

FINAL EVALUATION FINDINGS
KACHEMAK BAY NATIONAL ESTUARINE RESEARCH RESERVE

July 2003 through April 2006



Office of Ocean and Coastal Resource Management
National Ocean Service
National Oceanic and Atmospheric Administration
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I. EXECUTIVE SUMMARY

The Coastal Zone Management Act (CZMA) of 1972, as amended, established the National Estuarine Research Reserve System (NERRS). Sections 312 and 315 of the CZMA require the National Oceanic and Atmospheric Administration (NOAA) to conduct periodic performance reviews or evaluations of all federally approved National Estuarine Research Reserves (NERRs). The review described in this document examined the operation and management of the Kachemak Bay National Estuarine Research Reserve (KBNERR or the Reserve) during the period from July 2003 through April 2006. The Reserve is administered by the Alaska Department of Fish and Game (ADF&G) Sport Fish Division (SFD).

This document describes the evaluation findings of the Director of NOAA's Office of Ocean and Coastal Resource Management (OCRM) with respect to the Kachemak Bay NERR during the review period. These evaluations include discussions of major accomplishments as well as recommendations for program improvement. The fundamental conclusion of the findings is that the State of Alaska is successfully implementing its federally approved NERR.

The evaluation team documented a number of Kachemak Bay Reserve accomplishments during this review period. Leadership and management at the Reserve have improved and strengthened since the last evaluation. State and departmental support for the Reserve and its programs has also increased, and staff communication and morale have improved noticeably. The Reserve has completed revisions to its management plan. Strong partnerships and collaborations have been initiated or maintained, and the wide range of research and educational activities and programs are evidence of that. The Reserve's system-wide monitoring program has become solidly established, as has the coastal training program.

The evaluation team also identified areas where the Reserve and its programming could be strengthened. One of these recommendations is necessary and required. The Reserve must identify non-federal match funds by the date specified for the planned exhibits at the Visitor Center, for which federal funds have already been awarded, or return the federal funds unexpended. The Reserve and Sport Fish Division are encouraged to continue their efforts to gain more state financial support for core positions, particularly the education and research coordinators. The Reserve also should explore stronger state support for the Visitor Center maintenance costs. Permanent signage identifying the Reserve and NOAA should be installed at the Visitor Center as well. Several program suggestions are provided to encourage the Reserve to look at additional partnership opportunities or to more clearly identify the Reserve's role in existing partnerships. Finally, because of the growth of the Reserve's programs and activities, staff may want to explore the creation of a non-profit support organization and the services of a person as a coordinator of volunteer activities.

II. PROGRAM REVIEW PROCEDURES

A. OVERVIEW

The National Oceanic and Atmospheric Administration (NOAA) began its review of the Kachemak Bay Reserve in January 2006. The §312 evaluation process involves four distinct components:

- An initial document review and identification of specific issues of particular concern;
- A site visit to Alaska, including interviews and public meetings;
- Development of draft evaluation findings; and
- Preparation of the final evaluation findings, partly based on comments from the state regarding the content and timetables of recommendations specified in the draft document.

The recommendations made by this evaluation appear in boxes and bold type and follow the findings section where facts relevant to the recommendation are discussed. The recommendations may be of two types:

Necessary Actions address programmatic requirements of the CZMA's implementing regulations and of the Kachemak Bay Reserve approved by NOAA. These must be carried out by the date(s) specified;

Program Suggestions denote actions that NOAA's Office of Ocean and Coastal Resource Management (OCRM) believes would improve the program, but which are not mandatory at this time. If no dates are indicated, the state is expected to have considered these Program Suggestions by the time of the next CZMA §312 evaluations.

A complete summary of accomplishments and recommendations is outlined in Appendix A.

Failure to address Necessary Actions may result in a future finding of non-adherence and the invoking of interim sanctions, as specified in CZMA §312(c). Program Suggestions that are reiterated in consecutive evaluations to address continuing problems may be elevated to Necessary Actions. The findings in this evaluation document will be considered by NOAA in making future financial award decisions relative to the Kachemak Bay Reserve.

B. DOCUMENT REVIEW AND ISSUES DEVELOPMENT

The evaluation team reviewed a wide variety of documents prior to the site visit, including: (1) 2004 Kachemak Bay Reserve §312 evaluation findings; (2) federally approved Environmental Impact Statement and program documents; (3) financial assistance awards and work products; (4) semi-annual performance reports; (5) official correspondence; and (6) relevant publications on natural resource management issues in Alaska.

Based on this review and on discussions with OCRM, the evaluation team identified the following priority issues:

- major accomplishments during the review period;
- status of Reserve staffing and needs;
- facilities development and/or land acquisition efforts;
- status of general administration of the Reserve and management plan revisions;
- status of implementation of the Reserve's research, monitoring, and education programs;
- the manner in which the Reserve coordinates with other governmental and non-governmental organizations and programs in the state and region; and
- the manner in which the Reserve has addressed the recommendations contained in the §312 evaluation findings released in 2004. The Kachemak Bay Reserve's assessment of how it has responded to each of the recommendations in the 2004 evaluation findings is located in Appendix B.

C. SITE VISIT TO KACHEMAK BAY NATIONAL ESTUARINE RESEARCH RESERVE

Notification of the scheduled evaluation was sent to the Alaska Department of Fish and Game, relevant environmental agencies, members of Alaska's congressional delegation, and regional newspapers. In addition, a notice of NOAA's "Intent to Evaluate" was published in the Federal Register on February 21, 2006.

The site visit to the Kachemak Bay Reserve was conducted from April 3, 2006, through April 6, 2006. The evaluation team consisted of Ms. Chris McCay, Evaluation Team Leader, National Policy and Evaluation Division, OCRM; Ms. Nina Garfield, Program Specialist, Estuarine Reserves Division, OCRM; and Dr. William Reay, Manager, Chesapeake Bay-Virginia National Estuarine Research Reserve.

During the site visit, the evaluation team met with Kachemak Bay Reserve staff, senior staff from the ADF&G Sport Fish Division, other state agency staff, coastal researchers and academicians, U.S. Fish and Wildlife Service, National Park Service, local government staff and officials, KBNERR Community Council members, and non-profit organizations. Appendix C lists people and institutions contacted during this review.

As required by the CZMA, NOAA held an advertised public meeting on Wednesday, April 5, 2006, at 7:00 p.m. at the Kachemak Bay Reserve, Alaska Islands and Ocean Visitor Center, 95 Sterling Highway, Homer, Alaska. The public meeting gave members of the general public the opportunity to express their opinions about the overall operation and management of the Kachemak Bay Reserve. Appendix D lists individuals who registered at the meeting. NOAA's responses to written comments submitted during this evaluation are summarized in Appendix E.

The Kachemak Bay Reserve and Sport Fish Division staff members were crucial in setting up meetings and arranging logistics for the evaluation site visit. Their support is most gratefully acknowledged.

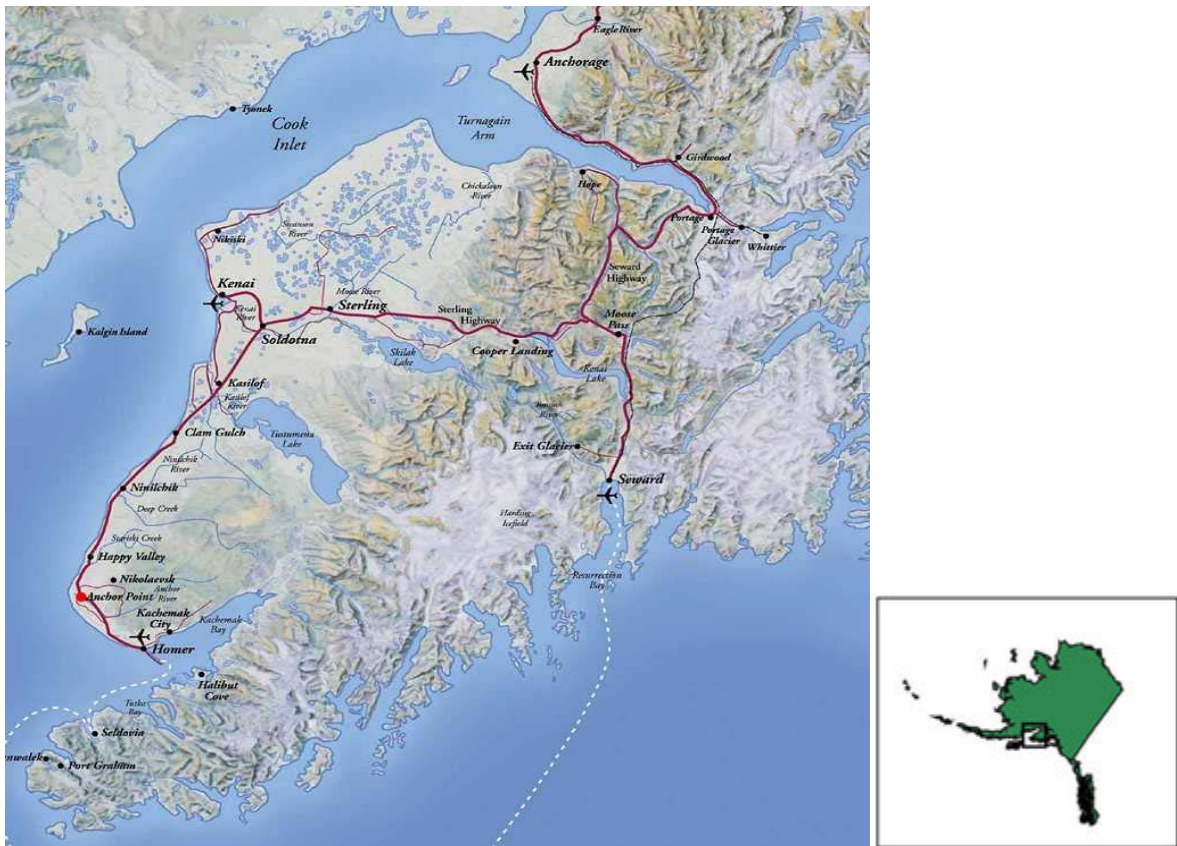
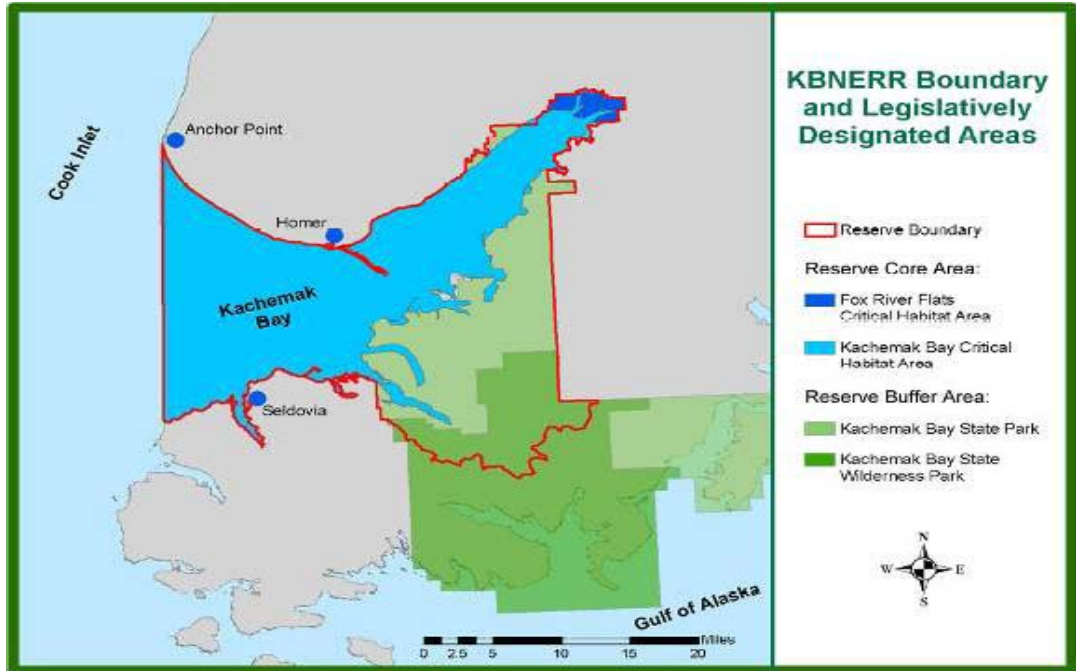
III. RESERVE PROGRAM DESCRIPTION

NOAA's Office of Ocean and Coastal Resource Management designated the Kachemak Bay National Estuarine Research Reserve (KBNERR or the Reserve) in 1999. The lead agency is the Alaska Department of Fish and Game (ADF&G), Sport Fish Division (SFD).

Kachemak Bay is located in south-central Alaska and is one of the most productive and diverse estuaries in Alaska and features tidal mudflats, marshlands, and upland forests. The southern shore includes the Kenai Mountains, which contain several glaciers that drain directly into the Bay. Kachemak Bay is 24 miles wide at its mouth and approximately 36 miles long. The Bay is a temperate region fjord with hydrographic conditions unique among National Estuarine Research Reserve System (NERRS) estuaries. An 8.7-meter tidal range primarily drives the Bay's circulation, and ocean currents within the Gulf of Alaska result in upwelling of nutrient rich waters. This nutrient-rich environment provides critical habitat for many species during various life phases.

KBNERR is located south of Anchorage on the western coast of the Kenai Peninsula and is the largest in the NERRS, encompassing approximately 365,000 acres. The lands within the Reserve are entirely in public ownership and are managed by various local, state, and federal entities. Three legislatively designated areas are included within the Reserve: (1) Kachemak Bay Critical Habitat Area, (2) Fox River Flats Critical Habitat Area, and (3) the portion of Kachemak Bay State Park that drains into Kachemak Bay. The two critical habitat areas are managed by the ADF&G Sport Fish Division, and the Alaska Department of Natural Resources manages the state park. These designations provide the strongest resource protection afforded by Alaska. Current uses include boating, fishing, hunting, shellfish harvesting, mariculture, and a variety of recreational activities such as sightseeing and hiking. Traditional uses permitted by state and federal agencies include commercial and recreational fishing and limited livestock grazing.

The Reserve's headquarters are located on the Kenai Peninsula in the City of Homer, overlooking Bishop's Beach and Beluga Slough. The Reserve is co-located with the Alaska Maritime National Wildlife Refuge in the Alaska Islands and Ocean Visitor Center, completed in late fall, 2003. In addition to housing a bookstore and exhibits for both the Reserve and the Refuge, the Center is equipped with a dry lab, classrooms, public meeting rooms, and offices for the Reserve. A separate modular facility in Homer provides leased offices for some partner agencies through cooperative agreements. A bunkhouse is available for up to eight visiting researchers, graduate students, and volunteers, including kitchen-dining, bath, and meeting room facilities. A third building owned by the Reserve provides limited lab, storage, and workshop space.



IV. REVIEW FINDINGS, ACCOMPLISHMENTS, AND RECOMMENDATIONS

A. OPERATIONS AND MANAGEMENT

1. Administration and Staffing

There has been a strong positive change in the administration and management of the Reserve since the last evaluation, which included several recommendations to address the lack of leadership, planning, and the financial and administrative shortfalls noted by the evaluation team at that time. A few months prior to the July 2003 evaluation site visit, the Reserve was transferred to the Alaska Department of Fish and Game (ADF&G) Sport Fish Division from the recently dissolved Habitat and Restoration Division. Shortly after the 2003 evaluation, the Reserve manager retired and the research coordinator resigned. A new manager was hired, and staff members were involved in that hiring. A researcher on staff was hired as the research coordinator. A management team was designated from the staff and is still in operation. The manager was strongly supportive of the staff and in turn was well-respected by staff and the Sport Fish Division. However, this manager resigned for personal reasons several months before the 2006 site visit, and the research coordinator was designated as the acting manager. At the time of the 2006 site visit, staff members were again involved in the hiring of a new manager, and at the time of the issuance of these findings, a new manager has begun work. Staff members said they were pleased with their involvement in the hiring of both managers, and the improvement in staff morale and communication since the last evaluation was positively noted by staff members, partner organizations, and even members of the public attending the public meeting. A member of the evaluation team for this evaluation was also a member during the 2003 evaluation and similarly commented on the positive changes.

During this evaluation period, the Reserve completed a strategic planning effort to redefine the Reserve's vision, mission, goals, and objectives. This was followed by an internal prioritization of these goals and objectives and the establishment of a tactical plan to attain the high priority objectives. This effort involved all staff on an equal basis.

The Reserve currently has a staff of 13: six permanent, full-time positions (manager, education and research coordinators, two administrative staff, and a GIS specialist); four permanent, seasonal positions (guaranteed one month of work and no more than eleven months per year, and includes the CTP coordinator, watershed researcher, marine ecologist and lead classroom instructor), and three non-permanent, long-term positions (covers two fiscal years, and currently includes a videographer, illustrator, and research assistant). Non-permanent, short-term (up to three months) staff are hired to assist with programs as needed.

The Reserve staffing has remained remarkably stable during several periods of management transition and uncertainty. The staff members are well liked and highly respected by their peers and community members with whom the evaluation team met. Staff members provide leadership in the local community and in the national NERRS community. Both the education

coordinator and research coordinator have stepped in to serve as acting reserve manager when needed.

The financial shortfalls and state support issues noted in the previous findings have improved during this evaluation period. Since 2003 the state has provided approximately \$80,000 annually to support two administrative staff positions, which has also improved the non-federal match situation. Just months before the site visit, the Reserve was given permission to create two new permanent seasonal positions. Although there is no guaranteed outcome, the Department of Fish and Game is now seeking, for the first time, general revenue funds from the Legislature to support staff and the Reserve. Grant monies from the Exxon Valdez Oil Spill (EVOS) Trustee Council support the research programs and education programs, and, when granted, are used to provide non-federal matching funds for NOAA operational funds. State wildlife grant funds also provide program and staff support. These funds are appropriated by Congress, and one-third of the monies to Alaska are administered by the Sport Fish Division.

The Reserve and the Division are now exploring the development of a three-year financial plan, a Reserve 'friends' non-profit organization or other mechanism for citizens to provide funding and support, a Fish and Game foundation with some funding targeted to the Reserve, and possible corporate support or sponsorship for the Discovery Labs educational programs. Within this more positive situation, the Reserve is encouraged to look for ways to bring the education coordinator and the research coordinator (two of the Reserve's core positions) onto state funding, particularly because the EVOS Trustees Council is going to re-evaluate the direction and process for awarding EVOS funds and because the state wildlife funds are dependent upon a congressional allocation. The non-federal match situation would also improve when more core staff members are state-funded.

The Sport Fish Division appears to be an excellent, mutually beneficial fit for the Reserve. The Division Director and Assistant Director (who has direct oversight responsibility for the Reserve) provided strong support throughout the period covered by this evaluation. Without that leadership, the changes seen in management and increased financial support would not have been possible. A new assistant director assumed the position shortly before the 2006 site visit, and she spent the entire week of the visit with the evaluation team and Reserve staff. Reserve staff provide GIS and technical training and support to the ADF&G, and the Reserve's videographer supports some of the ADF&G outreach efforts. The education coordinator's help is sought to vision and plan for aquatic education activities throughout all ADF&G regions. The education activities of the Reserve are designed to crosswalk with state and school district science standards throughout Southcentral Alaska. Research priorities at the Reserve complement traditional ADF&G projects.

ACCOMPLISHMENT: Leadership and management at the Reserve have improved and strengthened significantly since the last evaluation. State and departmental support for the Reserve and its programs has also increased, and staff communication and morale have improved noticeably.

PROGRAM SUGGESTION: The Reserve and Division are encouraged to continue their efforts to gain more state financial support for core positions, particularly the education and research coordinators.

2. Management Plan

At the time of the last evaluation, the Findings included a recommendation for the Reserve to revise its management plan. During the period covered by this evaluation and during significant management changes and programmatic development, the management plan has been successfully revised.

ACCOMPLISHMENT: The Reserve has successfully completed revisions to its management plan.

3. Facilities and Infrastructure

In late 2003 the Reserve moved into the Alaska Islands and Ocean Visitor Center. The Center was constructed with funding from both NOAA and the U.S. Fish and Wildlife Service and houses the Alaska Maritime National Wildlife Refuge as well as the Reserve. Since the Center's opening, more than 75,000 visitors, on average, have toured the facility annually. Participation in various outreach and education programs has increased tenfold, from 300-500 individuals per year on average to over 4,600. The Visitor Center and the Reserve are beginning to serve as an unofficial center of the community. In addition to housing a bookstore and including exhibit space for both the Reserve and the Refuge, the Center is equipped with a dry lab, classrooms, public meeting rooms, and offices for the Reserve. A separate modular facility in Homer provides office and meeting room space for partner agencies through cooperative agreements. Up to eight Reserve volunteers, graduate students, and collaborating scientists have access to the reserve's bunkhouse, which provides sleeping, kitchen-dining, and bath facilities. A third building owned by the Reserve provides limited lab, storage, and workshop space.

The Reserve faces two challenges now that it occupies the new Visitor Center. It has received approximately \$200,000 in federal construction funds from NOAA for planned exhibits at the Center but has been unsuccessful so far in obtaining non-federal match. This is a serious and immediate concern to NOAA, because by not securing State matching funds, the Reserve is not in compliance with procedures governing the award of federal funds under the statutory authority of the CZMA and competitive selection process. The Reserve also is responsible for its share of the maintenance of the Visitor Center, which is a significant amount and which currently is paid for with federal operational funds.

NECESSARY ACTION: By the end of the exhibit construction award period, the Reserve must identify non-federal match funds for the exhibits planned at the Visitor Center or return the funds unexpended to NOAA.

PROGRAM SUGGESTION: The Reserve should explore stronger state support for the Visitor Center maintenance costs.

4. Coordination and Partnerships

The Reserve's programs and staff members are extremely well coordinated and integrated in a seamless fashion. Education programs involve thematic topics of high priority to the research program, and research staff members frequently participate in educational programs. The GIS specialist supports every major program at the Reserve; an administrative assistant is involved in the SWMP; and the office manager serves as the liaison between the Reserve and the Reserve's Community Council. The Reserve's programs are very relevant to management needs at the departmental, state, regional, and local levels, and the Coastal Training Program has done a very good job at getting scientific information out to coastal managers at all levels.

The Reserve also does an excellent job coordinating its programs and working in partnership with other agencies and non-profit organizations. This is no small feat, because the greater Homer community area has over 50 non-profit groups. While that speaks well of the community and its citizens, it presents a challenge to all to manage competition for visibility, a limited number of volunteers, and funding from grant sources as well.

Because staffing has remained remarkably stable and constant, staff members are sensitive to these issues and have developed personal and professional relationships over time that play a large role in the successful collaborations and partnerships. There are a number of collaborative forums and activities in which the Reserve plays an active part, including, but not limited to, the Kachemak Bay Environmental Education Alliance, the Kachemak Bay Research Reserve Community Council (KBRR Community Council or Council), the Reserve's research and education committees (subcommittees of the Community Council), and the Kachemak Bay Science Conference. Many of these collaborations and partnerships through research, education, and the Coastal Training Program are discussed elsewhere in this document.

One of the most obvious and successful efforts of coordination is that with the Alaska Maritime National Wildlife Refuge involving the Visitor Center. Reserve staff members have increased their efforts to work more closely with the National Park Service and the nearby national parks, and there has been increased coordination with the NOAA NCCOS Katsitsna Bay Lab since a NOAA staff member has been stationed full-time in Homer as the lab director. The Reserve also coordinates closely with the Alaska Department of Natural Resources' (DNR) Division of Parks and Outdoor Recreation because of DNR management of state parks and ADF&G management of critical habitat areas within the Reserve boundaries.

The KBRR Community Council provides a connection between Kachemak Bay communities, statewide and national research and education organizations, and the Reserve. Its primary purpose is to provide an organized structure for dialogue and recommendations between agencies, local governments, researchers, environmental educators, conservation groups, and others interested in natural science research and education and the Reserve staff. The Council

charter provides for nine community members and 11 ex officio (non-voting) agency members. A Reserve staff member serves as the liaison between the Reserve and the Council.

The evaluation team met with many of the Council members and was impressed with their dedication to and support of the Reserve staff and activities. The members all spoke highly of Reserve staff members. Most, if not all, of the Council members are frequent volunteers for Reserve programs and activities. The Council has a strong sense of ‘ownership’ in terms of its purpose and roles. Its members assist with outreach and education for state legislators and appear willing to assume more than an advisory role. Those members with whom the evaluation team met provided a discussion of both the strengths of the Reserve and new areas or gaps to address, such as the need to reach beyond schools with educational programs and into the general community (e.g., senior citizens); the continuous need to translate research into educational vehicles to reach the community; and the Reserve’s need for a volunteer coordinator.

ACCOMPLISHMENT: The Reserve has demonstrated strong partnerships by collaborating and coordinating with numerous federal and state agencies, researchers, educators, and non-profit organizations. Reserve staff members are sensitive to the roles and interactions with numerous partners and generally are able to avoid competition for volunteers, visibility, and funding. The KBRR Community Council is a strong advocate of Reserve programs and activities.

The Alaska Coastal Management Program has recently been restructured programmatically through the completion and federal approval of a program amendment and final environmental impact statement. The Program is located in the Department of Natural Resources, with offices in Juneau, Anchorage, and a district office presence in Soldotna. The Reserve should explore whether any additional opportunities exist with the newly structured coastal management program for coordination or mutual program support within the Reserve and Kenai Peninsula.

PROGRAM SUGGESTION: The Reserve should explore whether additional opportunities exist for partnership and collaboration with the Alaska Coastal Management Program.

5. Program Visibility

At one level, because the community within which the Reserve resides is relatively small, citizens, non-profit groups, and other agencies are generally aware of the Reserve and know about its programs and activities. However, the Homer area is a well-known tourist destination for fishing, bird-watching, and other activities during the summer months, and the population increases dramatically. Now that the Reserve and the National Wildlife Refuge share a facility, it is less easy to physically see the separate agency identities, especially for first time visitors and summer tourists. The Visitor Center lacks permanent signage identifying the Reserve, NOAA, or even the Alaska Department of Fish and Game as cohabitants. Even the ‘front desk’ one encounters upon entering the Visitor Center is always staffed by a NWR staff member or NWR volunteer. As noted in an earlier section, the Reserve has not yet installed planned permanent exhibits that would also strengthen the identity of the Reserve in the Center. The Reserve needs

to install permanent signage at the Visitor Center and consider other strategies to strengthen the visibility of the Reserve in the Center; e.g., having a staff member or Reserve volunteer sit at the front desk for periods of time. *[Since the site visit, the State has indicated that new signage identifying the Reserve, NOAA, and ADF&G has been installed in the Visitor Center lab classroom, on the exterior of the Visitor Center, and on the entrance sign to the Visitor Center public parking area.]*

PROGRAM SUGGESTION: The Reserve should install permanent signage at the Visitor Center identifying the Reserve and NOAA and should consider other strategies to increase the visibility of the Reserve at the Center.

6. Volunteer Support and Non-profit “Friends” Group Support

There are two elements the evaluation team discussed with the Reserve during the site visit that would likely enhance the capabilities of all the integrated activities and programs. The Reserve considers that it officially established its volunteer program in 2004 with approximately 20 local volunteers assisting with various education programs. As activities and programs expand to meet the capabilities offered by the Visitor Center, the increased use of more volunteers will be vital to that success. Reserve staff are well aware that they themselves will always be too few in number to operate without volunteers. However, an increased number of volunteers requires more volunteer training and coordination. Cross training volunteers from other partner organizations would also be beneficial. The Reserve should consider whether and how to identify a volunteer coordinator to take on many of these tasks.

PROGRAM SUGGESTION: The Reserve should explore strategies for obtaining a position or person to coordinate activities involving volunteers.

The other element of stewardship discussed during the evaluation site visit is the opportunity to develop a non-profit support organization – a “Friends of the Reserve or Kachemak Bay” group. Many reserves within the reserve system have such support groups. These groups are able to accomplish many activities and tasks that the Reserve staff cannot accomplish. Many state-agency affiliated reserves cannot produce items such as tee-shirts or coffee mugs with a state agency or reserve logo and profit from their sale. A friends group can do that. Members of a friends group could also help to man the visitor reception desk just inside the Visitor Center that is now totally handled by NWR staff or NWR friends group volunteers. A member of the friends group could also serve as a volunteer coordinator and liaison with Reserve staff members for program and activity support.

PROGRAM SUGGESTION: The Reserve should explore the creation or development of a non-profit support organization.

B. RESEARCH AND MONITORING

1. Research Activities

The Reserve has research programs of great breadth and depth. The research staff members encourage collaborations among a variety of partners, integrate research with the Reserve's education programs, and in turn are strong partners and collaborators themselves. A research staff member maintains the Reserve's geographic information system (GIS) and its data, supports all the other Reserve programs using the GIS, and is involved in field projects and instrument and skiff maintenance. The research program looks at three environments: the ocean/offshore, nearshore, and the watershed. Staff is working to build the socio-economic environment into the research program as well. There have been 19 funded projects completed or currently ongoing since the last evaluation, and staff members are providing assistance (e.g., letting researchers use a location within the Reserve as a 'staging area' and changing filters on another researcher's monitoring equipment) to approximately 12 other research projects per year. Some of the research projects completed or ongoing during this evaluation period include:

- **Intertidal and Salt Marsh Mapping:** These projects mapped the vegetation in the intertidal areas and salt marshes of Kachemak Bay and combined the results in a single GIS project.
- **Remote Sensing:** The Reserve determined the projects and format of visible remote sensing most likely to be required by Gulf of Alaska scientists and resource managers, developed a set of quality control measures to add to each data set identified, and developed a time series of the appropriate variables selected.
- **Wetland Function Tool:** The Reserve developed a CD-ROM based tool that allows planners and researchers to examine surface water flow in the Anchor Point area. The model has been incorporated into a GIS project with hyperlinks to several pages of materials that explain the material covered by the tool.
- **Autonomous Underwater Vehicle (AUV) Demonstration:** The Reserve and Oregon State University tested an AUV in Kachemak Bay during 2003. The vehicle swam pre-programmed routes to determine the feasibility of using an AUV to measure currents of Kachemak Bay.
- **Wetlands Conference:** Reserve staff coordinated a workshop for a group of experts in the field of wetland ecology and nutrient cycles who developed a research plan to address community needs in understanding the relationship of peat wetlands to the watershed continuum on the Lower Kenai Peninsula.
- **GLOBEC:** This program examined the mesoscale variability in physical, biological, and chemical properties along the southern Kenai Peninsula. Two two-week cruises (May, July-August) were conducted during the summer of 2003. A SeaSoar platform with a variety of physical and bio-optical sensors mounted on it was towed along a number of grids in the Gulf of Alaska. The measurements were analyzed to determine the important scales of spatial variability and to hypothesize what are the important mechanisms for creating the observed variability. This project was led by the University of Alaska-Fairbanks (UAF).

- **Invasive Species Monitoring:** Kachemak Bay NERR was one of the reserves selected to participate in a National Fish and Wildlife Foundation-funded invasive species monitoring project that was conducted by the Smithsonian Environmental Research Center. Settling plates were deployed for two years in Kachemak Bay to look for invasive species. A time series study was also conducted by deploying fresh plates every three months to examine seasonal variability.
- **Homer Coastal Changes:** The Reserve provided the City of Homer with maps of the historical bluff edge within Homer city limits. Historical aerial surveys of the Homer coastline from 1951, 1961, 1968, 1974, 1996, and 2003 were digitized. This relatively small project has been extremely well received by the community and incorporated into the Reserve's education and CTP programming.
- **Coastal Currents:** This project aims to associate oceanographic conditions with changes in the timing of sockeye salmon runs. Physical oceanographic and fisheries data are collected along a transect across Lower Cook Inlet from Anchor Point to the Red River delta each day during July. This project is led by the ADF&G Commercial Fisheries Division in Soldotna.
- **Marine Derived Nutrients:** This project is studying marine derived nutrients (MDN) and carbon delivered by salmon and other anadromous fishes. MDN are considered important drivers in riverine ecosystems, providing nutrients and food to these land-based food webs. This study aims to develop a water chemistry proxy for monitoring salmon returns and to track and measure MDN effects in stream, riparian and nearshore environments on the southern Kenai Peninsula. This project being conducted in collaboration with Cook Inletkeeper, USGS, University of Alaska-Anchorage (UAA), and UAF.
- **Biophysical Observations Aboard Alaska Marine Highway System Ferries:** Oceanographic conditions in the Gulf of Alaska are being monitored using equipment mounted on the ferry M/V Tustumena to observe the path of the Alaska Coastal Current and how it varies in strength and direction throughout the year. The project is led by the NOAA Pacific Marine Environmental Laboratory.
- **Coastwalk:** The project merges high-resolution mapping of the physical structure of the nearshore environment in Kachemak Bay and citizen-generated biological and human impact data into a GIS. The data has been collected over 18 years through an annual Kachemak Bay Coastwalk shoreline survey conducted by the Alaska Center for Coastal Studies, which is the partner in the project.
- **Monitoring Oceanographic Conditions:** This project examines oceanographic conditions of water flowing into and out of lower Cook Inlet. Variables measured include temperature, salinity, chlorophyll, and nutrient concentrations. These measurements will be used to improve the understanding of water flow within lower Cook Inlet in order to improve physical, biological, and contaminant transport models of this region. This project is being conducted in collaboration with the Cook Inlet Regional Citizen Advisory Council and UAF.
- **Small Mesh Fish Trawl:** This is a joint project with the ADF&G Commercial Fisheries Division in Homer. The Reserve is adding water quality measurements to the small-mesh trawl

surveys of ADF&G. The goal is to better understand the role of the environment on changes in fish populations within Kachemak Bay.

- Harbor Seal Surveys: This is a joint project with NOAA to maintain and analyze data from NOAA's automated monitoring cameras and aerial surveys in Kachemak Bay and Lower Cook Inlet. The project looks at the accuracy of aerial surveys, the movement of seals in Cook Inlet, and strives to provide the best estimate of harbor seal population.
- Headwater Stream Project: The goal of this project is to populate the Kenai Lowlands Wetland Management Tool with data on salmonid fish and aquatic invertebrate habitat support functions provided by low-order stream riparian wetlands. Providing attributes on wetland function information will substantially increase the usefulness of the Wetland Management Tool for regulatory and conservation planning needs by providing managers, regulators, and property owners with specific information on how wetlands function in the landscape.

The National Estuarine Research Reserve System Graduate Research Fellowship program has been a strong component of the Reserve's research program. The Reserve consistently receives from two to five applications from throughout the U.S. for every GRF opening. During the period covered by this evaluation, three Graduate Research Fellows (GRF) completed or initiated research at the Reserve. One GRF completed research associated with sediment dynamics, another is finishing the third year of research on the spatial and temporal variability in primary productivity within Kachemak Bay, and a third GRF is studying the use of different habitats in the Bay by crabs. A new GRF will begin examining the role of flow rate on species diversity in the intertidal and shallow subtidal environments starting later in 2006. All of these research projects are directly relevant to management needs in the Reserve and Bay.

The research program has been able to play a strong role in a collaborative forum that brings together a diverse group of researchers. The 4th Kachemak Bay Science Conference was held just days before the evaluation site visit and continued a tradition of gathering together the people who study various components and relationships in the environments encompassed by Kachemak Bay and its watershed to present their findings to each other and the community. The conference has evolved into an interchange of questions, information, and ideas to increase understanding and how best to sustain the health and productivity of the Bay's resources. It has also become a tradition for all of the organizations and agencies involved with scientific research, environmental education, and natural resource management in Homer to work together to plan the conference. Several Reserve staff members continue to serve on the planning committee, and the Reserve continues to sponsor the conference.

ACCOMPLISHMENT: The Kachemak Bay Reserve has a robust and diversified research program, encompassing a wide range of research partners. It also has a well-developed and fully maintained geographic information system. The Reserve continues to provide significant opportunities for student research and plays an active role in maintaining and expanding collaborative research opportunities and communication. Research staff members often serve as the principal investigator or lead researcher in many of the collaborative projects.

During the site visit, the evaluation team and the Reserve staff briefly discussed the Cooperative Ecosystem Studies Unit (CESU) program. This is a network of cooperative research units that has been established to provide research, technical assistance, and education to resource and environmental managers. These units are named CESUs to signify their broad role as providers of research, technical assistance, and education to Federal land management, environmental and research agencies, and their potential partners. Federal agencies contribute research scientists and/or other professionals located and working at CESUs under formal agreements between their respective bureaus and universities. Federal personnel are supervised and supported by their respective agencies, through existing administrative systems. CESUs can create additional opportunities for interdisciplinary and multi-agency research, technical assistance, and education. There is an existing CESU for north and west Alaska, which is hosted by the University of Alaska, with the University of New Hampshire and the Alaska SeaLife Center as partners. The Reserve may want to explore both this existing CESU as well as the CESU program in general as an option for additional resource coordination and opportunities.

PROGRAM SUGGESTION: The Reserve could explore the Cooperative Ecosystem Studies Unit Program as another option for research coordination and partnership opportunities, particularly with the National Park Service and U.S. Fish and Wildlife Service in the Kachemak Bay and Kenai Peninsula areas.

2. Monitoring

As can be seen from the list of research activities above, there is a monitoring component to much of the research being done at the Reserve. The systemwide monitoring program (SWMP) has dealt with personnel and lab changes during this evaluation review period but is now on solid ground. A permanent staff researcher leads the SWMP and an administrative assistant is trained to help with the data loggers. With NOAA/NERRS SWMP Oversight Committee approval, the Reserve moved two monitoring sites that were not accessible much of the year and placed them in a vertical configuration at two existing monitoring sites in Homer (an inner Bay location at the harbor pier) and Seldovia (an outer Bay location at the Seldovia Harbor pier). The Reserve has found the vertical information to be of great value in that Kachemak Bay typically has a two-layered system through the summer. The SWMP is now able to track water in both layers. The Reserve changed chemistry laboratories in 2005 and is now working with a local laboratory that is able to work much more closely with staff to ensure that the Reserve's needs are met. Kachemak Bay Reserve is also one of the pilot sites for the new NERRS telemetry system. The telemetry for the meteorological station (located at the end of Homer Spit) and one water quality station were installed in the fall of 2005.

ACCOMPLISHMENT: The Reserve's systemwide monitoring program (SWMP) has become solidly established, SWMP data is submitted on time, and the data is now generally considered to be the baseline for Kachemak Bay.

C. EDUCATION AND OUTREACH

With the Reserve's move into the Alaska Islands and Ocean Visitor Center, the average number of people participating in Reserve programs annually has increased tenfold. This has presented a tremendous opportunity to reach larger and more varied audiences, but it has put a serious strain on the Reserve's education staff. They have adapted well and handled the workload, and other Reserve staff, Council members, and volunteers have always assisted. The education staff members are adept at collaborating with a large number of environmental and educational non-profit organizations.

The Kachemak Bay Environmental Education Alliance (KBEEA), organized in 2000, represents over 20 member organizations involved in providing or promoting environmental education. The KBEEA and its members coordinate activities to disperse and reduce pressure on resources, avoid duplication of programs, organize citizen-monitoring programs, and evaluate existing science education activities and design new materials and activities based on needs identified by user groups, especially K-12 teachers and coastal managers. Although initial coordination and development of strong partnerships was not seamless, KBEEA now maintains a website, has been able to cross-train volunteers, and is thinking about some strategic group planning, using an overall coordinator/facilitator. The website has become a successful and valuable resource, and a Reserve staff member has been responsible for maintenance, but that work is time-consuming and challenging. Reserve staff members have been heavily involved in overall coordination of the KBEEA. As the KBEEA initiates some strategic planning, the Reserve should also strategize its role in facilitating coordination among educators and non-profit organizations to determine how it can best serve its partners while maintaining its core education and outreach mission and meeting the increased demands in the new Visitor Center.

PROGRAM SUGGESTION: The Reserve is noted for its role in the development and implementation of the Kachemak Bay Environmental Education Alliance, but it should think about its function and capacity to maintain that role so it can determine how it can best serve its partners while maintaining its core education and outreach mission and meeting the increased demands in the new Visitor Center.

The Reserve is also involved in the Kenai Peninsula Science Education Consortium, which was begun in 2004 and is composed of representatives from the Alaska SeaLife Center, Challenger Learning Center (NASA), University of Alaska-Anchorage, Kenai Peninsula College, Kenai Peninsula School District, the Alaska Maritime NWR, and the Reserve. These members provide science education and have united to form a distance education consortium. Perhaps nowhere else within the Reserve system and many of the states is distance learning a more necessary mechanism to promote environmental education. The Reserve has recognized the necessity to provide more distance learning opportunities.

1. Education and Outreach

The Reserve's formal education program is focused primarily on K-12 students throughout south central Alaska. Classroom and field activities are provided for public, private, and home-schooled students. Participation increased from approximately 450 students and one program in

2002, to approximately 1700 students and 9 programs in 2004 in the new Visitor Center, and 1900 students and 17 programs in 2005. Education staff indicated that the approximately 20 programs being offered for 2006 would be about the maximum the Reserve can handle.

The increased numbers of K-12 class and field activities are now organized around three concept units: *High Seas Drifters* (ocean science); *Estuary Ecology and Research* (estuarine/coastal science); and *Careers in Marine Science*. The *High Seas Drifters* programs are classroom lab activities that give students an opportunity to gain hands-on experience with marine organisms, monitoring the marine environment, and using scientific lab equipment. *Estuary Ecology and Research* lab and field programs introduce students to coastal habitats, estuaries, the Reserve, and Reserve research questions and current projects in Kachemak Bay. The Classes and workshops are also provided for professional teacher development. *Careers in Marine Science* is a one-hour lab class that introduces students to the variety of careers in marine science through group discussion, related hands-on activities, the “Meet a Reserve Marine Scientist” illustrated presentation, and more.

Given the logistics of travel in Alaska, it is a mark of very successful Reserve programs that students from throughout the Kenai Peninsula Borough, Anchorage Borough, and Matanuska-Susitna Borough school districts and even beyond raise money to travel to Homer for class, lab, and field activities. The Reserve’s educational programs are now aligned to state educational standards for science and the curricula of the three above-mention school districts. As noted in the discussion just prior to this section, the logistics of travel is also what has motivated the Reserve and its partners in the Kenai Peninsula Science Education Consortium to focus on enhanced distance learning capabilities and opportunities.

The Reserve developed entirely new programming with the move into the new Visitor Center. These activities are primarily centered on classroom activities offered to the visiting public – informal educational programming. Without doubt, the most popular activity, which has also become the Reserve’s signature event, is the “Discovery Labs.” These are completely open-door, no registration required activities at the Center that are geared to a variety of ages, levels of interest, and knowledge. Just a few of the many topics covered in the Discovery Labs include: Tides & Currents: Going with the Flow; Plankton: Unseen Rulers of the Sea; Seashore Plants: Masters of Adaptation; Tubefeet in Tidepools: Echinoderms of the Bay; and Crabmania in Kachemak Bay.

In the winter, approximately two Discovery Labs are held each month, but in the summer Discovery Labs are held three times a week. That sort of workload involves an incredible amount of planning for staff as well as the time of a significant number of volunteers. Participants are often surprised to learn that there is no charge for these activities but are equally surprised to learn that there is no “dedicated” funding for these programs either. (The Discovery Labs are grant-supported activities, but the citizens thought there was an amount of money specifically earmarked for the Labs.) Several members of the public with whom the evaluation team met told the team that there should be dedicated monies for the programs, believing this would guarantee their permanence and stability in spite of any potential fluctuations in general operational funding for the Reserve. Estuary Walks are also held twice a week in the summer and are a popular one-hour guided interpretive hike from the Visitor Center along the Beluga

Slough trail to the Bishop's Beach berm.

Outreach to the public is consistently accomplished through the formal and informal education programs of the Reserve, but staff has also developed other mechanisms to reach the general public. In recent years the Reserve has conducted *What's New in the Bay* workshops as an opportunity for north and south shore community members and special interest groups to learn about and share information and ideas on the nature of Kachemak Bay with Reserve staff. Residents of Homer, Seldovia, and Port Graham have learned about research and education efforts through these public forums, as have water taxi operators, eco-tourism business staff/owners, and charter fishing operators/owners. Reserve staff members participate in about five festivals a year, often traveling with the ADF&G mobile classroom. One of the festivals is the annual Kachemak Bay Shorebird Festival, now in its 14th year. Each year, staff members are actively involved in planning and leading Shorebird Festival events and in annual Earth Day activities as well.

Technological limitations and time zone differences prevent the Reserve's real-time participation in EstuaryLive, but the Reserve hosts activities and programs every year for National Estuary Day. Homer businesses, non-profit organizations and agencies have organized a series of Coastweeks events each autumn since 2001 to promote the importance of Kachemak Bay ecosystems and their need for protection. The Reserve is actively involved in the planning and activities. Coastweeks 2005 focused on monitoring for coastal change, with events taking place between early September and early October.

The Reserve has initiated a partnership with the Homer News to publish bi-weekly articles, written by Reserve staff, on the natural world of Kachemak Bay and the Reserve's watershed, nearshore and oceanic research efforts. The bi-weekly series, called Bay Science, has covered a wide range of topics and translates research and science for the general population. A local National Public Radio Station is one of the Reserve's strong supporters and has done a number of broadcasts from Coastal Training Program seminars and workshops. The Reserve has produced some news releases, and during the evaluation site visit, staff indicated that they are considering development of a media plan.

ACCOMPLISHMENT: The Reserve has successfully expanded its range and number of formal and informal educational and outreach activities to take advantage of the new Visitor Center. The Reserve has also recognized and successfully met the need to take the Reserve's message and programs beyond the Visitor Center and out into the community at large. It has begun to increase its distance learning capabilities.

2. Coastal Training Program (CTP)

The Reserve's coastal training program (CTP) became fully operational in late 2003 after the approval of the required needs assessment, market analysis, marketing plan, program strategy, and technical committee outline. The CTP has three target audiences: 1) coastal resource managers and scientists (e.g., fishery, wildlife, marine mammal, shellfish); 2) coastal policy and decision-makers (e.g., elected officials, planners, and regulatory agencies at the local, borough,

state, and federal levels); and 3) coastal resource user groups (e.g., ecotourism guides, sport fishing guides, and water taxi services). The staff's goal is to provide at least one training opportunity per month to one of the target audiences, either sponsored solely by the Reserve or in partnership with other training partners in the Kachemak Bay region. Education and CTP staff members from the Reserve were involved in the 4th annual Kachemak Bay Science Conference because of their ongoing commitment and involvement in the integration of research and education.

Highlights of some of the training opportunities conducted during this evaluation period include:

- Coastal Erosion on the Western Kenai Peninsula: Directed toward policy makers, this two-day workshop brought in 10 experts on coastal processes to discuss how these processes are affecting the Kenai Peninsula coastline.
- Coastal Floodplains: Linking Policy to Science: This two-day working conference was designed for policymakers, planners, and managers of the Kenai Peninsula Borough and the cities of Seward, Homer, Kenai, Soldotna, Seldovia, and Port Graham.
- Road Science and Policy on the Kenai Peninsula: The objective of this workshop was to better inform local policy makers and land managers of the ecological and hydrologic effects of roads, and of various planning and construction methods that can mitigate some of the negative effects while still providing for safe and efficient transportation. The goal is for local decision-makers to utilize this information to develop road management policy and projects that take into consideration ecological and hydrologic as well as transportation concerns. Over 70 participants attended.
- Needs assessment: The CTP staff completed a new needs assessment of one of the CTP target audiences – south central regional fishery scientists and managers – assessing their science and technology training interests.
- Geographic Information System (GIS) Training: Two courses for resource managers were held during the same week. The first, a two-day Environmental Systems Research Institute (ESRI)-certified training course covered the basics of ArcGIS software, specifically ArcGIS 9.2. Participants learned to create, edit, and work with georeferenced spatial data; manipulate tabular data; query a GIS database; and produce maps, reports, and graphs. The second three-day intermediate level course provided an opportunity to address a variety of coastal issues using ArcView 9.2 technology. Problem-solving exercises integrated basic GIS topics with real-world scenarios dealing with population growth, sensitive habitats, and marine protected areas. The NOAA Coastal Services Center co-sponsored and taught the courses.
- Tsunamis: Following the December 2004 Asian tsunami, the Reserve, in conjunction with Sea Grant, the University of Alaska-Fairbanks, and the City of Homer, held a public meeting to discuss the science behind tsunamis, present tsunami inundation maps, and discuss emergency response. Homer has been affected by tsunamis in the past and has the potential for tsunami impacts in the future, so this is a significant local and regional issue.

ACCOMPLISHMENT: The Reserve's Coastal Training Program is fully approved and functional and has become a highly effective venue for providing training in the Kachemak Bay and Kenai Peninsula region.

D. STEWARDSHIP AND RESOURCE MANAGEMENT

Within the NERR system, many reserves conduct or accomplish programs or activities related to land acquisition, enforcement, restoration, restoration science, technical advice and support, and community education under the general rubric of stewardship and resource management. Because the Reserve has so successfully integrated its research and education components, elements of stewardship and resource management are identifiable in almost all of its activities and programs, as can be seen in the discussions above.

The land and waters within the Reserve boundaries are in public ownership and management, although the Reserve does not have direct resource management responsibility for those land and water resources within its boundaries. The Reserve is not now actively involved in land acquisition (2005 Kachemak Bay NERR Management Plan). The management plan does outline options for future boundary expansion.

The majority of the area included within the Reserve boundary is relatively pristine and has not been significantly impacted by human activity. However, the Reserve's management plan recognizes that there are a few locations that have been impacted and that could be considered for restoration. Such restoration would be done in partnership with the agency having management responsibility. Some of the Reserve's research and education activities are preliminary to potential restoration and resource management activities. These include stewardship issues such as the decline of shellfish stocks, grazing impacts in the Fox River Flats, and upland development pressures on salmon streams.

V. CONCLUSION

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

The Kachemak Bay Reserve has made notable progress in: Administration and Staffing; Management Plan; Coordination and Partnerships; Research Activities; Monitoring; Education and Outreach; and Coastal Training Program.

These evaluation findings also contain nine (9) recommendations: one (1) Necessary Action that is mandatory and eight (8) Program Suggestions. The state must address the Necessary Action by the date indicated. The Program Suggestions should be addressed before the next regularly-scheduled program evaluation, but they are not mandatory at this time. Program Suggestions that must be repeated in subsequent evaluations may be elevated to Necessary Actions. Summary tables of program accomplishments and recommendations are provided in Section VI.

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

/Signed/ David M. Kennedy

8/24/06

David M. Kennedy
Director, Office of Ocean and Coastal
Resource Management

Date

VI. APPENDICES

Appendix A. Summary of Accomplishments and Recommendations

The evaluation team documented a number of the ADF&G Sport Fish Division's and Reserve's accomplishments during the review period. These include:

Issue Area	Accomplishment
Administration and Staffing	Leadership and management at the Reserve have improved and strengthened significantly since the last evaluation. State and departmental support for the Reserve and its programs has also increased, and staff communication and morale have improved noticeably.
Management Plan	The Reserve has successfully completed revisions to its management plan.
Coordination and Partnerships	The Reserve has demonstrated strong partnerships by collaborating and coordinating with numerous federal and state agencies, researchers, educators, and non-profit organizations. Reserve staff members are sensitive to the roles and interactions with numerous partners and generally are able to avoid competition for volunteers, visibility, and funding. The KBRR Community Council is a strong advocate of Reserve programs and activities.
Research Activities	The Kachemak Bay Reserve has a robust and diversified research program, encompassing a wide range of research partners. It also has a well-developed and fully maintained geographic information system. The Reserve continues to provide significant opportunities for student research and plays an active role in maintaining and expanding collaborative research opportunities and communication. Research staff members often serve as the principal investigator or lead researcher in many of the collaborative projects.
Monitoring	The Reserve's systemwide monitoring program (SWMP) has become solidly established, SWMP data is submitted on time, and the data is now generally considered to be the baseline for Kachemak Bay.

Education and Outreach	The Reserve has successfully expanded its range and number of formal and informal educational and outreach activities to take advantage of the new Visitor Center. The Reserve has also recognized and successfully met the need to take the Reserve’s message and programs beyond the Visitor Center and out into the community at large. It has begun to increase its distance learning capabilities.
Coastal Training Program	The Reserve’s Coastal Training Program is fully approved and functional and has become a highly effective venue for providing training in the Kachemak Bay and Kenai Peninsula region.

In addition to the accomplishments listed above, the evaluation team identified several areas where the program could be strengthened. Recommendations are in the forms of Program Suggestions and Necessary Actions. Areas for improvement include:

Issue Area	Recommendation
Administration and Staffing	PROGRAM SUGGESTION: The Reserve and Division are encouraged to continue their efforts to gain more state financial support for core positions, particularly the education and research coordinators.
Facilities and Infrastructure	NECESSARY ACTION: By the end of the exhibit construction award period, the Reserve must identify non-federal match funds for the exhibits planned at the Visitor Center or return the funds unexpended to NOAA. PROGRAM SUGGESTION: The Reserve should explore stronger state support for the Visitor Center maintenance costs.
Coordination and Partnerships	PROGRAM SUGGESTION: The Reserve should explore whether additional opportunities exist for partnership and collaboration with the Alaska Coastal Management Program.
Program Visibility	PROGRAM SUGGESTION: The Reserve should install permanent signage at the Visitor Center identifying the Reserve and NOAA and should consider other strategies to increase the visibility of the Reserve at the Center.

<p>Volunteer Support and Non-profit “Friends” Group Support</p>	<p>PROGRAM SUGGESTION: The Reserve should explore strategies for obtaining a position or person to coordinate activities involving volunteers.</p>
<p>Research Activities</p>	<p>PROGRAM SUGGESTION: The Reserve should explore the creation or development of a non-profit support organization.</p>
<p>Education and Outreach</p>	<p>PROGRAM SUGGESTION: The Reserve could explore the Cooperative Ecosystem Studies Unit Program as another option for research coordination and partnership opportunities, particularly with the National Park Service and U.S. Fish and Wildlife Service in the Kachemak Bay and Kenai Peninsula areas.</p> <p>PROGRAM SUGGESTION: The Reserve is noted for its role in the development and implementation of the Kachemak Bay Environmental Education Alliance, but it should think about its function and capacity to maintain that role so it can determine how it can best serve its partners while maintaining its core education and outreach mission and meeting the increased demands in the new Visitor Center.</p>

Appendix B. Response to Previous (2002) Evaluation Findings

Necessary Action: ADFG and reserve management must work together to develop alternative methods of addressing current financial shortfalls at KBNERR. Within one month of receipt of final evaluation findings, KBNERR must submit to NOAA a FY04 financial plan detailing all sources of match. Updates to the plan will be described in KBNERR's semi-annual performance reports.

Response: Since 2003, the Department has provided the reserve with \$80,000 to fund the administrative positions. The Department has also provided funds totally about \$120,000 annually to assist it in meeting its education and outreach goals. In state FY 2007 we will be providing the reserve with \$70,000 to conduct a research project on hardshell clams. We are also using in-kind services from the Department's marine research and management operations to match the NOAA operations grant. Upon careful review, these services are aligned with the reserve's core mission and goals and have been approved by NOAA for use as match. Finally, we are providing the reserve biometric assistance to help it be more competitive for other grants, including various state grants. This year, the reserve is also poised to obtain several state research grants that closely align with its mission. In combination, these efforts have resulted in balanced budgets.

Necessary Action: Upon receipt of final evaluation findings, KBNERR must begin submitting complete grant applications and semi-annual reports to NOAA on time.

Response: We have instituted internal timelines that have assured assure documents are submitted to NOAA in a timely fashion, including time for internal review requirements. We have also provided additional administrative support to the unit.

Program Suggestion: NOAA strongly urges ADFG and reserve management to work together to address the current lack of leadership at the reserve. Reserve management should begin proactive, transparent decision-making and planning for KBNERR's future. Thorough and respectful communication between reserve management and staff as well as among staff is absolutely critical. NOAA requests that specific actions that have been taken to address leadership issues at the reserve, particularly related to staff and financial management, be detailed and updated in KBNERR's semiannual performance reports.

Response: As we stated in our formal response, this statement troubles us and we are concerned about the programmatic implications it potentially brings up. While we acknowledge that there have been communication issues between and among staff at the reserve, we do not believe this has resulted in the reserve from not being able to successfully implement and enforce its mission or goals. So long as the reserve is achieving its contractual obligations, we do not believe the federal government should be requiring actions regarding our staffing or personnel. Staffing and personnel issues are more appropriately evaluated by the managing agency.

With respect to the issue we completed a strategic planning effort to redefine the reserve's vision, mission, goals and objectives. This was followed by an internal prioritization of these goals and objectives and the establishment of a tactical plan to attain high priority objectives. This effort involved all staff on an equal basis. We also involved staff in the hiring of a replacement reserve manager, which became open due to the retirement of the existing manager. We will use this same process for the hiring of the new manager, which recently became open due to the resignation of Judy Haner. In combination, we believe these efforts result in more "proactive, transparent decision-making and planning".

Program Suggestion: NOAA strongly recommends ADFG to work cooperatively with KBNERR to explore all options regarding future ownership and use of the reserve's existing modular facility.

Response: While the new facility for KBNERR represents a great opportunity, it also presents a funding challenge. We currently lease space within the modular to other agencies/entities that are aligned with the reserve's mission and goals. The reserve is being fairly compensated for the use of this space.

Program Suggestion: NOAA strongly encourages KBNERR to develop a detailed process and timeline for revising its management plan by December 2003. Updates on the management plan revision's progress should be described in KBNERR's semi-annual reports.

Response: The ADF&G successfully completed the revision of its management plan.

Program Suggestion: NOAA encourages KBNERR to explore options for closer collaboration with community partners once the outstanding financial issues at the reserve have been addressed.

Response: As we stated in our review comments the Department places a high priority on partner involvement and collaboration. Based on internal review we conducted, we believe the reserve is doing, given the resources it has available, an adequate job of partner involvement and collaboration.

Program Suggestion: NOAA strongly encourages KBNERR to expand its efforts to reach local Native Alaskan communities through both education and research to the greatest extent possible.

Response: The Department places a high priority on partnerships and collaborations with Native Alaskans. Based on internal review, we believe the reserve is doing, given the resources it has available, an adequate job of Native Alaskan partner involvement and collaboration.

Appendix C. Persons and Institutions Contacted

U.S. Senators

Honorable Lisa Murkowski
Honorable Ted Stevens

U.S. Representatives

Honorable Don Young

Alaska Department of Fish and Game

Lisa Evans, Assistant Director, Division of Sport Fish
Nicky Szarzi, Division of Sport Fish
Ted Otis, Division of Commercial Fisheries

Kachemak Bay National Estuarine Research Reserve

Scott Pegau, Research Coordinator and Acting Manager at time of site visit
Terry Thompson, Education Coordinator
Coowe Walker, Stewardship Coordinator
Rick Foster, CTP Coordinator
Amy Alderfer
Ori Badajos
Steve Baird
Catie Bursch
Kevin Co
Kim Donohue
Carmen Field
Judy Hamilton

Kachemak Bay NERR Community Council

Bob Hartley, Chair
Daisy Lee Bitter, Community Member
Nelda Osgood, Community Member
Ralph Broshes, Community Member
Jim Hornaday, Community Member
Roger MacCampbell, Department of Natural Resources, State Parks
Brenda Konar, University of Alaska

Federal and State Agency Representatives

Greg Siekaniec, Refuge Manager, USFWS Alaska Maritime National Wildlife Refuge
Anne Morkill, Deputy Refuge Manager, USFWS Alaska Maritime National Wildlife Refuge
Marianne Aplin, USFWS Alaska Maritime National Wildlife Refuge, Visitor Center Manager
Melonie Shipman, Education Specialist, USFWS Alaska Maritime National Wildlife Refuge
Joel Hard, Superintendent, Lake Clark National Park and Preserve
Elizabeth Wasserman, Lake Clark National Park and Preserve
Mary McBurney, Lake Clark National Park and Preserve
Kris Holderied, NOAA/NCCOS Kasitsna Bay Lab

Other Organizations and Representatives

Dick Wyland, Mayor, City of Seldovia

Kurt Reynertson, City Manager, City of Seldovia

Shirley Schollenberg, Homer Soil and Water Conservation District

Ingrid Harrauld, Cook Inletkeeper

John Plaskett, Cook Inletkeeper

Marilyn Sigman, Executive Director, Center for Alaskan Coastal Studies

Heather Beggs, Museum Director, Pratt Museum

Louis Bettini, Director of Education, Pratt Museum

Sue Saupe, Cook Inlet Regional Citizen Advisory Council

Anne Solomon, University of Washington

Judy Haner, former Reserve Manager

Appendix D. Persons Attending the Public Meeting

The public meeting was held on Wednesday, April 5, 2006, at 7:00 p.m. at the Alaska Islands and Ocean Visitor Center, 95 Sterling Highway, Homer Alaska. The following attended the meeting:

Michael Opheim, Seldovia Village Tribe

David Raskin

Tom Manson

D. Hoffman

Julie Little

Andy Bond

Bob Hartley

Pat Hartley

Appendix E. NOAA's Response to Written Comments

NOAA received written comments regarding the Kachemak Bay National Estuarine Research Reserve. Each of the letters is part of the official record of the evaluation and is briefly summarized below, followed by NOAA's response.

Dr. Glenn Shaw

Professor of Atmospheric Science

Geophysical Institute, University of Alaska at Fairbanks

Comment: Dr. Shaw praised the scientific work and collaboration of the Reserve staff. They have been of great assistance to the Geophysical Institute and the International Arctic Research Center in several research projects and have willingly provided logistical assistance as well.

NOAA's Response: No response necessary. The evaluation team thanks Dr. Shaw for his comments.

Dr. Bob Piorkowski

Invasive Species Program Coordinator

Alaska Department of Fish and Game

Comment: Dr. Piorkowski is responsible for developing a statewide program of invasive species-related monitoring, research, and outreach and depends upon partnerships to carry out much of that work. The Reserve has been a strong partner in all aspects of that work, and Dr. Piorkowski looks forward to additional collaboration with the Reserve staff.

NOAA's Response: No response necessary. The evaluation team thanks Dr. Piorkowski for his comments.

Dr. Uri ten Brink

Senior Research Geophysicist, USGS-Woods Hole Science Center and Adjunct Scientist, the Woods Hole Oceanographic Institution

Comment: Dr. ten Brink noted with appreciation the cooperation and assistance that the Reserve provided to the USGS during the placement and recovery of seismometers in the water around the Augustine volcano during an eruptive period. Reserve staff were extremely helpful in all phases of the work and their knowledge was vital to the Woods Hole staff, who had no knowledge of the area.

NOAA's Response: No response necessary. The evaluation team thanks Dr. ten Brink for his comments.

Bob Shavelson, Executive Director

Cook Inlet Keeper

Comment: Cook Inlet Keeper is a nonprofit organization dedicated to protecting the Cook Inlet watershed and the life it sustains. Mr. Shavelson indicates that the Reserve's and Cook Inlet

Keeper's similar research and education goals have made the Reserve a strong partner. He applauds the achievements that the Reserve has made in both its education and research departments over the last three years and outlines a number of those successes. In particular he acknowledges the highly skilled staff members.

NOAA's Response: No response necessary. The evaluation team thanks Mr. Shavelson for his comments.

Michael Szabados, Director

NOAA Center for Operational Oceanographic Products and Services (CO-OPS)

Comment: Mr. Szabados recognizes the collaborative efforts of the Reserve during the CO-OPS' successful completion of tidal current surveys in Cook Inlet. He notes that the Reserve staff continually assisted CO-OPS field teams while working in Homer by providing local office and storage assistance, maintenance and data retrieval support, and a vital connection to the local user community.

NOAA's Response: No response necessary. The evaluation team thanks Mr. Szabados for his comments.