing their success by tracking three evaluation metrics specific to their programs. The evaluation metrics include a five-year target and provide a quantitative reference for each program about how well it is meeting the goals and objectives it has identified as important to the program.

Goals and Objectives are from the *Kachemak Bay National Estuarine Research Reserve Revised Management Plan 2012-2016*. The five-year period for these metrics is from July 1, 2012, to June 30, 2017.

Metric 1

Goal: Research, Education, and Administration Staff Members Function As Integrated Teams to Foster Informed Coastal Decision-Making

Objective: By 2017, reserve staff members will collaborate on reserve projects and programming

Strategy: Project grant proposals are planned and written with direct cross-sector involvement and include objectives related to research, education, and training. “Significant elements of integration” in a grant proposal are recognized when two or more sectors (research, education, training, and administration) contribute to specific cross-sector outcomes or products. Examples of specific cross-sector outcomes or products are the development of Coastal Training Program outreach or training tools for coastal decision makers as a result of a research project; identification of Kachemak Bay National Estuarine Research Reserve (KBNERR) research staff members to design or review community monitoring protocols and conduct data analysis in citizen monitoring proposals; and identification of KBNERR education staff members to produce education products from results of KBNERR research proposals.

Performance Measure: From 2012 to 2017, percentage of non-CZMA grant proposals submitted annually that include significant elements of integration between two or more sectors

Target: From 2012 to 2017, 80 percent of grant proposals submitted annually include significant elements of integration between two or more sectors

First Year Results: 50 percent

Second Year Results: 58 percent

Third Year Results: 69 percent

Fourth Year Results: 77 percent

Fifth Year Results: 93 percent

Discussion: A goal within the National Estuarine Research Reserve System is to have projects designed and implemented in an integrated fashion. Working across sectors allows for breaking down silos within reserves, leveraging the work of each sector to produce robust science outcomes and disseminate results to wider audiences. The Kachemak Bay Research Reserve has made significant progress in increasing the amount of integrated projects at its reserve.

Metric 2

Goal: Foster Stewardship and Inform Coastal Management through Research, Training, and Public Education

Objective: By 2017, KBNERR staff communicates and promotes understanding of how coastal ecosystems function and their relevance to society

Strategy: Products and activities are produced that promote and outreach KBNERR research, training, and education by using print, broadcast, and online media. The products and activities are peer-reviewed journal articles, project one-pagers, news releases, brown bag seminars, conference presentations, posters, workshops and trainings that include elements of KBNERR research, and Discovery Labs. For purposes of this evaluation metric, the production of a peer-reviewed journal article refers to submission of the article to a journal.

Performance Measure: From 2012 to 2017, number of outreach products and activities produced or provided annually to identified coastal decision makers, K-12 students, and the public that outreach KBNERR research, education, and training.

Target: From 2012 to 2017, 20 outreach products and activities produced or provided annually to identified coastal decision makers, K-12 students, and the public that outreach KBNERR research, education, and training.

First Year Results: 65

Second Year Results: 113

Third Year Results: 151

Fourth Year Results: 131

Fifth Year Results: 188

Total: 648

Discussion: The Kachemak Bay Research Reserve has made significant progress in disseminating information to various audiences ranging from coastal decision makers to K-12 students and teachers. In the period from 2012 to 2017, the reserve almost tripled the amount of outreach products and activities. This increase was evident in feedback from stakeholders and partners on not only the quantity, but also the quality and the applicability of the information shared.

Metric 3

Goal: Increase Kachemak Bay Research Reserve's Recognition as a Leader in Coastal Research and Education, Locally, Regionally, and Nationally

Objective: By 2017, stakeholders, partners, and the public are aware of and involved in the reserve's mission and goals

Strategy: Kachemak Bay Research Reserve's administration, research, education, and training staff participate in community, statewide, and national partnerships and collaborations. Participation is a

visible reminder of the reserve's presence in the state and its willingness to share with and learn from partners, and provide the opportunity to seek the support and direct involvement of partners and collaborators in meeting the reserve's mission and goals. Partnerships and collaborations are the Kenai Peninsula Fish Habitat Partnership, Alaska Marine Science Symposium planning team, Alaska Ocean Observing System, Kasitsna Bay Lab Science Advisory Committee, Kachemak Bay Environmental Education Alliance, Coastal America, regional partnerships, reserve system committees (Strategic Committee, SWMP Oversight, Coastal Training Program Oversight), NERRA Executive Committee, and other similar partnerships and collaborations that further the reserve's mission and goals. Active involvement includes participating in meetings, workshops, trainings, and conferences. Leadership is reflected by taking on leadership roles and responsibilities within the partnership—for example, chair, co-chair, vice-chair, committee lead, involvement in planning or implementation committees. For purposes of this evaluation metric, active involvement and leadership in a particular partnership or collaboration may continue from one year to the next.

Performance Measure: From 2012 to 2017, number of local, regional, and national partnerships in which KBNERR staff members are actively involved or have assumed leadership roles annually.

Target: From 2012 to 2017, five local, regional, and national partnerships in which KBNERR staff members are actively involved or have assumed leadership roles annually.

First Year Results: 13

Second Year Results: 9

Third Year Results: 9

Fourth Year Results: 12

Fifth Year Results: 42

Total: 85

Discussion: Throughout the evaluation, many survey respondents and focus group participants commented on the value of collaborating with the Kachemak Bay Research Reserve. Staff members at the reserve far exceeded set targets for active participation or leadership roles in local, regional, and national partnerships.

Conclusion

For the reasons stated herein, I find that the University of Alaska Anchorage is adhering to the programmatic requirements of the Coastal Zone Management Act and its implementing regulations in the operation of the Kachemak Bay National Estuarine Research Reserve.

These evaluation findings contain one necessary action and five recommendations. The recommendations must be considered before the next regularly scheduled program evaluation, but they are not mandatory at this time. Program recommendations that must be repeated in subsequent evaluations may be elevated to necessary actions.

This is a programmatic evaluation of the Kachemak Bay National Estuarine Research Reserve that may have implications regarding the reserve's financial assistance awards. However, it does not make any judgment about or replace any financial audits.

signed by Jeffrey Payne
Jeffrey L. Payne, PhD
Director, NOAA Office for Coastal Management

dated May 28, 2020
Date

Appendix A: Response to Written Comments

No written comments received.