Homer City Hall
491 E. Pioneer Avenue
Homer, Alaska 99603
www.cityofhomer-ak.gov

City of Homer
Agenda

Port & Harbor Advisory Commission Regular Meeting
Wednesday, October 28, 2020 at 5:00 PM
City Hall Cowles Council Chambers via Zoom
Webinar ID: 954 2610 1220 Password: 556404
Dial: 346-248-7799 or 669-900-6833; (Toll Free) 888-788-0099 or 877-853-5247

CALL TO ORDER, 5:00 P.M.

AGENDA APPROVAL

PUBLIC COMMENTS UPON MATTERS ALREADY ON THE AGENDA (3 minute time limit)

RECONSIDERATION

APPROVAL OF MINUTES

VISITORS / PRESENTATIONS

STAFF & COUNCIL REPORT / COMMITTEE REPORTS

PUBLIC HEARING

PENDING BUSINESS

NEW BUSINESS

i. Letter from Copper River Seafoods Requesting Amending Construction Timeline **Page 91**
ii. DRAFT 1st Amendment to Lease Agreement **Page 92**
iii. DRAFT Resolution 20-XX Copper River Seafoods Lease Amendment **Page 94**

B. Port and Harbor Advisory Commission 2021 Meeting Schedule **Page 96**
i. DRAFT Resolution 20-XX Approving the 2021 Public Meeting Schedule **Page 97**

INFORMATIONAL MATERIALS

A. Port & Harbor Monthly Statistical Report for September 2020 **Page 101**

B. Water/Sewer Bills Report for September 2020 **Page 102**

C. Crane & Ice Report **Page 103**

D. Dock Activity Reports **Page 104**

E. PHC 2020 Meeting Calendar **Page 107**

F. Commissioner Attendance at 2020 City Council Meetings **Page 108**

COMMENTS OF THE AUDIENCE (3 minute time limit)

COMMENTS OF THE CITY STAFF

COMMENTS OF THE CITY COUNCILMEMBER (if present)

COMMENTS OF THE CHAIR

COMMENTS OF THE COMMISSION

ADJOURNMENT

Next Regular Meeting is **WEDNESDAY, DECEMBER 9, 2020 at 5:00 P.M.** All meetings scheduled to be held via Zoom Webinar in the City Hall Cowles Council Chambers located at 491 E. Pioneer Avenue, Homer, Alaska.

Session 20-09, a Regular Meeting of the Port and Harbor Advisory Commission was called to order by Chair Steve Zimmerman at 5:01 p.m. on September 23, 2020 in the Cowles Council Chambers, City Hall located at 491 E Pioneer Avenue, Homer, Alaska via Zoom Webinar.

PRESENT: COMMISSIONERS ZIMMERMAN, CARROLL, ERICKSON, ULMER, ZEISET, STOCKBURGER, AND STUDENT REPRESENTATIVE ENGEBRETSEN

ABSENT: COMMISSIONER DONICH (excused)

STAFF: PORT DIRECTOR/HARBORMASTER HAWKINS
DEPUTY CITY CLERK TUSSEY

AGENDA APPROVAL

Chair Zimmerman asked for a motion to approve the agenda.

ULMER/STOCKBURGER MOVED TO APPROVE THE AGENDA.

There was no discussion.

VOTE: NON-OBJECTION: UNANIMOUS CONSENT

Motion carried.

PUBLIC COMMENTS UPON MATTERS ALREADY ON THE AGENDA

RECONSIDERATION

APPROVAL OF MINUTES

A. August 26, 2020 Regular Meeting Minutes

Chair Zimmerman asked for a motion to approve the minutes.

STOCKBURGER/ZEISET MOVED TO APPROVE THE MINUTES AS WRITTEN.

There was no discussion.

VOTE: NON-OBJECTION: UNANIMOUS CONSENT

Motion carried.

VISITORS/PRESENTATIONS

STAFF & COUNCIL REPORT/COMMITTEE REPORTS

A. Port & Harbor Staff Report for September 2020

Port Director Hawkins provided his staff report, noting the following:

- An upcoming virtual tour of what a small boat harbor is, hosted/presented by Mr. Hawkins as part of a U.S. Army Corps of Engineers online, nation-wide training program.
- New coronel of the Army Corp of Engineers' Alaska District will be coming down to visit Homer.
- Fall is meeting season; AAHPA is launching their virtual conference taking place over 4 weeks.
- Overview of recent incidents that have occurred in the harbor, including an assault suspect and a boat fire.
- Conductor/cable replacements on the high mast lights and the need for a maintenance budget to rebuild the expiring equipment in the lights.
- Abandonment of a finger float due to it becoming unstable mid-season, and the vessels in that area had to be relocated to other reserved stalls.

B. Homer Marine Trades Association Report

Commissioner Zeiset gave a verbal report. HMTA is having their annual meeting on Friday, September 25th at the Nomar Mercantile building. It starts at 5:30 pm with a short business meeting at 6:00 pm. There will be opportunities for the public to visit with members and local businesses. Seattle Fish Expo has not been cancelled by the association has decided not to attend as a group.

HMTA members are teaching marine trades classes again, which are filling up fast. Classes include USCG-approved Able Seaman, Master 100 Ton, Coastal Navigation, Computer Design and Marine Technology, and Deckhand Skills. HMTA has not done much with Homer High School due to COVID-19, but the Kachemak Bay campus is pushing forward with a partnership.

PUBLIC HEARING

PENDING BUSINESS

A. Proposed KBNERR Plan & MOU Review
   i. DRAFT MOU between KBNERR, UAA, & City of Homer
   ii. DRAFT KBNERR 2021-2026 Management Plan
   iii. City of Homer Resolution 96-106

Chair Zimmerman introduced the item by reading the title and deferred to Port Director Hawkins.

Mr. Hawkins provided the working history with Kachemak Bay National Estuarine Research Reserve (KBNERR) and the successful working relationship the City has had with the organization. He noted that a spokesperson for the organization was invited but was not in attendance at that time.

Commissioner Carroll appreciated having the additional time to review their new plan. He voiced his negative experience with the group and that he had wished someone had been available to direct questions to. About a year ago there was a conflict in Homer with people who were opposed to non-

profit public hatcheries, and they put on a forum, which in his opinion was extremely biased. The video only depicted the negative aspects of fish farms, and inferred the hatcheries would be the same. He felt the local fishing community was excluded until the last minute. He pointed out that KBNERR says in their agreement that they don't have a plan, but in his opinion their actions show they do. Mr. Carroll referred to page 16 of the proposal and noted that he fully agreed with the first paragraph, but the second bullet point he completely disagreed with. He is concerned that there are too many questionable items in the Memorandum of Understanding (MOU) that he doesn't think the City should agree to.

Commissioner Zeiset questioned a line in Bullet Point 5 in reference to funding obligations and what would be an excess of appropriations. He wondered what are the appropriations and if they needed to know about them. Chair Zimmerman commented that his interpretation would be that they can't spend anything not appropriated. Port Director Hawkins responded, noting that no City money goes to the group, yet doesn't know much about their financial situation only that grant funds are involved. Mr. Hawkins commented that they are considered an advisory/tool for studies done by the City, such as erosion control done by the Planning Department.

Commissioner Zeiset noted that according to their webpage, they are shut down until further notice, and are not operating due to COVID-19. He wished someone from the organization would have been at the meeting to explain what is going on behind the scenes and answer their questions.

Commissioner Erickson voiced his agreement with Commissioner Carroll, and what exactly are they proposing to manage; their research? A say in fishery management? He opined that it seems like their research is a duplication of efforts that other groups are already doing.

Commissioner Carroll applauded their complete list of acronyms included in their management plan.

Chair Zimmerman commented that when KBNERR first started, they had stated they were only for research purposes, and not for rules, regulations, or for pressing any agenda onto Kachemak Bay. Hearing Mr. Carroll's story he is not sure if that has changed. He asked if the commission would like to make a recommendation to staff or City Council to seek further review before agreeing to the MOU.

Commissioner Carroll suggested that KBNERR can be helpful to the City, but to be explicit in the MOU that they are advisory only and in no way allowed to make policy or manage City business. Port Director Hawkins and Deputy City Clerk Tussey provided suggestions on how the commission could move forward, such as addressing aspects of the MOU they do not like or to include their concerns into a motion as part of their recommendation. It was clarified by staff that there is not a deadline to get this MOU signed immediately.

Commissioner Carroll voiced his additional concerns with the MOU, pointing out specific aspects he felt should be rewritten. Mr. Hawkins said he feels the City attorney should be involved in the rewriting of the MOU; the commission's motion should recommend to City Council that they have the City Attorney help rewrite it. They should not have to pick apart and rewrite the MOU, but their motion should include bullet points that help guide their recommendation.

Commissioner Stockburger shared his interpretation that they are trying to protect their goals and education for research, and protect their ability to do water testing on lands that may not be theirs, such as the City's. It would allow them to take students or researchers onto those lands to conduct their research. He has worked with the organization and has had positive interactions with KBNERR. He feels they are just trying to protect their ability to do research and it's stated a few times in the document that they have no intention to do regulating. He agreed that it would be nice to have someone from KBNERR to ask questions and clarify these concerns.

Commissioner Carroll reiterating his support of the good that their research is for, but is concerned that a few people within their organization could make changes after the fact and it would become a slippery slope that pushes Homer into the Green New Deal. Commissioner Stockburger noted that their management plan is different from other Kachemak Bay groups and in his interpretation is about managing of their research, not of managing policies. Mr. Carroll reiterated his issue with the forum/movie that they did.

Chair Zimmerman noted another safety valve in the MOU was that the City can cancel the agreement if something doesn't work right.

Commissioner Erickson suggested they include an addition that none of their research or management restricts the public in Kachemak Bay.

Port Director Hawkins shared some of the comments he heard and suggested their motion be for the City Attorney to review the MOU with the following points in mind:

- KBNERR should be advisory only to the City
- Concerns over Item 2 and 4 of the MOU
- The City should not be adopting or tied to KBNERR's management plan
- The goals should be better defined on what management means
- Is their goal to be research only?

Discussion ensued on what kind of guidance they want to make into a motion to City Council and the City Attorney.

ZEISET/ERICKSON MOVED TO HAVE THE CITY ATTORNEY TO REVIEW THE MOU WITH THE FOLLOWING CONSIDERATIONS:

- KBNERR SHOULD ONLY BE AN ADVISORY TO THE CITY
- CITY OF HOMER SHOULD NOT BE BOUND BY KBNERR'S PLAN
- IF THERE IS A CONFLICT BETWEEN MANAGEMENT PLANS OF THE CITY'S AND THEIRS, WHOSE PLANS SUPERSEDES?

There was discussion on each commissioner's acceptance of the considerations.

VOTE: YES: ERICKSON, ULMER, CARROLL, ZEISET, STOCKBURGER, ZIMMERMAN

Motion carried.

There was discussion on having a revised MOU back to them, possibly next month, for them to review before it is finalized. The Commission would like to have someone from the City and KBNERR be a part of the conversation to better explain the MOU, the management plan, and what their organization intends to do. Port Director Hawkins said he would try to at least get a memo from the City Attorney after he has reviewed it.

NEW BUSINESS

INFORMATIONAL MATERIALS

A. Port & Harbor Monthly Statistical Report for August 2020
B. Water/Sewer Bills Report for August 2020
C. Crane & Ice Report
D. Dock Activity Reports
E. PHC 2020 Meeting Calendar
F. Commissioner Attendance at 2020 City Council Meetings

Port Director Hawkins facilitated discussion on the statistics and activities of the harbor.

COMMENTS OF THE AUDIENCE

COMMENTS OF THE CITY STAFF

Deputy City Clerk Tussey thanked the commission and reminded that paper packets will be available in the outside tote, and if any commissioners are still having Zoom technical difficulties to come by the City Clerk's Office for assistance.

Port Director Hawkins thanked the commission. He recapped what the Commission agreed on for the MOU and requested commissioners attend the City Council meetings to report.

COMMENTS OF THE CITY COUNCILMEMBER

COMMENTS OF THE CHAIR

Chair Zimmerman thanked everyone for a good meeting.

COMMENTS OF THE COMMISSION

Commissioner Ulmer voiced her appreciation for all the commissioners.

Commissioner Carroll noted that as he read the election candidate write-ups, all of them had harbor projects as their top priorities.

Commissioner Stockburger noted it was a good meeting. He found the other commissioners' perspectives of their proposal was different from his. He suggested Mr. Carroll join him or Mr. Zeiset at the next Council meeting to report.

Commissioners Zeiset, Erickson, and Student Representative Engebretsen had no comments.

ADJOURNMENT

There being no further business to come before the Commission the meeting adjourned at 6:33 p.m. The next regular meeting is scheduled for Wednesday, October 28, 2020 at 5:00 p.m. at the City Hall Cowles Council Chambers located at 491 E. Pioneer Avenue, Homer, Alaska via Zoom webinar.

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RACHEL TUSSEY, DEPUTY CITY CLERK I

Approved:_____

Session 20-10, a Special Meeting of the Port and Harbor Advisory Commission was called to order by Chair Steve Zimmerman at 1:02 p.m. on October 20, 2020 in the Cowles Council Chambers, City Hall located at 491 E Pioneer Avenue, Homer, Alaska via Zoom Webinar.

PRESENT: COMMISSIONERS ZIMMERMAN, CARROLL, ERICKSON, ULMER, STOCKBURGER

ABSENT: COMMISSIONERS DONICH, ZEISET, STUDENT REPRESENTATIVE ENGEBRETSEN (all excused)

STAFF: PORT DIRECTOR/HARBORMASTER HAWKINS
DEPUTY CITY CLERK TUSSEY

AGENDA APPROVAL

Chair Zimmerman asked for a motion to approve the agenda.

ULMER/STOCKBURGER SO MOVED.

There was no discussion.

VOTE: NON-OBJECTION: UNANIMOUS CONSENT

Motion carried.

PUBLIC COMMENTS UPON MATTERS ALREADY ON THE AGENDA

PENDING BUSINESS

NEW BUSINESS

A. Northern Enterprises Boat Yard Lease Amendment
   i. Request for Amendment to Lease from Northern Enterprises
   ii. DRAFT Resolution 20-xx Northern Enterprises Lease Term Extension
   iii. DRAFT 1st Amendment to Lease Agreement

Chair Zimmerman introduced the item by reading the title and deferred to Port Director Hawkins to initiate discussion.

Port Director Hawkins provided background on the lease amendment, referencing the letter from Northern Enterprises Boat Yard. The lease is for 60 square feet of mud flats out into the bay and the bank required the longer lease term for them to move forward with funding.

ULMER/STOCKBURGER MOVED MOVE TO RECOMMEND THAT CITY COUNCIL APPROVE AN AMENDMENT OF THE NORTHERN ENTERPRISE'S BOAT YARD INC. LEASE TO EXTEND THE TERM TO 40 YEARS WITH OPTIONS FOR 2 CONSECUTIVE 5 YEAR RENEWALS.

Commissioner Ulmer commented that it's the right thing to do.

Commissioner Carroll inquired on the financials for the lease. Chair Zimmerman clarified that the amount is only $3.74 annually, specified in the draft resolution.

VOTE: NON-OBJECTION: UNANIMOUS CONSENT

Motion carried.

COMMENTS OF THE AUDIENCE

Doug Van Patten was in attendance, raised his hand, but did not make a comment. He did not include anything in the Zoom chat feature.

ADJOURNMENT

There being no further business to come before the Commission the meeting adjourned at 1:09 p.m. The next regular meeting is scheduled for Wednesday, October 28, 2020 at 5:00 p.m. at the City Hall Cowles Council Chambers located at 491 E. Pioneer Avenue, Homer, Alaska via Zoom webinar.

_____
RACHEL TUSSEY, DEPUTY CITY CLERK I

Approved:_____

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OCTOBER 2020 PORT & HARBOR STAFF REPORT

1. Administration

Staff met with:

- Rob Dumouchel, City Manager & Jenny Carroll, Economic Development (teleconference) – Regarding development of proposed FERG program
- EOC City staff and associated agencies(videoconference)- Regarding continued COVID-19 planning
- Bruce Lambert (MARAD) (teleconference)- Regarding Alaska Maritime Resiliency Stakeholder Discussion
- Homer Marine Trades Association and the Public- for their annual meeting
- Alaska Association of Harbormasters and Port Administrators (AAHPA) Annual Conference via video conferencing-
    - AK DOT Harbor Grant Program update and Regional/ Statewide Infrastructure Planning,
    - Call of the Ports,
    - Alaska Municipal League & Northern Economics discussion on the state of our waterfront infrastructure across Alaska,
    - AK Dept. of Natural Resources regarding Derelict Vessels
- Newly incoming Colonel Delarosa, US Army Corps of Engineers (USACE) District Commander, and Randy Bowker, USACE District Chief of Project Management Division – Regarding Homer's port expansion project and erosion mitigation and management.
- George Hall- Regarding a general Port and project overview
- Michael Gatti, JDOLaw (teleconference)- Regarding ACS utility easement/land encroachment issue
- Homer Council Member Aderhold and Smith- Regarding The Request for Proposals submissions review for lobbyist services to represent Homer projects in the state legislature
- AAHPA(teleconference)- Monthly board meeting

2. Operations

The months of September and October brought high tides, strong winds, and heavy rainfall followed by unseasonably warm and calm conditions. Numerous small vessels were pumped out by harbor officers during this period. Flooding in local rivers and streams deposited a significant amount of debris into Kachemak Bay. Operations staff spent several days removing debris from the harbor and hauling it to our burn pile. Despite the inclement weather, the small boat harbor occupancy rate remains unseasonably strong with 570 vessels currently moored.

September 30th signified the annual stall lease renewal deadline and the end of the 6-month semi-annual 20' stall lease program. Stall swap requests, new lease offers to wait list applicants, and the commencement of winter power stall assignments were completed in the following weeks. Operations staff has been working closely with boat owners managing all the "moving parts" involving assignment of moorage.

Harbor officers also made 20 concrete sign post base receivers supporting future parking signage requirements and retracted, secured and cleaned several hundred Up 'n Out egress ladders located on the float systems. Harbor assistants completed construction of a new Kids Don't Float Locker and installed it on the float system.

The Pier 1 Theatre campground was converted back to the Marine Repair Facility. Three vessels are currently scheduled for haul out in October. Potable water on the float systems was deactivated on October 12th in preparation for freezing temperatures and Load & launch ramp fee collection concluded on October 15th.

The following vessels conducted landings at the P/D & D/W/D: Tustumena, Kennicott, Bob Franco, Pacific Wolf & DBL55, Perseverance, Endeavor, and Barge 141.

The following notable events occurred during the month:

- On 9/15, a swing shift harbor officer responded to a fire aboard a 28' recreational vessel. The vessel was stabilized and later towed to the L&L ramp for removal.
- On 9/23, the graveyard shift officer and deputy harbormaster implemented emergency dewatering pumps aboard a flooding 40' charter vessel.
- On 10/15, operations staff used the harbor tug and patrol skiff to tow a disabled 58' commercial fishing vessel to the fish dock and back to its stall in support of repair efforts.

3. Ice Plant

Ice sales have been above average for this time of year as good weather and uncaught quota has kept the longline fleet busy. In addition to normal operations we've also:

- Researched and ordered five new High Mast lights for the Fish Dock.
- On September 28th, shortened operating hours to 6 pm
- Said goodbye to Jed for the season so he could get a shop built during the last of the nice weather.
- Replaced 2 early generation LED lights inside the plant that had failed.
- Performed emergency repairs to HS – 4 compressor when it blew a shaft seal.
- Replaced a sticky glycol solenoid valve on HS – 3 compressor.
- Drained summertime waterlines.

4. Port Maintenance

Port Maintenance has been busy with end of season wrap up and repairing various damaged bits of infrastructure:

- Shut down potable water to systems 1, 2, and 4. Blew down lines.
- Winterized public restrooms and lagoon RV dump station.
- De-commissioned and winterized fish cleaning tables.
- Shut down fresh water to the steel and wood grid.
- Finished construction and installation of new K-29 finger float.
- Rebuilt internal structure of DD-19 finger float.
- Installed new salt water pressure tanks in fish grind shack, and winterized fresh water system.
- Repaired electrical pedestals.
- Participated in Zoom conferences for PCC and AAHPA.
- Tested 11 blue-flashing cold warning lights in critical plumbing areas.
- Troubleshot and repaired heavy equipment issues.
- Worked with diver to inspect fire standpipe system.

Homer Marine Trades Association
Regular Business Meeting
October 14, 2020

The meeting was called to order by President Mark Zieset at 6:05 p.m.

Officers Present: Mark Zeiset, Aaron Fleenor, Cinda Martin, Jen Hakala, Kate Mitchell, Matt Alward, and Josh Hankin-Foley. Bruce Friend and Eric Engebretsen were absent/excused; a quorum was established.

Guests Present: Homer Harbormaster, Bryan Hawkins telephonically.

Approval of Agenda: Motion by Jen Hakala to approve the Agenda as presented, 2nd and carried.

Approval of September 2, 2020 Meeting Minutes: Motion by Kate Mitchell to approve the minutes as written, 2nd and carried.

Visitor Presentations: Bryan reported on the FERG program the City of Homer is rolling out for CARES grants for fishermen. The first reading was earlier this week. Bryan has identified 450 boats that are active fishing boats working out of and mooring in the Homer Harbor. His memo also noted the number of those dry docked at NEBY. $1.3MM has been dedicated to this program; applications will be available soon on the City of Homer website and the review will be outsourced. The next Council Meeting is 10/26, Zoom testimony would be helpful, letters of support are also good, looking for a letter of support from HMTA.

Treasurer's Report: Jen Hakala reported that the checking account balance is $14,819; A/R of $8,230; Tide Book invoicing will go out this week. A/P area $972 and includes Print Works for design time, Sound Publishing and Alpha Media for the radio ads. Discussion about the City covering the radio ad bills. We've also received $5,000 from the Kachemak City SBERG grants earmarked for Scholarships.

Committee Reports:

- Advertising – Kate reported that no one has signed up for the Pacific Fishing co-op ad at the annual meeting. If we do it on our own, a full page is $1500/issue (3 issue minimum). It is possible that Port and Harbor would be interested in partnering. A commitment is needed by November 1st for the December issue. The committee will be setting a meeting date to discuss options. Jen reported that Pacific Fishing is putting together the Fish Expo Edition and is offering ads for vendors who signed up for the 2020 Expo (since in-person event is cancelled). Kate reported that ads for KBBI and the Homer News have been paid.
- Social Media – Deb is still updating FB and the website. Mark will get information to her about the new businesses to show case on our FB page. Suggested that Josh connect with her for additional exposure for his business.
- Workforce Development – Mark reported that Marine Technology Series courses are taking place, some are online; a flyer is now available, Cinda will email out to members.
- Scholarship – Cinda reported that she has been working with Jesus Trejo and Jill Burnham of KPC to develop advertising to target participants of the 100 ton course opening November 12th at the college to utilize the $5,000 CARES Act Scholarship funds. Also discussed possibility of pre-funding KPC for the spring AB course and/or support students needing assistance going to AVTEC to finalize AB credentials with required safety courses. Suggestion to reach out to Lisa Croft at Job Service.

Old Business:

- Tide Book Update – Kate reported that there were a few ads that needed design time @ $182.77; Motion by Aaron to cover the bill out of HMTA funds as opposed to billing member businesses, 2nd and carried. 15 spaces have been sold @ $350/each: printing cost of $4,075 yielding a net profit of $1,025 (or $842.73 after the payment for design time). Center page will be information about the harbor expansion.
- Radio Ad – fall ad ran with Port & Harbor covered the cost

New Business:

- 2021 Officer Positions – Motion by Matt Alward to accept the slate of officers as follows:
  - President – Mark Zieset
  - Vice President – Aaron Fleenor
  - Treasurer – Jen Hakala
  - Secretary – Cinda Martin

  Second and carried.
- Response to COVID, plan to address future meetings – Discussion held regarding options including setting up a Zoom account in the event remote meetings are necessary. Motion by Cinda Martin to set up a Zoom account for commercial use by the association and cover any associated cost, 2nd and carried. Discussion held on continuing face to face meetings as conditions allow with the option for members to attend telephonically or via Zoom. Could use for committee meetings, the Annual Meeting, as well as regular business meetings. Jen Hakala will spear head the set up.
- Round Haul – Aaron reported that Eric Sloth is interested in hosting the next Round Haul in conjunction with the grand opening of his new marine hardware store, Homer Marine LLC. Suggested Saturday, November 7th at 4:30- 6:30 p.m.

Next Meeting: Thursday, November 19th at 6pm at USCG building.

Adjourn: There being no further business to come before the board of directors, the meeting was adjourned at 8:00 p.m.

Respectfully submitted,

Cinda Martin, HMTA Secretary

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Memorandum

TO: PORT AND HARBOR ADVISORY COMMISSION

FROM: BRYAN HAWKINS, PORT DIRECTOR/HARBORMASTER

DATE: AUGUST 11 2020

SUBJECT: PROPOSED KBNERR PLAN AND MOU REVIEW

The Kachemak Bay National Estuarine Research Reserve (KBNERR) is in the process of updating their Management Plan and partnerships. In 1998, the City of Homer signed a Memorandum of Understanding with ADF&G to "assist the governmental agencies in cooperatively managing the areas within the boundaries of KBNERR." At that time, ADF&G was assigned by the State as the agency responsible for managing the Reserve.

In November 2019, the UAA Alaska Center for Conservation Science's Director Matt Carlson contacted the City with a request to update the MOU since it is now the University of Alaska, Anchorage that is responsible for managing KBNERR. The MOU is tied to KBNERR's Management Plan, which is also being updated. Port and Harbor and Administration received the final draft of the Kachemak Bay National Estuarine Research Reserve's (KBNERR) on July 6th from KBNERR Reserve Manager Coowe Walker. As implied in the MOU, KBNERR requests the City of Homer provide a critical review of the draft management plan.

Background:

- Homer City Council has passed legislation over the years supporting the efforts of KBNERR, namely Resolutions 18-027, 14-030, 98-14, and 96-106.
- KBNERR has historically provided beneficial services to the City, including baseline data on coastal bluff erosion currently being used to inform capital improvements to the Seawall; assess nearshore fish prior to harbor expansion; provide trainings on green infrastructure; work on the City's climate action plan; and most recently applying groundwater models for the Bridge Creek reservoir, and exploring options for financing coastal peatlands.
- The Homer Harbor and area slated for expansion are not part of KBNERR's domain. In 2014, the harbor and surrounding areas were excluded from the Kachemak Bay Critical Habitat Area managed by ADF&G after findings that this area should not be precluded from development on account of environmental needs/sensitivity. This important City project will not be hindered as a result of this partnership.

Going Forward:

- The updated MOU provides the opportunity for the City to partner with the UAA system and receive benefits like a free exchange of management, research, and assessment data while making sure KBNERR is in compliance with City regulations.
- Points of interest in the updated Management Plan and possible ways the Port can benefit:

  - long-term datasets that facilitate understanding of regional ecological shifts (such as fish and sea life) over time and serve as a magnet for emerging research and technological approaches. Understanding such shifts is critical in managing coastal and marine ecosystems in ways that promote their resilience and sustainability."
  - Invitation for attendance to the Coastal Training Program (CTP). "The CTP provides up-to-date scientific information and skill-building opportunities to coastal decision-makers on relevant coastal management issues. Target audiences may vary for each reserve, but generally include local elected or appointed officials, managers of both public and private lands, natural resource managers, coastal and community planners, and coastal business owners and operators." The City was identified as a priority audience for this program.
  - Partner on research and monitoring projects and enhance place-based research.
  - "…identify lands and waters with high priority for retention." "Consistent communication and coordination between these entities and KBNERR will facilitate cooperative efforts on land acquisition, management, and potential restoration projects, as well as collaboration on critical resource issues, research needs, and outreach efforts on affected lands."
  - Provide access to resources held by other partnering agencies including NOAA regional, Alaska Sea Grant, and Alaska Ocean Observing System, Chugach Regional Resource Commission, and Prince William Sound Science Center.

- The Management Plan also offers other benefits that, although they don't directly tie to the port, could benefit the City as a whole such as public education programs and general information exchange and consultation services.

Homer is a regional commerce center and transportation hub for many different industries. Protection and sustainable use of natural resources while balancing the needs of the industries supported by them is paramount. Signing on to partner with UAA in regards to KBNERR will provide helpful information and guidance on topics like land development and coastal erosion. As stated in the MOU, "the Reserve will serve to increase public awareness and understanding of the complex nature of estuarine systems, their values and benefits to humans and the natural world, and the problems the confront them."

The City is not under any financial obligation under this agreement and may terminate it without penalty. The main binding condition is the City will not adversely affect implementation of the KBNERR management plan; staff would be in consultation with KBNERR if any project or action was suspect of doing so.

Recommended Action:

For review and discussion. Any recommendations to City Council or direction to staff must be done by way of motion.

Enclosures: DRAFT MOU between KBNERR, UAA, & City of Homer
DRAFT 2021-2026 KBNERR Management Plan
City of Homer Resolution 96-106

MEMORANDUM OF UNDERSTANDING
between the

UNIVERSITY OF ALASKA ANCHORAGE
Alaska Center for Conservation Science
and the

CITY OF HOMER

concerning portions of the
KACHEMAK BAY NATIONAL ESTUARINE RESEARCH RESERVE

This Memorandum of Understanding (MOU) is designed to assist the governmental agencies in cooperatively managing the areas within the boundaries of the Kachemak Bay National Estuarine Research Reserve (KBNERR). The agreement pertains to the responsibilities of: 1) University of Alaska Anchorage (UAA), College of Arts and Sciences, Alaska Center for Conservation Science, whose address is 3211 Providence Drive, Anchorage, Alaska 99508, and 2) the City of Homer ("City"), whose address is 491 E. Pioneer Ave., Homer, Alaska 99603. In no way does this MOU alter existing authorities and responsibilities either between or within the agencies.

WHEREAS, the State of Alaska has determined that the designation of the KBNERR under the National Estuarine Research Reserve System (NERRS) would provide for beneficial long-term research and improve public understanding of our coastal resources; and

WHEREAS, the National Oceanic and Atmospheric Administration (NOAA), Office of Ocean and Coastal Resource Management, designated the KBNERR, which includes areas along the Homer spit and portions of Beluga Slough; and

WHEREAS, UAA is designated by the State of Alaska and in the KBNERR Management Plan, as the agency responsible for managing the Reserve; and

WHEREAS, the City of Homer has passed resolutions (e.g., Res. 98-14, 96-106) supporting the establishment of KBNERR; and

WHEREAS, the City of Homer has title to lands which form important components of the Reserve, including several acres of tidelands and salt marshes alongside the Homer Spit, and marshland and park parcels in the Beluga Slough area; and

WHEREAS, including these areas in the reserve may better facilitate estuarine research and education programs in the Homer area;

NOW THEREFORE, it is agreed by and between the City and UAA as follows:

1. The purpose of the KBNERR is to provide a natural field laboratory and living classroom which, in addition to current uses, will be used to gather data and educate people of the state and nation on the natural and human processes occurring within coastal watersheds and estuaries. As stated in the NERRS goals, the Reserve will serve to increase public awareness and understanding of the complex nature of estuarine systems, their values and benefits to humans and the natural world, and the problems the confront them.

2. A management plan for the KBNERR was finalized by UAA after public review with critical input from the City of Homer. The management plan provides a framework for conducting research and educational programs in the Reserve. Activities within the City lands will be conducted in a manner which is consistent with the management plans for City lands and the KBNERR. Under terms of this agreement, the City of Homer will continue to manage and administer its lands and programs in these areas. This MOU shall not limit City authority to carry out such activities so long as they do not adversely affect implementation of the KBNERR management plan.

3. The City shall be fully and regularly consulted by UAA regarding research and education needs, opportunities, and information pertaining to Reserve areas.

4. The Signatories will coordinate and cooperate to ensure that research and educational activities do not adversely affect the lands, waters, fish, wildlife, natural and scenic values in these areas, or each other's management plans.

5. Nothing in this agreement shall obligate any party in the expenditure of funds, or for future payments of money, in excess of appropriations authorized by law.

6. Each party agrees that it will be responsible for its own acts and omissions including those of its officers, agents, and employees, and each party shall indemnify, defend and hold harmless the other, to the maximum extent allowed by law, from any claim of, or liability for error, omission or negligent act of whatever kind, including attorney fees, for damages to property or injury to persons occasioned by each party's own acts or omissions in connection with the terms of this agreement.

7. Nothing herein is intended to conflict with federal, state, or local laws or regulations. If there are conflicts, this agreement will be amended at the first opportunity to bring it into conformance with conflicting laws or regulations.

8. A free exchange of management, research, and assessment data among agencies is encouraged and is necessary to insure the success of these cooperative efforts.

This MOU will become effective on the date of signature. The termination date of this agreement shall be indefinite; however, either party may terminate its participation by providing written notice to the other party ninety days before termination. This agreement may be amended by mutual written consent of the Parties.

IN WITNESS THEREOF, the Parties hereto have caused this MOU to be executed

UAA Chancellor Cathy Sandeen Date

UAA Provost John Stalvey Date

UAA CAS Dean John Petraitis Date

UAA ACCS Director Matthew Carlson Date

Katie Koester Date
City Manger
City of Homer

*Perfect font:

Kachemak Bay National Estuarine Research Reserve
2021-2026 MANAGEMENT PLAN

*Perfect cover photo montage:

COVER

This management plan has been developed in accordance with NOAA regulations, including all provisions for public involvement. It is consistent with the congressional intent of Section 315 of the Coastal Zone Management Act of 1972, as amended.

Table of Contents:

Acronyms

AAC – Alaska Administrative Code
ACCS – Alaska Center for Conservation Science (UAA)
ADEC – Alaska Department of Environmental Conservation
ADF&G – Alaska Department of Fish and Game
ADNR – Alaska Department of Natural Resources
ADOT – Alaska Department of Transportation
DPOR – Division of Parks and Outdoor Recreation, ADNR
AIOVC – Alaska Islands and Ocean Visitor Center
AMNWR – Alaska Maritime National Wildlife Refuge
AOOS – Alaska Ocean Observing System
AS – Alaska Statute
CCFHR – Center for Coastal Fisheries and Habitat Research
CDMO – Centralized Data Management Office, NERRS
CFR – Code of Federal Regulations
CHA – Critical Habitat Area
CIAA – Cook Inlet Aquaculture Association
CIRCAC – Cook Inlet Regional Citizens Advisory Council
CISPRI – Cook Inlet Spill Prevention and Response, Inc.
CTP – Coastal Training Program
CWA – Clean Water Act
CZMA – Coastal Zone Management Act
DML&W – Division of Mining, Land and Water, ADNR
EPA – Environmental Protection Agency
EVOS – Exxon Valdez Oil Spill
GIS – Geographic Information System
HAB – Harmful Algal Bloom
KBEEA – Kachemak Bay Environmental Education Alliance
KBL – Kasitsna Bay Laboratory
KBNERR – Kachemak Bay National Estuarine Research Reserve
KBSP – Kachemak Bay State Park
KEEP – K-12 Estuarine Education Program
KHLT – Kachemak Heritage Land Trust
KPB – Kenai Peninsula Borough
KPBSD – Kenai Peninsula Borough School District
KPC – Kenai Peninsula College
KPFHP – Kenai Peninsula Fish Habitat Partnership
LiDAR – Light Detection and Ranging
MOA – Memorandum of Agreement
MOU – Memorandum of Understanding
NCCOS – National Center for Coastal and Ocean Sciences, NOAA
NERR – National Estuarine Research Reserve
NERRS – National Estuarine Research Reserve System
NGO – Non-Governmental Organization
NOAA – National Oceanic and Atmospheric Administration
NOS – National Ocean Service, NOAA
NPDES – National Pollutant Discharge Elimination System
NPS – National Park Service
NWR – National Wildlife Refuge
OCM – Office of Coastal Management, NOAA
PAC – Procurement, Acquisition, Construction
PWS – Prince William Sound
SCUBA – Self Contained Underwater Breathing Apparatus
STEM – Science, Technology, Engineering, Math
SVT – Seldovia Village Tribe
SWMP – System-Wide Monitoring Program
TOTE – Teachers on The Estuary
UAA – University of Alaska, Anchorage
UAF – University of Alaska, Fairbanks

USACE – United States Army Corps of Engineers
USC – United States Code
USFWS – United States Fish and Wildlife Service
WHSRN – Western Hemisphere Shorebird Reserve Network

List of figures

Acknowledgments

This plan has been developed through a broadly inclusive process designed to engage all Reserve staff and the KBNERR Community Council. Thanks to all the Kachemak Bay NERR staff and Council members that participated, with special thanks to Syverine Bentz for using her training and facilitation skills to keep the plan on target and on time. Our Director at the Alaska Center for Conservation Science, Matt Carlson, has provided steadfast support and encouragement to the Reserve throughout. We also thank Bree Turner, Coastal Management Specialist at NOAA, for her guidance, and especially for recommending that we hire an outside contractor to assist with pulling the management plan together. We took her advice and hired the Homer Soil and Water District, who did an excellent job of highlighting what a wonderful team our Reserve staff are, and the importance of the work we do.

Financial support for this publication was provided, fully or in part, by a grant under the Federal Coastal Zone Management Act (CZMA), administered by the Office for Coastal Management, National Oceanic and Atmospheric Administration, Silver Spring, MD. Copies of this publication are available from the Kachemak Bay National Estuarine Research Reserve, 2181 Kachemak Drive, Homer, Alaska, 99603 or online at: _____(Publications). Prepared by: Kachemak Bay NERR, 2181 Kachemak Drive, Homer, Alaska (907)235-4794, https://accs.uaa.alaska.edu/kbnerr/

Suggested Bibliographic Citation: Wagner, K., Lehner, D., Bentz, I.S., Walker, C.M. 2021 Kachemak Bay National Estuarine Research Reserve Management Plan. University of Alaska, Anchorage, Alaska Center for Conservation Science, Kachemak Bay NERR.

Executive summary

Plan purpose and scope[1]

This plan provides a framework to guide Kachemak Bay National Estuarine Research Reserve (KBNERR) activities for the period 2021-2026. It applies to lands and water within KBNERR boundaries, which coincides with the Kachemak Bay State Park, and the Kachemak Bay and Fox River Flats Critical Habitat Areas (CHAs), and is intended to inform not only the Reserve, but also partners and stakeholders. The plan focuses on the Reserve's core activities—Research, Monitoring, Education, and Training. In particular, the Reserve Strategic Plan articulates goals, objectives, and specific strategic actions that core programs will pursue during the plan's 5-year timeframe. This will enable KBNERR, and state and federal partners at the University of Alaska Anchorage (UAA), and the National Oceanic and Atmospheric Administration (NOAA) to track program progress and success in achieving stewardship outcomes and realize opportunities for improvement and growth. Finally, this plan can guide evaluations of KBNERR operations and accomplishments under Section 312 of the CZMA and enable the Reserve to acquire construction and program funds.

Reserve Context

The 372,000-acre Kachemak Bay National Estuarine Research Reserve was established in 1999 and is headquartered in the city of Homer on the Kenai Peninsula, Alaska. Like other NERRs, KBNERR is a state/federal partnership responsive to local needs. In Alaska, this partnership brings together UAA's Alaska Center for Conservation Science (ACCS), and NOAA's Office for Coastal Management (OCM). This partnership is strengthened by the involvement of other state and federal agencies, divisions of local and borough governments, and a variety of statewide, regional, tribal, and community organizations representing the full breadth of stakeholder interests, from education to resource use and management and conservation. A community council provides guidance, feedback, and support reflecting local community perspectives on issues, concerns, priorities, and partnerships.

Priority Management Issues and Reserve Goals

The Reserve is located in Kachemak Bay and is the NERR system's only glacial fjord type estuary. Kachemak Bay represents a diverse cross-section of the habitats and peoples that comprise the northern Gulf of Alaska biogeographic region. As a result, KBNERR has the opportunity and responsibility to research, monitor, and outreach information to encourage stewardship of this area. The priorities that drive these actions are the need for:

- Understanding Environmental Change
- Understanding Land Use and Human Impacts
- Community Relevant Engagement
- Long-Term Ecosystem Monitoring

Over the next 5 years, KBNERR will focus its programmatic energies on the three goals listed below. These reflect local and regional priorities and are supported by objectives and strategies outlined in Section 3. These goals dovetail with those of KBNERR's state and federal partners and incorporate NOAA's focus on climate resilience—including understanding climate processes, adapting to changing conditions, and mitigating effects.

Goal 1: Conduct monitoring and research to develop knowledge relevant to coastal communities.
Goal 2: Provide opportunities for all learners to improve coastal science literacy.
Goal 3: Build capacity for coastal stewardship through information exchange, skills-building, and partnerships.

This plan reflects an adaptive management strategy—as new information becomes available the plan can be amended to incorporate and adapt through required annual and 5-year reviews. KBNERR assesses their success by tracking 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. Adaptive strategies recognize the dynamic nature of coastal and marine

[1] This management plan was drafted in accordance with *Reserve System Management Plan Guidelines and Resources – 2013* (NOAA NERRS) and *The National Estuarine Research Reserve System Strategic Plan 2017-2022*, (NOAA Office of Coastal Management).

environments and help promote resilience and sustainability of these ecosystems so that they can provide services and benefits to local communities and other stakeholders.

The success of this plan depends on the skills, creativity, and commitment of Reserve staff and on appropriate support from local, state, and federal partners. With effective planning and execution, KBNERR will continue to be a leader in coastal research, monitoring, education, and training throughout Southcentral Alaska.

Reserve Niche

The fundamental elements of the Reserve's niche are:

- KBNERR research is place-based and regionally meaningful—focused on conditions and processes in, around, and affecting Kachemak Bay and surrounding areas;
- KBNERR respects the needs of its many audiences—data collected and shared is timely, high quality, useful and relevant to, and understandable by, students, local communities, decision-makers, and other audiences;
- KBNERR values partnerships and works collaboratively with diverse partners including agencies, non-profits, private sector, academia, and policy makers.
- KBNERR is non-regulatory, but designed to provide high-quality information to a spectrum of decision makers to better inform local and regional land management and natural resource management

Program Overview

KBNERR integrates research, monitoring, education, and training activities for improving the scientific understanding and management of natural resources in and around Kachemak Bay. Reserve programs consist of required activities supported by NERRS, including Research and Education coordination, and maintaining NERR initiatives, including the System Wide Monitoring Program (SWMP), a Coastal Training Program (CTP), a K-12 Estuarine Education Program, and Teachers on the Estuary (TOTE) Training. Reserve activities are responsive to community needs, informing and encouraging resource stewardship practices that will maintain the ecosystem services of this area. The collaborative nature of Reserve programs, both among staff and with our partners, allows the Reserve to accomplish much more programmatically than funding would permit if all activities were conducted in isolation of each other.

1. Introduction to the National Estuarine Research Reserve System (NERRS)

The National Estuarine Research Reserve System was created by the CZMA of 1972, as amended, to augment the National Coastal Zone Management Program, which is dedicated to comprehensive, sustainable management of the nation's coasts.

The reserve system is a network of protected areas representative of the various biogeographic regions and estuarine types in the United States. Reserves are established for long-term research, education, and interpretation to promote informed management of the nation's estuaries and coastal habitats (15 C.F.R. Part 921.1(a)). As of 2019, the system includes 29 reserves and one state in the process of designating a reserve. The system currently protects over one million acres of estuarine lands and waters.

The National Estuarine Research Reserve System is a partnership program between the National Oceanic and Atmospheric Administration (NOAA) and the coastal states. NOAA provides funding, national guidance, and technical assistance. The state partner manages reserve resources on a daily basis and works collaboratively with local and regional partners.

Figure 1. National Estuarine Research Reserve System showing biogeographic regions

Estuaries are biologically rich, economically valuable, and highly vulnerable ecosystems. The vision and mission of the reserve system reflect the importance of these systems within our communities.

> **Vision**: Resilient estuaries and coastal watersheds where human and natural communities thrive.
>
> **Mission**: To practice and promote stewardship of coasts and estuaries through innovative research, education, and training using a place-based system of protected areas.

The National Estuarine Research Reserve System program goals, from federal regulations 15 C.F.R. Part 921.1(b), include the following:

1. Ensure a stable environment for research through long-term protection of National Estuarine Research Reserve resources;
2. Address coastal management issues identified as significant through coordinated estuarine research within the system;
3. Enhance public awareness and understanding of estuarine areas and provide suitable opportunities for public education and interpretation;
4. Promote federal, state, public, and private use of one or more reserves within the system when such entities conduct estuarine research; and
5. Conduct and coordinate estuarine research within the system, gathering and making available information necessary for improved understanding and management of estuarine areas.

NOAA and the states work together to create a dynamic five-year reserve system strategic plan to meet these program goals and NOAA's mission of science, service, and stewardship. The 2017-2022 Reserve System Strategic Plan focuses on reserve strengths of research, education, and training on three core issues: environmental change, water quality and quantity, and habitat protection and restoration. The reserve system's strategic plan goals are as follows:

1. Protecting Places: Enhance and inspire stewardship, protection, and management of estuaries and their watersheds in coastal communities through place-based approaches.
2. Applying Science: Improve the scientific understanding of estuaries and their watersheds through the development and application of reserve research, data, and tools.
3. Educating Communities: Advance environmental appreciation and scientific literacy, allowing for science-based decisions that positively affect estuaries, watersheds, and coastal communities.

Biogeographic Regions and Boundaries of the National Estuarine Research Reserve System

NOAA has identified 11 distinct biogeographic regions and 29 subregions in the United States, each of which contains several types of estuarine ecosystems (15 C.F.R. Part 921, Appendix I and II). When complete, the system will contain examples of estuarine hydrologic and biological types characteristic of each biogeographic region.

Each reserve boundary will vary depending on the nature of the ecosystem. Boundaries must include an adequate portion of the key land and water areas of the natural system to approximate an ecological unit and to ensure effective conservation. Reserve boundaries encompass areas for which adequate state control has been or will be established by the managing entity over human activities occurring within the reserve. Reserve boundaries include a "core" area of key land and water encompassing resources representative of the total ecosystem, which if compromised could endanger the research objectives of the reserve, as well as a "buffer" area designed to protect the core area and provide additional protection for estuarine-dependent species, including those that are rare or endangered. Buffer areas may also include areas necessary for facilities required for research and interpretation. Additionally, buffer areas are identified to accommodate a shift of the core area as a result of biological, ecological, or geomorphological change that could be reasonably expected to occur. (15 C.F.R. Part 921.11 (c)(3)).

National Estuarine Research Reserve Administrative Framework

The process for federal designation of a national estuarine research reserve has many steps and involves many individuals and organizations. While each reserve is a partnership program between NOAA and a coastal state, many entities collaborate to support the designation of a reserve. Other partners include federal and state agencies, nonprofit groups, universities, and members of the local community. For more information on the designation process, see coast.noaa.gov/nerrs.

Upon designation, the reserve implements the approved management plan and is eligible for NOAA financial assistance on a cost-share basis with the state. Management plans provide a vision and framework to guide reserve activities during a five-year period and enable the reserves and NOAA to track progress and realize opportunities for growth. Each management plan contains the reserve goals, objectives, and strategies supported by programs focused on research and monitoring, education and outreach, training, and stewardship. They also outline administration, public access, land acquisition, and facility plans and needs, as well as restoration and resource manipulation plans, if applicable.

Reserves are increasingly confronted with complex questions regarding new uses in or near reserves that may or may not be compatible with the reserve system's mission. A thoughtful and comprehensive management plan provides a foundation for addressing these challenges to protect and manage reserve resources wisely and ensure that the public and coastal decision makers value and protect coastal resources.

NOAA administers the reserve system and establishes standards for designating and operating reserves, provides support for reserve operations and system-wide programming, undertakes projects that benefit the reserve system, and integrates information from individual reserves and programs to support decision-making at the national level. Additionally, NOAA periodically evaluates reserves for compliance with federal requirements and with the individual reserve's federally approved management plan, as mandated under Section 312 of the CZMA (15 C.F.R. Part 921.40).

NOAA currently provides leadership and support for three system-wide programs, including the SMWP, the K-12 Estuarine Education Program, and the CTP, as well as a national program to support collaborative research in the reserve system. NOAA also provides support for initiatives focused on the reserve system's priorities.

2. Introduction to Kachemak Bay National Estuarine Research Reserve (KBNERR)

2.1 History of the Reserve

Here we provide a very brief overview of the people living around Kachemak Bay. For more information on the archaeology and history of the Kachemak Bay area, see the Kachemak Bay Ecological Characterization (NOAA CSC and KBNERR 2001).

The lives of people in the KBNERR area have always been linked to Kachemak Bay. Reverence for and dependence on natural resources has been at the center of traditional and contemporary livelihoods of the Indigenous Peoples of the Kenai Lowlands region. The Kachemak Alaska Native tradition and the Kahtnuht'ana Dena'ina, Athabascan Peoples, whose descendants inhabit the Kenai Peninsula, have thousands of years of history and culture surrounding salmon (Workman and Workman 2010). Non-Native Alaskans also highly value natural resources (KBNERR and NOAA 2001, Flaherty et al. 2019). The oldest local archeological sites are at the water's edge; with the oldest sites documenting human activity occurring as early as 8,000 BP (Klein and Zollars 2004). Kachemak Bay has several hundred prehistoric sites. The historic period dates to about 1770, when Russian fur traders first reported on the area's riches, and in 1778, Captain Cook explored Cook Inlet.

Commercial fishing has been an economic mainstay of the Kachemak Bay area during much of the historic period. From about 1911 to 1930, hundreds of people arrived in Kachemak Bay to harvest herring; and the Halibut Cove community was created in 1911 to service the herring fishery. By 1928, herring populations had crashed, and the fleet moved elsewhere. Commercial salmon catch records in Kachemak Bay also date back to 1911, and commercial salmon fishing remains economically important. The shellfish industry flourished in

Kachemak Bay during the 1950s and 1960s; three species of crabs and several species of shrimp were harvested. By the late 1970s, however, catches declined, and today those species are no longer harvested commercially in local waters.

The federal government created many legislative programs to transfer land into private ownership, including homesteading, trade and manufacturing sites, and land lotteries. Farming and ranching have been important subsistence activities and minor commercial activities since the 1800s. Small-scale logging has been ongoing, and several small sawmills operated on the Homer Spit from the 1930s to the 1960s, providing lumber for local construction. While forestry has remained minimal, in recent years agriculture has increased with many small-scale, diversified farming operations.

The City of Homer began as a coal town in the late 1800s with the Cook Inlet Coal Fields Company. The surrounding area was settled by homesteaders and those buying land. Homer became Kachemak Bay's economic, cultural, and recreational hub with completion of the Sterling Highway in 1950, the opening of the Homer small boat harbor in 1964, and damage and depopulation of Seldovia from the 1964 earthquake.

Fishing and farming were core economic drivers in Kachemak Bay until tourism grew in importance in the late 1960s and early 1970s. The remarkable beauty and productivity of Kachemak Bay has led to several legislative designations: in 1970 Alaska's first state was established as the Kachemak Bay State Park—in 1972, of the Kachemak Bay State Wilderness Park and Fox River Flats CHA; in 1974, the Kachemak Bay CHA; in 1985, the Anchor River-Fritz Creek CHA; and, in 1999, establishment of Kachemak Bay National Estuarine Research Reserve.

Some things have changed little since people first settled in Kachemak Bay over 5,000 years ago. People are still drawn to exploring, fishing, collecting clams and mussels, picking berries and harvesting edible plants, walking the beaches, hunting moose and bear, boating, and observing wildlife. Charter fishing operations, art galleries, museums, restaurants, water taxis, nature tours, accommodations, and many other visitor services have multiplied in recent decades.

2.2 Local management of the Reserve

The area within Kachemak Bay NERR boundaries, shown in red in the map below, represents approximately 372,000 acres of almost exclusively state-owned and managed lands and waters. As outlined in Section 6, virtually all areas comprising the Reserve are managed by two divisions of state government: Alaska Department of Fish and Game's (ADF&G) Habitat Division and Alaska Department of Natural Resources' (ADNR) Division of Parks and Outdoor Recreation (DPOR or State Parks). ADF&G Habitat Division manages the Fox River Flats CHA and Kachemak Bay CHA; State Parks manages Kachemak Bay State Park (KBSP) and Kachemak Bay State Wilderness Park.

Management of Reserve resources involves a close partnership between the Reserve and the state, the USFWS Alaska Maritime National Wildlife Refuge (AMNWR) on tidelands and uplands adjoining Beluga Slough, and with the City of Homer on certain city-owned lands and tidelands. Relevant MOUs are contained in Appendix D and E.

Management of Reserve activities and resources also reflects collaboration and coordination between NOAA's Office for Coastal Management, National Estuarine Research Reserve System, (https://coast.noaa.gov/nerrs/) and UAA's ACCS (http://accs.uaa.alaska.edu/about/).

Finally, KBNERR management incorporates input from local communities, especially through the Kachemak Bay NERR Community Council. KBNERR provides quarterly reports to the council that summarize activities and accomplishments. publicly online and at quarterly council meetings. The Community Council (https://kbaycouncil.wordpress.com/) is made up of community members and state and federal agency partners and is described further in 5.5 Advisory committees and purpose.

KBNERR recognizes the power of partnerships in accomplishing its mission and goals. The Reserve has cultivated close and ongoing working relationships with many local, borough, state, and federal entities in order to share information and promote effective, mutually beneficial efforts. Working together in a coordinated and integrated fashion helps KBNERR and its partners better understand and support one another's goals, priorities, needs, and activities. Entities with whom the Reserve maintains partnerships in various capacities through research, monitoring, education and training activities are identified in Appendix A.

2.3 Ecological characteristics and key species

Kachemak Bay is a 63-km (39-mi) arm of Cook Inlet located on the southwest side of the Kenai Peninsula in Southcentral Alaska. At 372,000 acres, Kachemak Bay is the largest reserve by acreage in the NERR system. Unlike many coastal areas in the continental U.S., large, contiguous tracts of relatively undeveloped lands and waters remain intact along Alaska's coastline, and this is true for most areas in and around Kachemak Bay. Reserve ecosystems support a diversity of marine, estuarine, and freshwater habitats and an abundance of fish and wildlife and invertebrate species and a variety of plant communities. Species of high cultural and economic importance include migratory shorebirds and waterfowl, anadromous fish, groundfish, shellfish and marine mammals. KBNERR staff compiled comprehensive overviews of Reserve lands and waters, including their ecological processes and key species when the Reserve was designated. These overviews are provided in three key publications. For general information on Reserve habitats and species, refer to these overviews.

1. *Kachemak Bay Ecological Characterization* (KBEC), published on CD-ROM in 2001 and available to download ____;
2. a "site profile" updating KBEC and summarizing the then-current state of knowledge for research, monitoring, and education: *Kachemak Bay Ecological Characterization, A Site Profile of the Kachemak Bay Research Reserve: A Unit of the National Estuarine Research Reserve System* (see https://kbaycouncil.files.wordpress.com/2012/10/site_prof_final_rev_sep2012.pdf.
3. Reserve management plans—the first published in 2005, the most recent published in 2012 and covering the 5-year period till 2017 (see https://coast.noaa.gov/data/docs/nerrs/Reserves_KBA_MgmtPlan.pdf); management plans generally supplement information contained in earlier publications.

Over the years, Reserve staff have also shared research and data in numerous scientific journals and other publications. Many of these reflect KBNERR's ongoing research partnerships. Key KBNERR publications are listed online at https://accs.uaa.alaska.edu/publications/.

2.4 Social attributes and population demographics

The population of the entire state of Alaska (737,625) is similar to the population of a large city in the Lower 48 such as Tucson or Nashville. The KBNERR is located within the Kenai Peninsula Borough (KPB) which was incorporated in 1964 as a second-class borough under the authority of the State of Alaska Borough Act of 1961. The Borough's governmental responsibilities are comparable to those of a county in other parts of the United States. The KPB lies directly south of Anchorage, the state's principal population center, and is bordered by the Gulf of Alaska and Prince William Sound to the south and east, respectively. The Kenai Peninsula Borough has one of the state's highest populations at 57,763 (ACS 2015) and a population that is predominately white (83.3%) with the next largest represented group being Native Alaskan (8%) (Census 2010).

Cook Inlet divides KPB into two land masses, with the Kenai Peninsula encompassing the majority of the KPB's population and most of the development. The boundaries of the KPB encompass a total of 24,752 square miles, of which 15,700 square miles are land, and 2,146 miles of coastline. Compared to these east coast areas, the Kenai Peninsula has a significantly lower population density, the southern Kenai Peninsula, which includes the KBNERR core and buffer regions, has a population of 13,969. The median age of 41.6 for the area is higher than the rest of the Peninsula and 29% of the population was born in Alaska (ACS 2014). The median household income for the region is $48,787 with an unemployment rate of 8.3%. and 10.5% of the individuals living below the federal poverty level (Census 2010).

The communities around Kachemak Bay include the Native villages of Port Graham, Nanwalek and Seldovia on the south side of the Bay; Russian Old Believer villages of Voznesenka, Razdolna and Kachemak Selo at the head

of the Bay, the town of Anchor Point near the mouth of the Bay, and the City of Homer, at the base of the Homer Spit, on the north shore of the Bay. As the regional hub, Homer offers many public services such as schools, public library, hospital and port facilities. It is also the focal point of a thriving tourism industry due to the beautiful setting and access to fishing. According to the Alaska Department of Labor and Workforce Development, 26% of Homer's employment is in the sectors of retail trade, education and health services, arts and entertainment, leisure and hospitality.

Updated demographic, economic and other information on the Kenai Peninsula Borough and the Homer area can be found on these websites:

- Kenai Peninsula Economic Development District: specific data for key communities on the Peninsula including employment, income, house sales, etc. (https://kpedd.org/city-of-homer/)
- Mobilizing for Action through Planning and Partnerships: live data portals for demographic and health-related data as well as reports from community health needs assessments that have been conducted since 2010 (https://mappofskp.net/).

On the 2.3 million acres of state land within the KPB, use varies from intensely developed gas fields, timber sales, and proposed coal mining projects, to developed recreation sites, protected game refuges, critical habitat areas, and wilderness parks. In communities surrounding KBNERR, traditional resource extraction industries (timber, fisheries, and agriculture) have been in decline, with a corresponding rise in tourism and real estate speculation.

A 2019 ecosystem services assessment completed by researchers in the School for Environment and Sustainability (SEAS) at the University of Michigan, *Human and Environmental Well-being in Alaska's Kachemak Bay Watershed*, identified the value that Kachemak Bay residents place on the local ecosystem services. The research team conducted 31 semi-structured interviews with residents in public and private sectors and three focus groups with KBNERR's Community Council. The results from these surveys outline and identify the specific aspects of the region that participants value (found online at https://deepblue.lib.umich.edu/handle/2027.42/148820).

Table x: **What is valued by the Kachemak Bay community**
(% of Interviews = total percentage of interviews that contained the associated value) (n = 31).

What is Valued	% of Interviews	What is Valued	% of Interviews
Fish (salmon, halibut)	93	Ecological Processes	71
Wildlife	99	Research and Education	61
Recreation	87	Agriculture	42
Aesthetics	87	Forests	26

The social value typology identified for Kachemak Bay ranked various categories of values according to the number of participants that referenced those values during the interview. Values that ranked highest mirror results from other assessments conducted in the community by a local coalition focused on community health issues, Mobilizing for Action through Planning and Partnerships (MAPP). The ecosystem services assessment added several values to the list that were unique to Kachemak Bay and not included in the framework they were using sharing the theme of *connection.* These unique values have also become identified as particular strengths of the Kachemak Bay area through years of MAPP community health needs assessments.

Table x: Social Value Typology for Kachemak Bay
(% of Interviews = total percentage of interviews that contained the associated typology) (n = 31).

Values	Description	% of Interviews
Pristine/Natural	Minimal human impact and/or intrusion into the natural environment	97%

Recreation	A place for favorite/enjoyable outdoor recreation activities	90%
Life-sustaining Ecological Processes	Provision of macro-environmental processes (i.e., climate regulation, hydrologic cycle, etc.) that support life, human and nonhuman.	71%
Therapeutic	A place that enhances feelings of well-being (e.g. 'an escape', 'stress relief', 'comfort and calm')	65%
Spiritual	Places of sacred, religious, unique, deep and/or profound experience where reverence/respect for nature is felt	45%
Economic	The provision of fisheries (commercial/recreational), minerals, ecotourism, agriculture, and research and education that support livelihoods	97%
Access	A place to enjoy recreational activities and natural beauty while maintaining sustainable management of human activity	94%
Cultural	Defining community characteristics of Homer and the Kachemak Bay area that are tied to the natural environment	94%
Future	The ability for future generations to enjoy and benefit services	90%
Aesthetic	Appreciation of "sights and sounds," and the overall striking beauty of the Kachemak Bay area.	87%
Learning	Opportunities to learn or share scientific information, values, and traditions as they relate to the Kachemak Bay ecosystem	87%
Subsistence	The provision of basic human needs, emphasis on reliable food sources from nature	74%
Biodiversity	A high variety of fish and wildlife species, as well as genetic diversity within populations	45%
Connection to Community	The "sense of place, community, belonging…and distinctive 'culture of the sea'" associated with the Kachemak Bay region. Additionally, the sense of pride of place tied to living and/or working in the area	77%
Connection to Self/Personal Identity	Individual experiences/beliefs that a place is essential identity	71%
Connection to Nature	Experiences of being completely present in nature; recognition that humans are a part of the ecosystem/natural environment	71%
Connection to Family	Familial connections or closeness fostered by shared time spent outdoors; cherished family memories of outdoor activities; or other experiences/opportunities in which the ecosystem has provided a sense of place or identity within a family or household	65%

2.5 Threats and stressors

2.5.1 Natural and anthropogenic stressors

Environmental stressors within the Reserve reflect natural events and processes characteristic of Southcentral Alaska's dynamic coastal environments. These include extreme storms, earthquakes, volcanic eruptions, droughts, floods, and native defoliating species. Understanding these stressors is complicated by the fact that they may be altered or amplified by anthropogenic stressors such as climate change and habitat destruction. Human activities causing negative environmental impacts include recreational overuse, residential and commercial land development, water usage and diversions, commercial fish and wildlife harvesting, and extraction of resources

such as oil, groundwater, gravel, and peat, and the introduction of non-native species. Differing value systems and long-term visions for the area, along with population growth and turnover among resource experts and political decision-makers, create diverse and complex perspectives on resource management and stewardship. Changes in landscapes and the plant and animal communities they support have long-range effects that are difficult to anticipate and may be unknown or very poorly understood by decision-makers. Understanding human impacts and future conditions in changing climate scenarios is a critical concern for the Reserve. Communicating knowledge about ecosystem conditions and processes to a wide variety of decision-makers to promote coherent, cohesive, and informed decisions has become a key Reserve priority. The results of the2019 ecosystem services assessment documents some local perceptions of threats to the region's ecosystems.

Table x: Perceived threats to ecosystem health
(% of Interviews = total percentage of interviews that contained the associated threat) (n = 31).

Perceived Threat	% of Interviews	Perceived Threat	% of Interviews
Population Growth	94	Aquaculture	35
Climate Change	61	Demographic Change	35
Social Division/Conflict	58	Pollution	23
Extractive Industries	45	Public Awareness & Attitudes	19
Overharvesting	39	Cruise Tourism	13

2.5.2 Climate phenomena and impacts

Climate change in Alaska is reflected in warming temperatures, changing precipitation patterns, drying wetlands, variable stream base flows, floods, altered fire regimes, thawing permafrost, changing ocean salinity, and eroding coastlines. KBNERR—the only subarctic reserve in the NERR system—is on the front lines of climate change. Locally, climate change is also evidenced by glacial retreat and associated isostatic rebound, accelerated coastal bluff erosion, and increasing ocean acidification in waters that pulse seasonally into Kachemak Bay. The bay and surrounding region are undergoing rapid changes to ocean chemistry, water temperatures, and hydrologic inputs, which are now impacting key harvestable species, contributing to harmful algal blooms (HABs), and causing dramatic declines in bivalve populations among other impacts. These changes are compounded by human-related stressors such as those mentioned above.

2.6 Reserve Boundaries

Figure 2, shows Reserve geographic boundaries. These extend from the Fox River Flats—at the head of Kachemak Bay in the northeast—to the mouth of the bay on the west, marked by a line between Anchor Point on the north and Point Pogibshi on the south. KBNERR boundaries encompass the entirety of two legislatively designated state CHAs—Kachemak Bay and Fox River Flats—as well as large portions of two state parks—Kachemak Bay State Park and Kachemak Bay State Wilderness Park. Legislatively designated areas (LDAs) are described in detail in Section 6.

KBNERR's region of scientific interest—including research and monitoring efforts—extends beyond Reserve boundaries to encompass areas that affect, and are affected by, Kachemak Bay, including the northern Gulf of Alaska and Cook Inlet, and the watersheds of the southern Kenai Peninsula. KBNERR has become a leading research entity for the region and is well positioned to study broad-scale ecological patterns and to monitor long-term trends in Kachemak Bay that have relevance to Cook Inlet and the Gulf of Alaska. As a sentinel site[2] for the region, Kachemak Bay NERR can provide scientific and management entities with vital baseline and long-term datasets that facilitate understanding of regional ecological shifts over time and serve as a magnet for emerging research and technological approaches. Understanding such shifts is critical in managing coastal and marine ecosystems in ways that promote their resilience and sustainability.

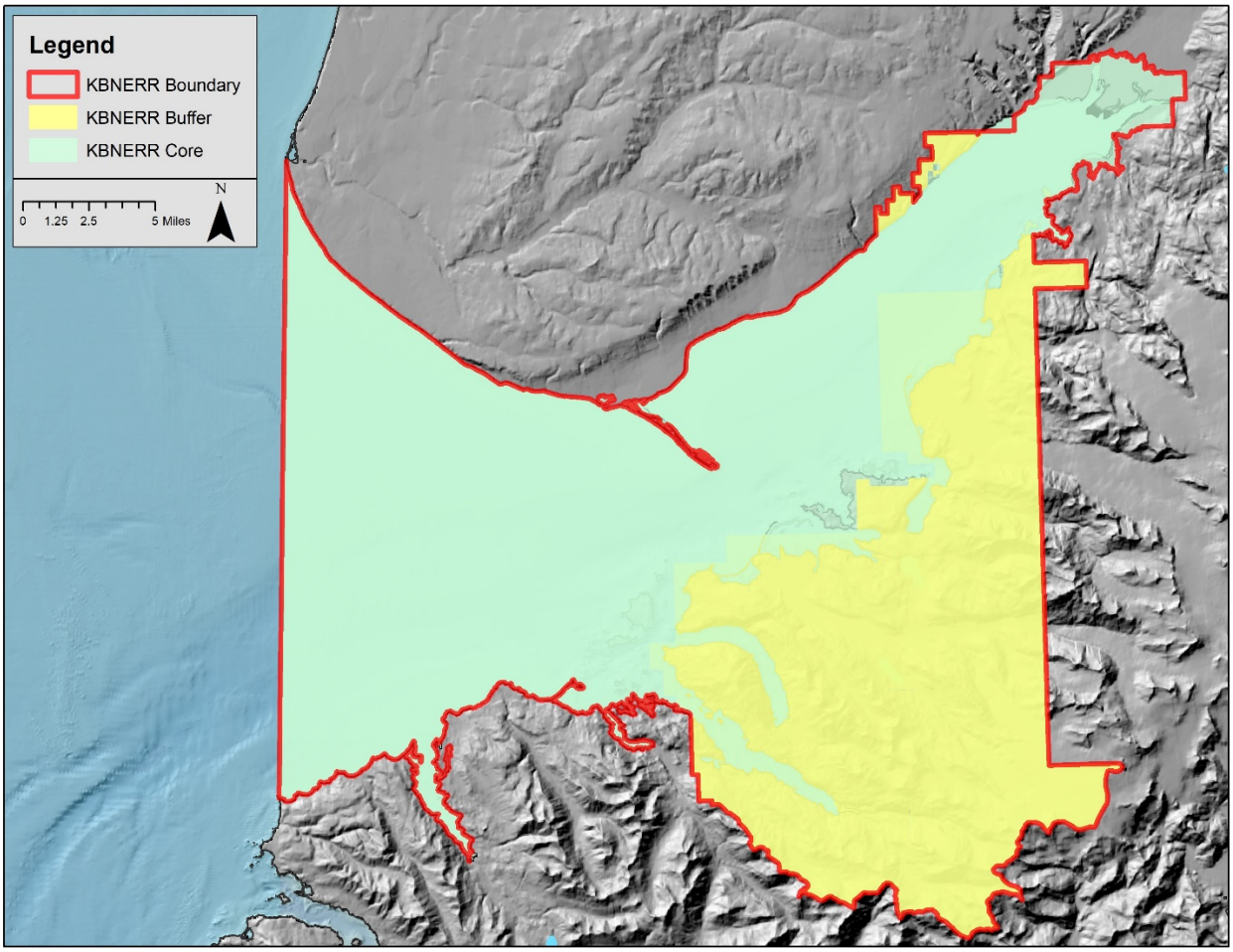


Figure 2. KBNERR Boundary with general buffer and core areas

[2] Sentinel site defined: Areas in coastal and marine environments that have the operational capacity for intensive study and sustained observations to detect and understand changes in the ecosystems they represent. Observational data are collected at discrete instruments and measurement stations (platforms and sensors) within each site, providing information and data that can be synthesized to provide an understanding of the ecological status and trends in physical and biological variables of interest. (2011, NERRS Sentinel Sites Program: A guidance document.)

2.6.1 KBNERR core and buffer areas

2.6.1.1 *Core* and *buffer* rationale

National Estuarine Research Reserves encompass two categories of lands and waters: core and buffer areas. **Core** areas are vital to the functioning of NERR estuarine ecosystems. These areas require a level of control sufficient to ensure their long-term viability for research on natural processes. **Buffer** lands and waters protect core areas and provide additional protection for estuarine-dependent species, including those that are rare or endangered. When determined appropriate by the state and approved by NOAA, buffers may also include areas necessary for research and interpretation facilities.

2.6.1.2 KBNERR core areas

KBNERR **core areas** consist of public lands and waters within Fox River Flats and Kachemak Bay CHAs. Legislatively designated lands and waters such as CHAs and state parks receive the strongest resource conservation protection afforded by state legislative action.

Figure 3, at right, shows the two CHAs constituting KBNERR core areas. The 29 km^2 (7,200 ac) Fox River Flats CHA encompasses core lands and waters, while the 916 km^2 (226,400 ac) Kachemak Bay CHA encompasses core water areas. Figures 4 and 5, below, show these two core areas in more detail. Total acreage of Reserve core areas represented by these two CHAs equals 945 km^2 (233,600 ac)

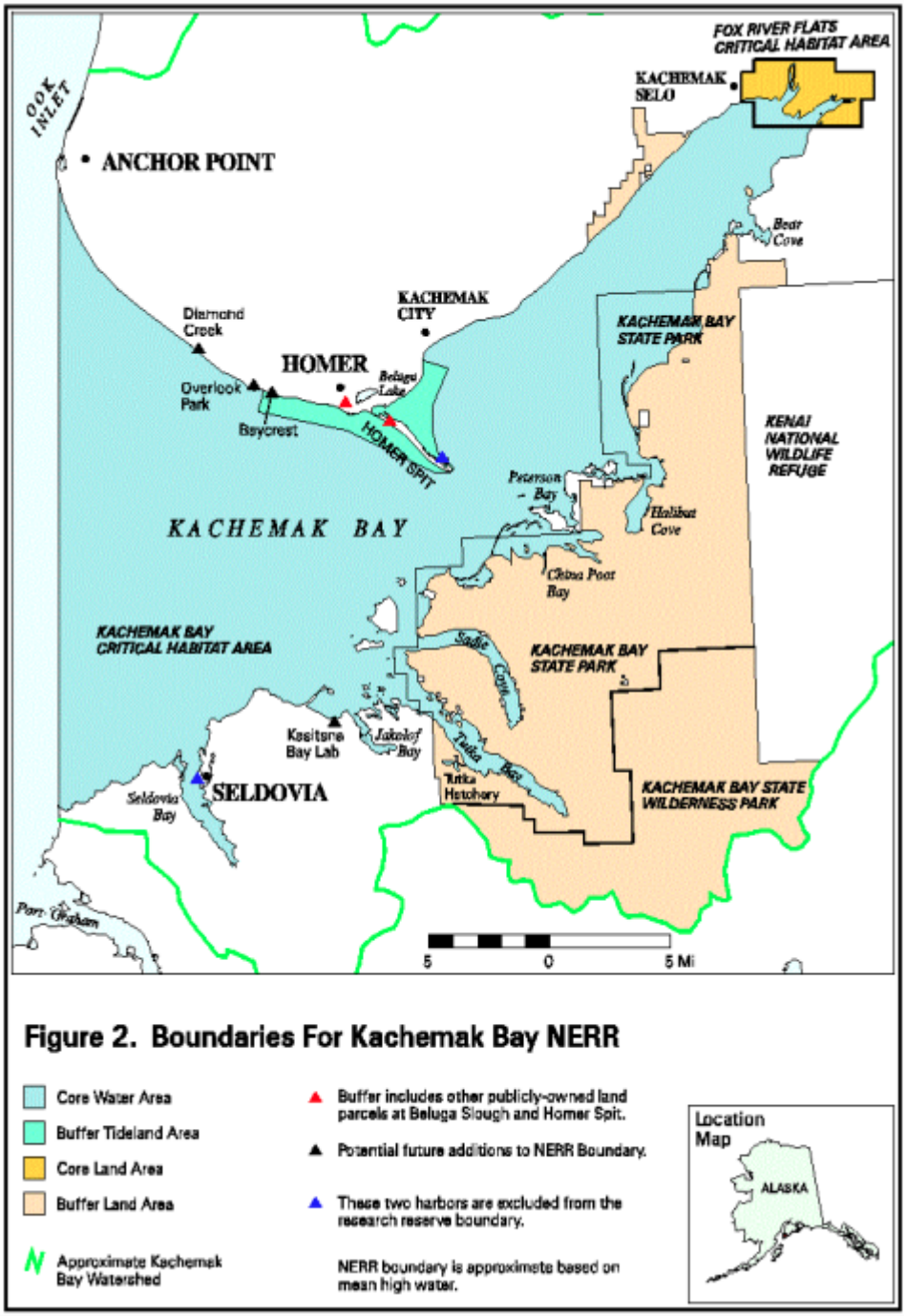


Figure 3. Core areas of legislatively designated lands and waters within two state CHAs

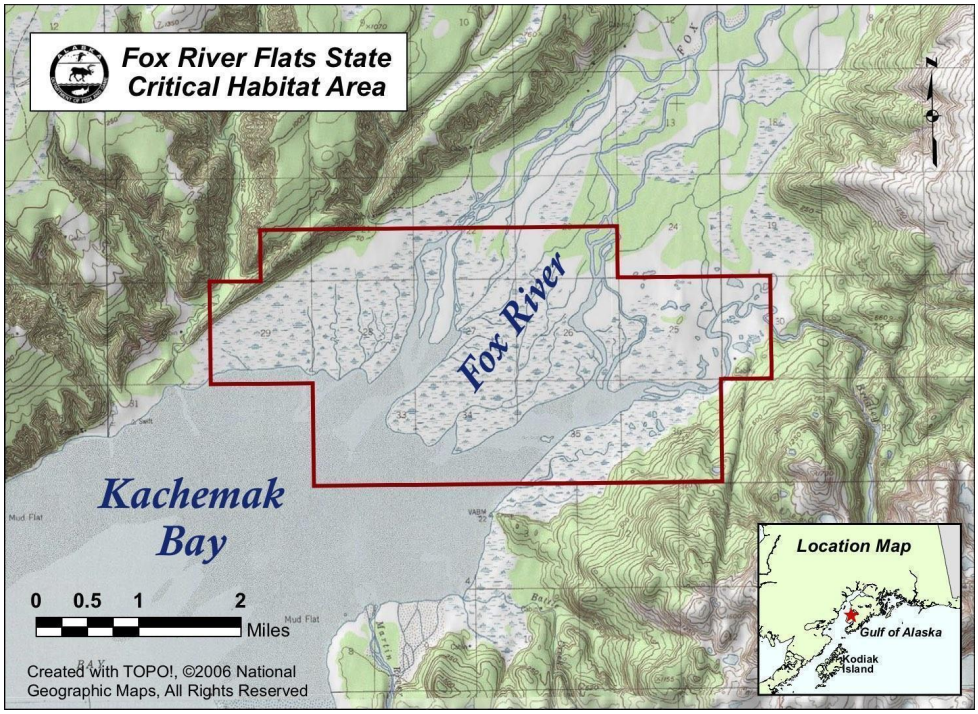


Figure 4. Fox River Flats CHA, which constitutes a core area of KBNERR

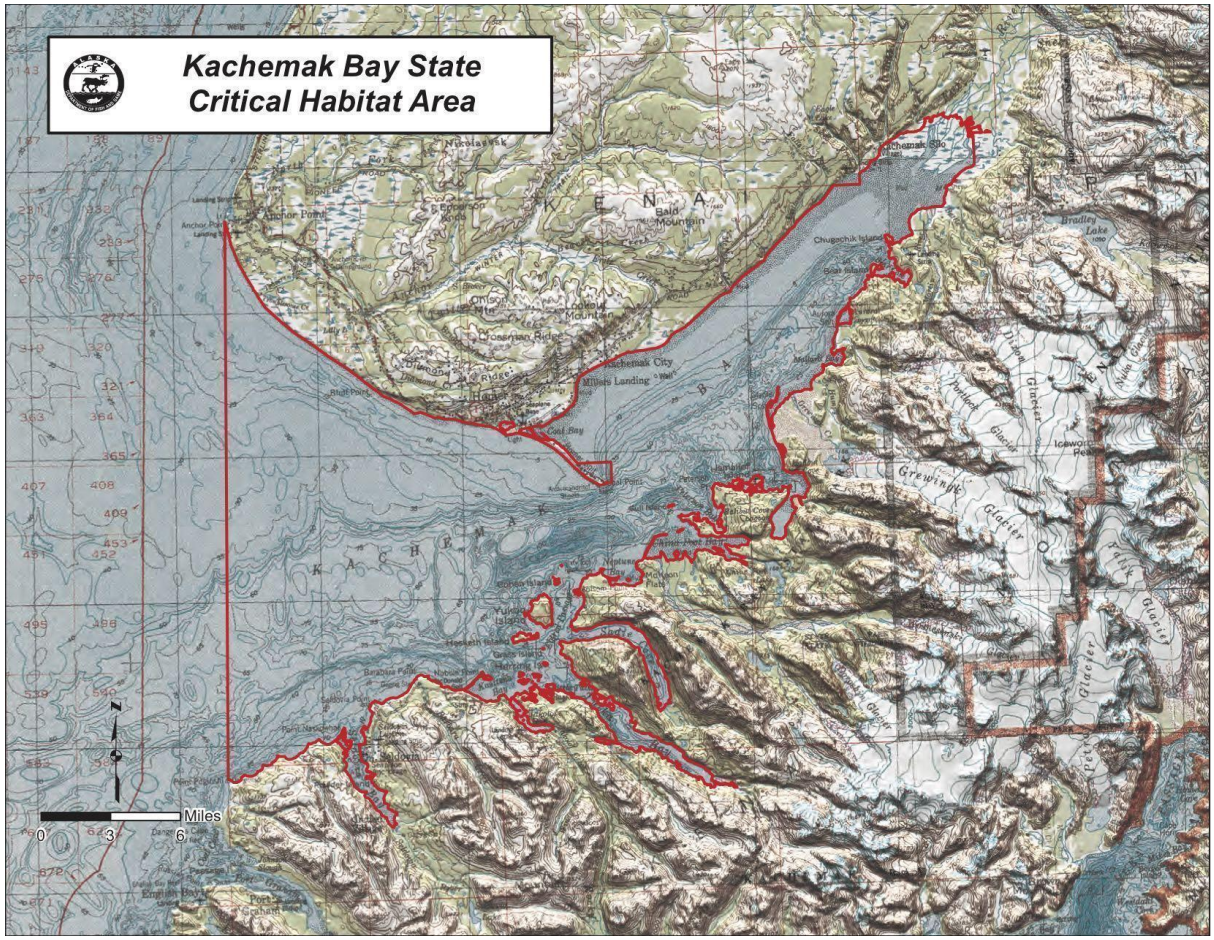


Figure 5. Kachemak Bay CHAs, which constitutes a core area of KBNERR

2.6.1.3 KBNERR buffer areas

KBNERR **buffer areas** consist of public lands and waters within those portions of Kachemak Bay State Park and Kachemak Bay State Wilderness Park that drain into Kachemak Bay, as well as publicly owned lands in Beluga Slough and on the Homer Spit. Like areas legislatively designated as CHAs, state parks receive the strongest resource conservation protection afforded by state legislative action. Kachemak Bay State Park and Kachemak Bay State Wilderness Park contain roughly 1,619 km^2 (400,000 ac.) of mountains, glaciers, forests, estuaries, tidelands, rocky shorelines, and other ecosystems. An estimated 554 km^2 (136,896 ac.) of park uplands drain into Kachemak Bay from surrounding watersheds and are contained within Reserve boundaries.

Additional buffer areas are provided by state-owned lands that drain into KBNERR but that are both (a) outside legislatively designated CHA and state park boundaries AND (b) have been designated in the state's Kenai Area Plan for uses compatible with protection of KBNERR resources. Compatible state land use designations include recreation, habitat, and water resources. These lands addressed within the Kenai Area Plan are discussed in Section 6.

2.6.2 Land ownership

As noted in Section 2.2, nearly all public lands within the Reserve are owned and managed by the State of Alaska. Within the ADF&G Habitat Division has principal management authority in CHAs. Within ADNR, Division of Parks and Outdoor Recreation (DPOR or State Parks) has principle management authority on State Park lands. ADNR Division of Mining, Land and Water (DML&W) manages easements within CHAs. ADNR Division of Agriculture and Alaska Mental Health Trust Authority manage state lands adjacent to Reserve core and buffer areas. Management of adjacent lands and waters can significantly affect conditions and processes within the Reserve. Section 6 discusses management authorities relevant to the Reserve in more detail.

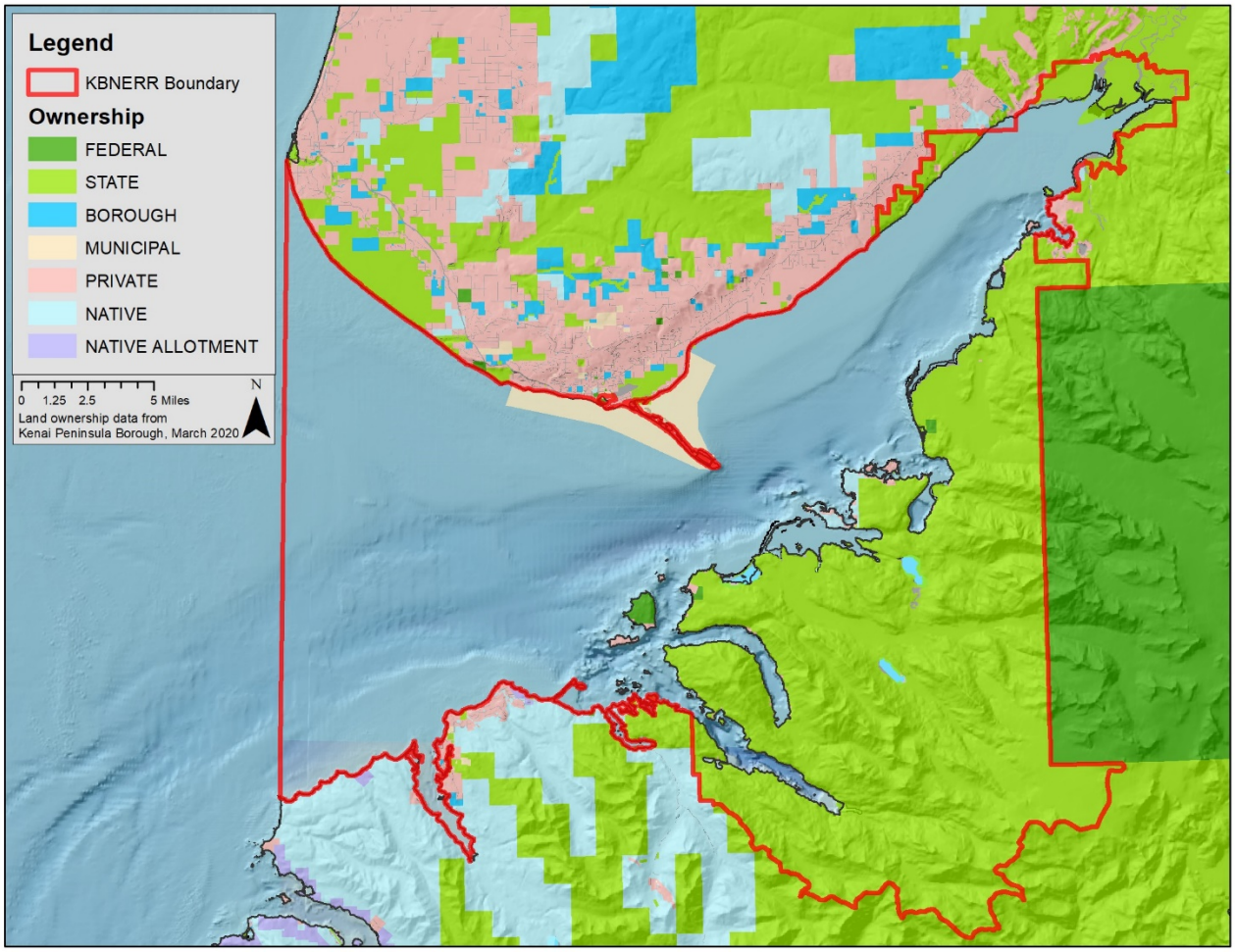


Figure 6. Land ownership in the Southern Kenai Peninsula

2.6.3 Habitat types

The majority of ecosystems of interest for KBNERR lie within the Gulf of Alaska Coast and Cook Inlet Basin Ecoregions defined by the ADF&G Wildlife Action Plan Section IIIB: Alaska's 32 Ecoregions. These areas of land and water contain vegetation communities that share species and ecological dynamics, environmental conditions, and interactions that are critical for their long-term persistence.

2.6.4 Land use types

2.6.5 Targeted watershed map

Roughly 80 mapped watersheds drain into the bay (Figure 9). These encompass about 656,640 acres. Watersheds at the head of the bay, and most watersheds on the bay's south side are fed by glaciers lying on the north and west slopes of the Kenai Mountains. Watersheds on the north side of the bay are fed primarily by snowmelt and rainwater.

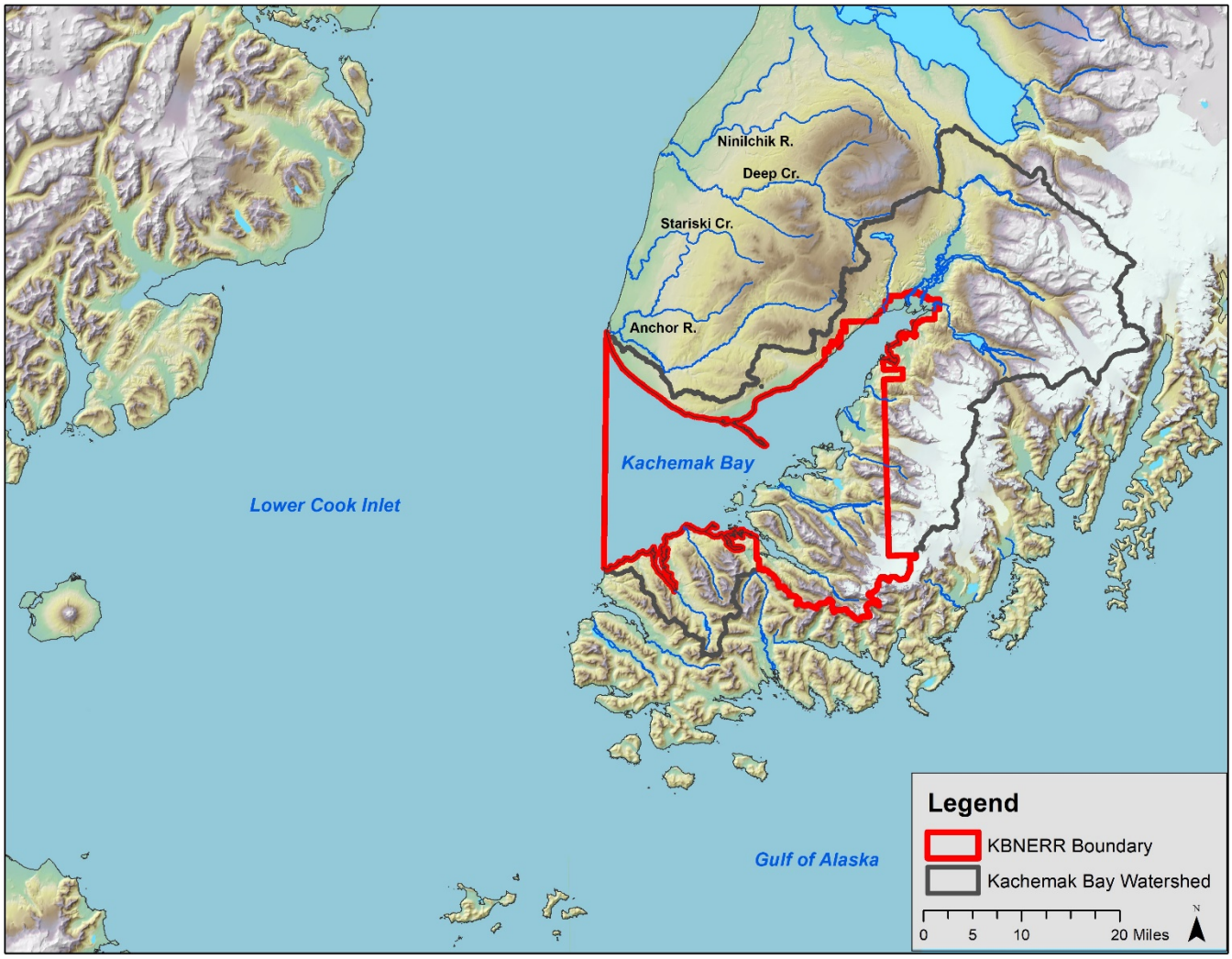


Figure 7. Major watersheds draining into Kachemak Bay

3. Reserve Strategic Plan

3.1 Introduction

This management plan updates the previous plan (covering June 2012 to June 2017) and will guide KBNERR programs from July 2021 to June 2026. The plan supports the Reserve's vision and mission and has been

informed by a CZMA evaluation process, as well as input from the KBNERR Community Council and routine needs assessments. KBNERR planning reflects an adaptive management strategy—reviews occur regularly, and plan elements can be updated as new information becomes available. Adaptive strategies reflect the dynamic, changing nature of coastal and marine environments and promote resilience and sustainability of these ecosystems and the benefits available to stakeholders. KBNERR staffing, funding, and other administrative support are also likely to be dynamic and changing over the next 5 years. While implementing this plan, KBNERR will work with its state, federal, and local partners to adjust to changes beyond Reserve control and to adapt the plan as needed to maintain robust programming.

This section outlines the strategic elements underlying the rest of the plan. These elements consist of KBNERR's vision, mission, goals, objectives, and planned actions (strategies). KBNERR's niche and strengths and assets are also relevant to strategic planning and are outlined at the end of Section 3.

3.2 KBNERR Vision and Mission

KBNERR's vision and mission are shown below, along with those of its principal federal and state partners: the NERR system and UAA Alaska Center for Conservation Science. KBNERR and its partners share complementary and mutually supportive visions and missions.

	National Estuarine Research Reserve System (NOAA, NERRS)	**Kachemak Bay National Estuarine Research Reserve (KBNERR)**	**University of Alaska, Anchorage Alaska Center for Conservation Science (UAA, ACCS)**
Vision:	Resilient estuaries and coastal watersheds where human and natural communities thrive.	Kachemak Bay ecosystems and people are robust and resilient.	Fostering research, education, and collaboration on biological conservation and natural resource management in Alaska and the Arctic.
Mission:	Practice and promote stewardship of coasts and estuaries through innovative research, education, and training using a place-based system of protected areas.	Enhance understanding and appreciation of Alaskan coastal ecosystems to ensure that they remain healthy and productive.	

3.3 Priority Coastal Management Issues

The Reserve has the opportunity and responsibility to understand and outreach information about the Kachemak Bay area. Priorities that drive these actions are the need for:

- Understanding Environmental Change
- Understanding Land Use and Human Impacts
- Community Relevant Engagement
- Long-Term Ecosystem Monitoring

3.4 Management Plan Goals

Three overarching goals will guide KBNERR programs over the next 5 years. These are shown in the table below along with a concise "shorthand" statement of each.

Goal 1. Through monitoring and research, develop knowledge relevant to coastal communities. **"Develop Coastal Knowledge"**	Doing the science. Creating monitoring and research programs that collect data that is useful and relevant to surrounding communities, landowners, and decision-makers.
Goal 2. Provide opportunities for all learners to improve coastal science literacy. **"Provide Learning Opportunities"**	Developing materials, curricula, and programs for local citizens, schools, students and interns, tourists, other scientists, and diverse groups and organizations.

Goal 3. Build capacity for coastal stewardship through information exchange, skills-building, and partnerships. **"Promote Stewardship"**	Networking, connecting, sharing, training, creating a shared vision for the area based on local science.

KBNERR goals are complementary to those of its state and federal partners, summarized below.
https://www.uaa.alaska.edu/academics/college-of-arts-and-sciences/strategic-plan.cshtml
https://coast.noaa.gov/data/docs/nerrs/StrategicPlan.pdf
In addition, KBNERR goals provide a framework for guiding collaboration with other partners—federal, academic, state, regional, and local. Active partnering is a KBNERR priority and strength; the Reserve maintains and encourages a strong network of research, education, and training partners (see Appendix A).

NOAA NERR goals Federal Partner	• Applying Science • Educating Communities • Protecting Places • Partnerships
KBNERR goals	• Develop Coastal Knowledge • Provide Learning Opportunities • Promote Stewardship
UAA ACCS goals State Partner	• Student Success • Workforce Development • Community Partnerships • Creative Activity

One way that KBNERR partners contribute to strategic planning is through the KBNERR Community Council (CC). Numerous partners are represented on the council (see Section 2.2). Community Council meetings are open to the public and provide opportunities for input from all those attending.

3.5 Objectives and Strategies

Each KBNERR programmatic sector has identified specific actions (strategies) to pursue over the next 5 years to meet shared goals and objectives. Research, Monitoring, Education and Training programs are described in detail in Section 4: Program Foundations. Objectives are designed to be specific and measurable, realistic and ambitious, and directed towards particular issues and audiences. The tables below show actions specific to each programmatic sector under each goal and objective. For tables showing all strategies under each sector, click here.

Goal 1: Develop knowledge relevant to coastal communities through monitoring and research
Objective 1: By 2026 the Reserve will maintain current and produce five new, unique data products.

Research	Actively seek grants and develop new studies (projects and/or models) to understand environmental change and function
Monitoring	Produce quarterly, annual, and decadal SWMP summaries Biomonitoring synthesis/summaries
Education	Outline Next Gen Science Standards to inform incorporation of new and existing data in curriculum
Training	Assess stakeholder preferences for product format, mediums through routine needs assessments
Administrative	Professional development in new data delivery methodologies

Objective 2: By 2026, the Reserve will produce 5 or more undergraduate and graduate student projects per year

Research	Provide opportunities and mentorship for graduate fellows and undergraduate interns Engage UAA and other research universities as advisor partners for student projects
Monitoring	Provide local data and opportunities to students for communicating science Guest lecture at college courses and mentor undergraduate students who will use monitoring data
Education	Provide student orientation and facilitate onboarding, mentor guidance, learning outcomes, and evaluation Mentor students in science communication and provide opportunities to engage and design education programs
Training	Identify coastal management needs for student projects, connect them with partners for career opportunities Provide stakeholder engagement training and project design guidance to students
Administrative	Advertise and attract students locally and from around the country (including other University-based NERRs Provide facilities for site-based projects Support NERR Graduate Student Fellowship

Objective 3: By 2026, the Reserve will maintain the number of community scientists and volunteer monitors each year.

Research	Identify research needs and gaps that can be filled by citizen science
Monitoring	Develop new community monitoring programs Expand on existing monitoring programs to include new community scientist and volunteer monitors
Education	Collaborate with other programs and partners to increase participation Develop age appropriate protocols/trainings
Training	Assess geographic gaps, information and engagement needs from training and workshop evaluations Provide training for new scientists and monitors
Administrative	Recruit, maintain and support an active volunteer program Outreach citizen science projects and document protocols to increase participation by additional southcentral region communities

Objective 4: By 2026, the Reserve will partner with other ACCS and UA system scientists and staff on 5 new projects.

Research	Update research catalog to identify synergistic activities Collaborate within ACCS and other UA departments on grants Identify expertise needs and hire seasonally
Monitoring	Conservation data serving and thematic integration Build out invasive species initiatives
Education	Outreach products and information from ACCS projects locally in KBAY
Training	Train ACCS staff and other department researchers on coastal management issues Host forums for professional sharing among scientists
Administrative	Connect with staff to other campuses to increase understanding of their capacity and expertise Encourage knowledge sharing during regularly scheduled travel Attend ACCS and UA events and team lead meetings to develop relationships

Objective 5: By 2026, the Reserve will continue to identify current and emergent locally relevant needs and report quarterly.

Research	Keep current on trends in science (state and broader) and share with other staff Participate in local, regional and national meetings, workgroups, networks and task forces
Monitoring	Connect with local management agencies, organizations and government about current issues and needs Participate in local, regional and national meetings, workgroups, networks and task forces
Education	Be responsive to issues in the news to inform lecture and other informal education themes
Training	Use real-time feedback from evaluations to inform training delivery topics Document emergent issues at local workgroups Co-develop rapid response plans for ecological threats with KBNERR manager and local partners Work with local, regional state and national task force groups to identify common issues
Administrative	Advertise opportunities for public input Maintain web contact form and monitor social media Participate in Local Environmental Observer Network and other public interfaces Seek input from the Community Council and report back to them

Goal 2: Provide opportunities for all learners to improve coastal science literacy.

Objective 1. By 2026, every initiative has a communication plan with messages, mediums, and venues for target audiences.

Research	Work with outreach team to provide materials and implement plans once developed Identify key messages
Monitoring	Update and develop SWMP and biomonitoring communication and response plans Address communication preferences and needs of partners during routine engagement
Education	Education will continue to collaborate with partners for venues Develop age appropriate content for preK-16 and public audiences
Training	Training will assist with stakeholder analysis and identify target audiences Provide staff/ACCS professional development in communication techniques Standardize cross-discipline collaboration
Administrative	Dedicated funds for communications planning and implementation Develop and implement an overarching reserve-wide communication plan

Objective 2. By 2026, the Reserve will have a portfolio of site-based learning opportunities.

Research	Develop site profiles with vulnerabilities and uses Develop information/content/equipment for onsite and pre/post materials
Monitoring	Develop site profiles with vulnerabilities and uses Identify datasets relevant to different sites
Education	Work with University summer programs for undergraduate workforce development Develop field based informal programs Work with other sectors to plan community biomonitoring

Training	Develop target audiences and decision-maker relevant site-based learning Identify sites appropriate for field-based learning
Administrative	Create partner and landowner engagement profiles (since we don't own land)

Objective 3. By 2026, the Reserve will have regular and timely engagement with every target audience in our region.

Research	Give presentations in mediums as guided by communication plan Respond to information requests Notify audiences of planned research for on-site engagement
Monitoring	Leverage monitoring trips and time to include partner engagement and community presentations Notify target audiences of monitoring schedules and partnership opportunities
Education	Assess target audience engagement methods and frequency Deliver to diverse audiences
Training	Identify existing routine opportunities to engage coastal decision makers Provide trainings to coastal decision makers Provide technical assistance to local partners engaging coastal decision makers
Administrative	Routine outreach efforts with events notices Identify sources of funding for travel Ensure that project/program communication plans and products are produced and followed

Objective 4. By 2026, technology will be used effectively to reach diverse audiences.

Research	Create data views and portals for end user access Participate in NERR wide technology initiatives Respond to new technology opportunities for information format/delivery
Monitoring	Create data views and portals for end user access Develop content for distance delivery and virtual engagement Maintain live feed of accessible long term monitoring data on KBNERR website
Education	Enable partners to share Reserve info through technology Schedule Reserve staff as guests on others' webinars Livestream public events Coordinate radio and other media opportunities Show drones and hand-held instruments for measuring environmental conditions in the classroom
Training	Produce distance delivered topical training, collaborative workspaces Align with UA information technology on technology use and practice Build capacity for staff and partner virtual engagement
Administrative	Ensure that a technology replacement plan is in place Incorporate emerging communication technologies in outreach Develop social media plan including templates Establish a mechanism for maintenance and regularly scheduled updates of the KBNERR website

Objective 5. By 2026, the Reserve has implemented a data delivery and management plan.

Research	Establish protocols for data acquisition and metadata organization (followed by everyone) Document current data locations/serving for management plan

	Use technology to improve efficiency and reduce error
Monitoring	Ensure consistent version control and data storage Track whether observing and data delivery platforms/portals are continually able to access real time/updatable monitoring information
Education	Assess educator needs for curated data delivery, preferred delivery methods and frequency
Training	Assess decision maker needs for curated data Cross train staff on data management and delivery protocols Facilitate KBNERR data exchange with partners
Administrative	Obtain dedicated funding for data management and serving

Objective 6. By 2026, the Reserve will have an established role in providing resources and training to educators for curriculum or workforce development.

Research	Serve as guest lecturers/speakers Provide expertise at teacher trainings/field trips Provide data and summaries for curriculum
Monitoring	Work with education staff and teachers to incorporate field-based data collection protocols into curriculum Provide monitoring data and in-person support for Teachers on the Estuary training
Education	Annual workshops for TOTE Work with UAA to recruit undergraduate and graduate students for training programs (pre-service) Develop a short Master Naturalist Training for local ecotourism guides and operators
Training	Mentor local educators for workforce development Develop teacher needs assessment
Administrative	Expand use of bunkhouse for housing visiting teachers Establish a cost center for paying Work to recruit pre-service educators for programs

Goal 3: Build capacity for coastal stewardship through information exchange, skills-building, and partnerships.

Objective 1. By 2026, 100% of local elected and appointed officials and coastal decision-maker audiences will be informed of Reserve projects and information.

Research	Partner with municipalities on research projects Participate in public meetings and provide audience appropriate content
Monitoring	Partner with tribes on environmental monitoring projects Provide monitoring summaries and updates for government public processes/presentations
Education	Provide public programs that spotlight information exchange Invite officials to open events or present based on their roles

Training	Identify elected, appointed officials and coastal decision-makers in CTP needs assessment Identify opportunities for bringing projects to public process meetings
Administrative	Add elected, appointed officials and coastal decision-makers to communication plan

Objective 2. By 2026, 10 coastal resource users and decision makers report that their actions are informed by Reserve science.

Research	Document and share success stories from research projects and partnerships
Monitoring	Report community data requests, information usage and participation in monitoring results with regulatory agencies
Education	Encourage teaching from kids to parents, engage youth as entry points to communities Educate resource users, industry representatives, and NGOs using science to advocate 6 Month follow up evaluation with teacher trainings
Training	Train staff in writing success stories, program evaluation and follow through Serve on other boards and participate in agency planning meetings Evaluate trainings, document testimonials, intent to use and follow up
Administrative	Outreach success stories locally Conduct long-term evaluation of initiatives Serve on other boards and participate in agency planning meetings Collect reports of use of Reserve science at Community Council Meetings

Objective 3. By 2026, staff from all sectors will present or provide leadership annually at professional knowledge-sharing or skill-building events.

Research	Practice presentations with staff to build skills Identify topical workshops and conferences Present research papers and publications and lead trainings
Monitoring	Practice presentations with staff to build skills Identify topical workshops and conferences Lead trainings, develop monitoring protocols for sharing
Education	Co-Lead educator and education professional trainings Professional sharing session at local-regional science conferences and symposia
Training	Train staff in science communication and facilitation Design trainings with staff that are good for professional skill building Provide opportunities for leadership at local-regional science conferences and symposia Annual meeting planning and professional development at national meetings
Administrative	Develop funding strategy, write travel into grants Allocate travel funding to attend professional events Recruit professionals to trainings (event management)

Objective 4. By 2026, the Reserve will engage in collaborative forums to maintain and grow partnerships.

Research	Participate and present at annual/seasonal forums including conferences, workgroups, meetings

Monitoring	Participate and present at annual/seasonal forums including conferences, workgroups, meetings
Education	Participate and present at annual/seasonal forums including conferences, workgroups, meetings
Training	Participate and present at annual/seasonal forums including conferences, workgroups, meetings Provide technical assistance in coordination of informal and formal workgroup and networking opportunities
Administrative	Allocate funding and support for staff and partner time and travel Identify forums that overlap with ACCS staff Sponsor/Convene Kachemak Bay Science Conference and/or Alaska Conservation Science meetings

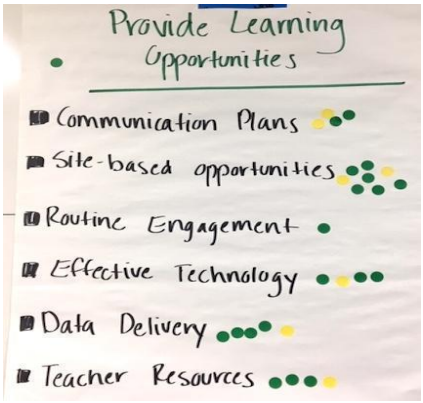
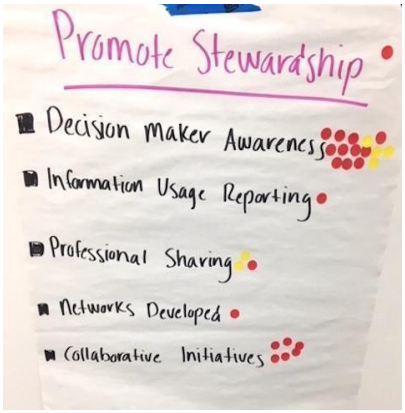
Objective 5: By 2026, the Reserve will connect to more partners locally, across the state, and around the country to show Reserve relevance.

Research	Support partner projects with in-kind services and assets Identify KBNERR niche in global initiatives and NERR system for science transfers and topical research projects Publish and present papers and identify communities of practice
Monitoring	Participate in topical workgroups Share curated data Participate in national and international monitoring initiatives
Education	UA platform to expand reach, connecting with remote campuses
Training	Update training market analysis, attend state and national meetings, Intentional partnership with complementary training organizations Facilitate opportunities for information exchange between researcher and decision-makers Work with task force groups to work synergistically toward data collection and problem resolution
Administrative	Foster and participate in community, statewide and national collaborations that support KBNERR programs Success stories of transfers from KBAY to bioregion/state/other NERRS Empower partners to share reserves stories/relevance by creating communication products and materials Market the Reserve to more partners Closer matching with ACCS partners Identify and facilitate article submissions to current and new media outlets Work with the KBNERR Community Council to identify how it actively participates in Reserve activities

3.6 Prioritizing

Prioritizing is key in strategic planning—limited resources may prevent meeting all objectives and require choosing among them. For this plan, KBNERR solicited input on priorities from its Community Council, which represents KBNERR partners and "clients" (e.g., key users of KBNERR programs and data, such as schools, governments, landowners, and other decision-makers). At a meeting on February 19, 2019, council members and others attending were each given colored dots and asked to vote for one "top priority" objective under each goal and a single "special emphasis" objective (yellow dots) among all goals. Results, shown below, will be used to guide prioritization of Reserve efforts.

Table x: Strategy prioritization exercise results from KBNERR Community Council

4 Program Foundations

4.1 Research and Monitoring Program

4.1.1 National Research and Monitoring Program

Research at each reserve is designed to fulfill reserve system goals as defined in regulation (15 C.F.R Part 921(b)). Reserves are created to provide a stable platform for long-term research on estuarine conditions and relevant coastal management issues. The System-Wide Monitoring Program (SWMP) delivers standardized measurements of short-term variability and long-term changes in water quality and biological systems, and maps land use and land cover characteristics across all reserves. The effort is focused on three ecosystem characteristics: abiotic characteristics (water temperature, salinity and quality, and weather); biotic characteristics (habitat types and species); and watershed and land use characteristics (land cover and elevation changes). Reserve-generated data meet federal geographical data standards and are available via the Reserve System's Centralized Data Management Office (CDMO). Reserves also serve as sentinel sites for observing how coastal habitats respond to changing water levels. This program is guided by the *reserves' System-wide Monitoring Program Plan,* the *Reserve Habitat Mapping and Change Plan,* and *Sentinel Sites Guidance.*

The Reserve System also supports applied research through its Science Collaborative program and the Margaret A. Davidson Graduate Fellowship program. The Science Collaborative funds competitive research projects that engage end-users in the project design and address system wide NERRS research and management needs. The goal of the Davidson Fellowship is to build the next generation of leaders in estuarine science and coastal management. The fellowship provides opportunities for graduate students to conduct research within a reserve under the guidance of a mentor who also supports their professional development.

The *Reserve System Strategic Plan* outlines research objectives to maintain and expand biophysical and socioeconomic monitoring to track environmental change, increase the use of collaborative research to address decision-maker needs, and ensure that scientific, education, and management audiences can use the data, research results, and tools developed by the system.

4.1.2 National System-Wide Monitoring Program

Environmental monitoring is supported through the System-Wide Monitoring Program (SWMP), which provides standardized data on national estuarine environmental trends while allowing flexibility to assess coastal management issues of regional or local concern. The System-Wide Monitoring Program Plan describes SWMP and its role in supporting the National Estuarine Research Reserve System's mission and strategic goals, details existing capacity, and outlines an implementation and development plan for the program. SWMP monitors short-term variability and long-term changes in water quality, biological systems, sea level and lake level change impacts on coastal habitats, and land use and land cover characteristics of estuaries and estuarine ecosystems for the purpose of informing effective coastal zone management. The program is designed to enhance the value and

support the vision of the reserves as a system of national reference sites and focuses on three ecosystem characteristics:

1. **Abiotic Characteristics**: Abiotic measurements are taken using standard protocols, parameters, and approaches that describe the physical environment, including weather, water quality, and hydrological conditions. The monitoring program currently provides data on water temperature, specific conductivity, pH, turbidity, salinity, concentration of dissolved oxygen, and water depth. Meteorological data include air temperature, relative humidity, barometric pressure, wind speed, wind direction, rainfall, and photosynthetically active radiation (PAR). In addition, the program collects monthly nutrient and chlorophyll samples at all stations and monthly diel samples at one SWMP data logger station. Data are Federal Geographic Data Committee compliant and available via the CDMO.
2. **Biotic Characteristics**: Reserves are focusing on monitoring habitats and biodiversity.
3. **Watershed and Land Use Classifications**: The Reserve System is examining links between watershed land use and coastal habitat quality by tracking and evaluating changes in coastal habitats and watershed land uses and land cover. This element is guided by the Reserve System Habitat Mapping and Change Plan[3].

Building on these foundational elements, the Reserve System is developing a network of sentinel sites and the capacity to assess the impact of sea level/lake level changes and inundation on the diverse set of coastal vegetative habitats represented in the system. Reserves are implementing a suite of activities, as described in Reserve System Sentinel Site Guidance Documents[4], to assess relationships between vegetative communities (marsh, mangrove, and submerged aquatic vegetation) and sea level. Reserves are adding surface elevation tables and monitoring pore water chemistry along vegetation monitoring transects and linking their SWMP to a network of specialized spatial infrastructure to allow precise measurement of local sea level and lake level changes and subsequent impacts to key habitats. The Reserve System is working in partnership with NOAA's National Geodetic Survey and the Center for Operational Oceanographic Products and Services to support the development of sentinel sites.

4.1.3 KBNERR Research and Monitoring Program context

Setting and Context:
The KBNERR Research and Monitoring (R&M) program is place-based and focused on ecosystem aspects of Kachemak Bay and surrounding watersheds. The large size of the Reserve area and its proximity to the Gulf of Alaska make KBNERR an ideal long-term sentinel site for tracking, understanding, and interpreting larger-scale ecological shifts related to climate change in Southcentral Alaska.

Research is conducted both independently and in collaboration with regional, state, and national partners, resulting in numerous baseline and analytic datasets and maps. These provide key information for coastal decision-makers and the public and guide future studies. Research data supports developing effective, innovative solutions to coastal management problems and concerns. The Reserve is recognized as a regional leader of watershed research, in particular for the robust body of work in Kenai Lowlands watersheds-which are a center of human activity adjacent to the Reserve. Key coastal research activities led by the Reserve include detailed intertidal assessments, regional salt marsh mapping, studies of estuarine fish communities, and assessing relative changes in land and sea level.

Monitoring initiatives, including the System-Wide Monitoring Program (SWMP), and the Harmful Species Community-based monitoring program support short- and long-term data acquisition. SWMP tracks parameters such as water quality, meteorology, and salt marsh vegetation. Harmful species program focuses on HABs and

[3] See *Mapping Land Use and Habitat Change in the National Estuarine Research Reserve System*, 2015, at https://coast.noaa.gov/data/docs/nerrs/Standard_Operating_Procedures_Mapping_Land_Use_and_Habitat_Change_in_the_NERRS.pdf.
[4] See for example, *Sentinel Sites Program Guidance for Climate Change Impacts*, 2012, at grandbaynerr.org/wp-content/uploads/2014/06/Research_SentinelSitesGuidanceDoc.pdf and *Coastal Habitat Response to Changing Water Levels*, *NERR Sentinel Site Application Module 1,* 2016, at coast.noaa.gov/data/docs/nerrs/Research_SentinelSitesGuidanceDoc.pdf

marine invasive species such as European Green Crab and tunicates. KBNERR staff also partner on monitoring phytoplankton, zooplankton, oceanographic shifts, and continued tracking of relative sea level change.

Priority Issues:
KBNERR R&M efforts focus on three biophysical focal areas: oceanography, coastal ecology, and watershed ecology. Examples of R&M areas of interest are listed above. Projects often combine environmental and biological research, monitoring, and analysis with spatial mapping techniques to provide useful Geographic Information System (GIS) products promoting holistic understanding of terrestrial, marine, and/or estuarine environments. Since the last management plan, discrete, grant-funded research projects continue to contribute to understanding of local and regional long-term trends and key ecological functions, including landscape connections supporting headwaters stream habitats for juvenile salmonids, and the downstream export of nutrients fueling lower river reaches, fish movements in estuaries, nearshore fish communities, HABs, marine ecosystem responses, groundwater aquifers, ocean circulation patterns and acidification (OA), salt marsh dynamics, peatland carbon studies, ecosystem services, coastal erosion, coastal habitat dynamics, and estuarine food webs.

Priority Audiences:
The program works to remain responsive to local needs so that it can contribute to the resiliency of coastal communities. Input from the KBNERR Community Council and periodic coastal decision-maker needs assessments help the R&M program identify local concerns and priorities. Reserve staff engage with coastal and regional resource managers, planners, research colleagues, and others to jointly identify R&M needs. Reserve staff also track national trends and topics relevant to the subarctic region. By sharing this information with decision-makers and local communities, KBNERR assists stakeholders in developing effective ways to help their communities adapt to change while promoting optimal, sustainable ecosystem functions.

4.1.4 KBNERR Research and Monitoring Program capacity

R&M program capacity depends primarily on a dedicated Research Coordinator, full time or part-time research technicians, facilities, and transportation (on-road and off-road vehicles and boats) funded through the Reserve operating award for continuation of the Reserve's monitoring programs. Capacity is enhanced through additional project-based grant funding which allows hire of additional staff (Research Professionals and technicians) as well as creative partnerships involving a wide variety of entities. KBNERR has a history of involving other universities; state, federal, borough, and local agencies and governments; nonprofit organizations; and local schools in their research and monitoring projects. Collaborative partners are identified in Appendix A. KBNERR capacity is also expanded by support available through the University of Alaska and the NERR System for professional training and technical support. The Science Collaborative offers competitive opportunities for funding of collaborative research, information and technology transfer, graduate education, and adaptive management to the development and application of science-based tools to detect, prevent, and reverse impacts of coastal pollution and habitat degradation in a time of climate change. The Reserve R&M program has a strong history of funding through the NERR Science Collaborative program, Kachemak Bay was designated as a NOAA Habitat Focus area in 2016, which provided project support for bivalve studies. In 2019, the Reserve was designated as a Smithsonian Working Lands and Seascapes site, for Salmon and People studies and engagement.

4.1.5 KBNERR Research and Monitoring Program delivery

Program delivery is built upon system-wide monitoring requirements, engaging a variety of R&M partnerships and mechanisms for stakeholder involvement, which lead to the identification of key questions and concerns. This platform provides a base for developing proposals and designing projects to meet identified needs. Needs not readily addressed through KBNERR programs can be redirected to partners who have the appropriate expertise and programmatic resources.

R&M program delivery, as well as capacity, is enhanced by integrating R&M activities with KBNERR's outreach activities. This in turn promotes dissemination of R&M data. All Reserve staff (permanent, temporary, volunteer, intern, and visiting) work together to promote cross-training among programs, resulting in the ability of all personnel to help acquire and deliver R&M information. This creates efficient integration of programs, effective information sharing, and cross-fertilization of ideas.

NOAA performance measures are reported by R&M each fiscal year, including number of monitoring initiatives, students involved, grant proposals written, and grant proposals funded.

4.1.6 KBNERR Research and Monitoring Program future needs and opportunities

To identify and prioritize R&M needs, Reserve staff meet regularly to discuss activities and findings and to generate new ideas through cross-sectoral input and coordination. R&M capacity is constrained by limits on funding, time, and expertise and related limits on staff, facilities, and equipment. Funding uncertainty limits staff ability to aggressively pursue and take advantage of R&M opportunities as they arise.

Due to the rapidly changing climate, coastal environments face new challenges—among them sea level change, ocean acidification, changes in fresh and marine water temperatures, frequency and intensity of storm events, alterations in precipitation patterns, long-term drying trends in surrounding watersheds, rapid loss of coastal glaciers, ongoing coastal uplift, and spread of harmful species. KBNERR is on the forefront in initiating and implementing R&M efforts to collect information essential for recognizing and understanding such local and regional environmental change. The R&M staff work closely with the training program to incorporate feedback from local decision-makers and needs assessments.

4.1.7 KBNERR Research and Monitoring goals, objectives, and strategies

R&M staff take a leading role in the KBNERR overarching Goal 1: Through monitoring and research, they develop knowledge relevant to coastal communities, and have significant parts to play in all KBNERR goals and strategies to meet collective objectives. Desired program outcomes for the next 5 years are reflected in R&M strategies found at:
Research: https://drive.google.com/file/d/1iRcSz-FmeDW_nkcpqyCKQToQ1OxyB34v/view?usp=sharing
Monitoring: https://drive.google.com/file/d/1gqVYCcB9w63CbyqNA6q4KZH1ZKTqi1jU/view?usp=sharing

4.2 Education Program

4.2.1 National Education Program

The National Estuarine Research Reserve System's mission includes an emphasis on education, interpretation, and outreach. Education at each reserve is designed to fulfill reserve system goals as defined in the regulations (15 C.F.R Part 921(b)).

The Reserve System seeks to enhance public awareness and understanding of estuarine areas and provide suitable opportunities for public education and interpretation. The Reserve System increases estuary literacy among students, teachers, and the public through the K-12 Estuarine Education Program (KEEP) and Conservation Action Education programs.

The K-12 Estuarine Education Program helps educators bring estuarine science into the classroom through hands-on learning, experiments, fieldwork, and data explorations using grade-appropriate lessons, activities, and videos. Reserves also offer teacher development programs that use established coastal and estuarine science curricula aligned with state and national science education standards. Teachers on the Estuary (TOTE) workshops give teachers the opportunity to explore coastal habitats and conduct field investigations, learn how to integrate local and national monitoring data into the classroom, and gain hands-on experience using estuary education resources.

As part of the Conservation Action Education program, reserves conduct formal and informal education activities and outreach activities that target culturally diverse audiences of educators, students, and environmental professionals; people who use these natural resources for work or play; and the public. Reserves integrate research and monitoring into their educational and outreach efforts, providing a multi-faceted, locally focused approach aimed at engaging the community.

The Reserve System Strategic Plan outlines education objectives designed to increase the public's awareness of and participation in stewardship activities; improve educators' and students' understanding and use of the Reserve

System and NOAA resources for place-based and inquiry-based learning; and grow and motivate the next generation of coastal professionals through access to programs and facilities that facilitate research, resource management, and educational opportunities.

4.2.2 KBNERR Education Program context

Setting and Context: Kachemak Bay surrounding areas are home to around 12,000 people. Populations fluctuate seasonally due to tourism and seasonal employment. The context of the Reserve's education program is shaped by the need to:

- identify and employ effective methods for engaging stakeholders and addressing their concerns, including those of Alaska Native villages and other remote communities;
- train educators in informed, place-based science;
- meet people where they are in their learning journey;
- develop useful and user-friendly decision-making frameworks, e.g., related to climate resilience and carbon reduction;
- effectively market program offerings to new audiences;

Priority Audiences: The education program has identified the following target audiences to focus on for the next 5 years

- students in grades 7-12;
- teachers at all levels—both public and private and including professors at the Kachemak Bay Campus of UAA Kenai Peninsula College;
- partners providing education about coastal environments (e.g., AMNWR, Alaska State Parks, and other NERRs); and
- informal audiences of residents and visitors.

Priority Audiences: Through a Market Analysis/Needs Assessment of educators in 2010, Reserve staff determined that climate change and related topics of sea level rise and ocean acidification warranted more focus. Reserve educators have since included climate-related science in nearly every educational offering delivered.

4.2.3 KBNERR Education Program capacity

Internal and External Resources: The Education Program is the primary responsibility of the Education Coordinator and Education Specialist(s). Reserve R&M and Administrative Research Technicians/Professionals assist with program content and delivery. Challenges in capacity faced by KBNERR's Education Program in the past 9 years include changing state partners, moving offices from the Alaska Islands and Ocean Visitor Center (AIOVC) to the KBNERR Field Station, and losing staff educators and funding opportunities. Moving to a new building left the education team without a designated education venue and with greatly decreased access to the fully equipped lab classroom that had been a significant part of KBNERR identity prior to the move. Staff shortfall made it difficult to maintain previous capacity, and adjustments were made in how education was provided—with a new focus on a classroom-based approach with one or two educators.

Another significant constraint on Education Program capacity has been the need to constantly seek new funding sources and the related sense of job insecurity. Most educational grants are highly competitive, especially larger national grants. National funders look for large outreach numbers, which is difficult to guarantee in a small Alaskan community. State and local grants are easier to obtain but generally cover only 1 or 2 months of staff salary, requiring a patchwork of grants to piece together a year of programming.

Strategic Partnerships: Given these challenges, partnerships have played an increasingly significant role in KBNERR's educational capacity. Reserve educators have developed and fostered a growing number of mutually beneficial partnerships, especially through the Kachemak Bay Environmental Education Alliance (KBEEA). Key partners are listed below. Other education partners are identified in Appendix A [Partnership matrix].

1. The Pratt Museum – The Pratt Museum and the Reserve coordinate as full partners in conducting long-term visioning, developing programs, and seeking grants (www.prattmuseum.org).

2. The Center for Alaskan Coastal Studies – CACS and the Reserve coordinate as full partners in conducting long-term visioning, developing programs, and seeking grants (www.akcoastalstudies.org).
3. AMNWR– Refuge education staff act as full partners with KBNERR education staff (http://alaskamaritime.fws.gov/).
4. Project GRAD – In school and afterschool programs within the KPBSD
5. ADF&G – youth salmon celebration

4.2.4 KBNERR Education Program Alignment and Delivery

KBNERR educational offerings are delivered through a variety of formats, including: Naturalist in the Classroom (NITC), Teachers on the Estuary (TOTE), Master Naturalist, lunch lectures, Barley and OATs (Outdoor Adventure Talks), Project Grad, Estuary Hikes, and school field trips. The NOAA Hollings Prep Program, NOAA Hollings Scholar, and NOAA Educational Partnership Programs support students in learning applied research methods at KBNERR. The education program supports the Reserve R&M program by incorporating input from R&M activities into educational offerings such as Discovery Labs and TOTE while also coordinating with the CTP.

K-16 and professional teacher development programs include use of KBNERR-developed coastal and estuarine science curricular activities aligned with Alaska and Kenai Peninsula Borough School District educational standards, among them inquiry-based lab classroom activities and field experiences.

Programmatic evaluations are an ongoing tool used by KBNERR staff to measure the effectiveness of formal K-16 educational offerings. Written evaluations are completed by visiting teachers whose students participate in K-12 Discovery Labs, and the KBNERR CTP has begun using an electronic tool which assists participants in rating training, including teacher professional development training.

4.2.5 KBNERR Education Program future needs and opportunities

There are four environmental education organizations in the greater Homer area that have programs covering overlapping topics. This is a challenge for KBNERR, which needs to create a distinct identity and to offer the community, students and educators valuable programming that isn't duplicative. Additionally, significant staff turnover within partner organizations over the past 3 years has resulted in some confusion about how respective program decisions should be handled. Since the reserve transition to a University state partner, there is an opportunity and desire to bridge the historical gap in services KBNERR has experienced with secondary and post-secondary learners to ensure longitudinal student engagement and alignment with UAA student recruitment and success goals. Partnerships with communities, schools and student supporting organizations (Project GRAD, ANSEP) will be important to identify self-selecting students in KBNERR related fields to create internship experiences. Collaborative grant writing with partners (CACS, CRRC) can also be a means to expand programs and services to additional remote communities in the Gulf of Alaska bioregion. Self-guided and virtual curriculum and resources based on KBNERR and NERR System content would enhance the education program reach while minimizing potential travel costs.

4.2.6 KBNERR Education Program goals, objectives, and strategies

Education staff take a leading role in the KBNERR overarching Goal 2: Provide opportunities for all learners to improve coastal science literacy and have significant parts to play in all KBNERR goals and strategies to meet collective objectives. Desired program outcomes for the next 5 years are reflected in Education Program strategies found at https://drive.google.com/file/d/101UYk5Y3u85HdJffFRn56L4nTURd61ox/view?usp=sharing.

4.3 Coastal Training Program (CTP)

4.3.1 National Coastal Training Program

The reserve system has a responsibility to educate coastal decision makers and supports reserve system goals, as defined in the regulations (15 C.F.R. Part 921(b)).

The CTP provides up-to-date scientific information and skill-building opportunities to coastal decision-makers on relevant coastal management issues. Target audiences may vary for each reserve, but generally include local elected or appointed officials, managers of both public and private lands, natural resource managers, coastal and community planners, and coastal business owners and operators. They may also include such audiences as farmers, watershed councils, professional associations, recreation enthusiasts, researchers, and more.

The place-based nature of reserves makes them uniquely positioned to deliver pertinent information to these audiences. Each reserve conducts an analysis of the training market and assessment of audience needs to identify how best to deliver relevant training on priority issues to their area.

Partnerships are integral to the program's success. Reserves work closely with a host of local partners, as well as several NOAA programs, to determine key coastal resource issues and the appropriate target audiences and expertise needed to deliver relevant and accessible programs.

The Reserve System Strategic Plan outlines coastal training objectives designed to ensure that coastal decision-makers and environmental professionals understand and effectively apply science-based tools, information, and planning approaches that support resilient estuaries and coastal communities.

4.3.2 KBNERR Coastal Training Program context

The KBNERR CTP works to enhance understanding, appreciation, stewardship, and management of Alaskan coastal resources and enable sustainable resource management. Since inception in 2002, the program has provided science-based training, technical assistance, and collaborative learning opportunities to coastal decision-makers on a wide range of coastal issues. Here, "coastal decision-maker" describes any individual who makes regular decisions that impact the coastal or estuarine environments, either directly or indirectly, through their professional or volunteer activities. The approach for CTP has been adjusted from the last management plan to reflect changes in the training market, emerging issues, and state partnerships (now based within a University instead of a regulatory agency). The CTP 2021-2026 approach is informed by:

- stakeholder interviews from a 2019 Ecosystem Services Assessment
- findings from a 2018 NOAA OCM program review
- a 2018 analysis of the CTP sector priorities and network dynamics
- results of a 2010 Market Analysis and Needs Assessment,
- routine workshop/training participant evaluation surveys,
- feedback from CTP advisors
- informal exchanges, and unsolicited feedback

Ecological and Socioeconomic Setting and context:
The CTP operates in a setting consistent with the overall KBNERR context described in the introductory sections 2.3 Ecological characteristics and key species and 2.4 Social attributes and population demographics. The geographic scope and service area of the CTP overlaps with that of the Research, Monitoring and Education sectors, but can apply more broadly to coastal Alaska. Coastal decision-makers can be located outside the KBNERR geographic area and may have little familiarity with, or even interest in, Kachemak Bay environments and communities even though their actions influence the management of KBNERR.

Priority Issues/Training Needs
The basis of CTP priority issues and decision-maker training needs come from a peninsula-wide coastal decision-maker needs assessment (KBNERR CTP, 2010) and a program review (NOAA OCM, 2018). Since 2015, when UAA ACCS replaced ADF&G as the Reserve's state partner, CTP has incorporated into program delivery the mission and goals of ACCS along with the NERR System Strategic Plan. ACCS focuses on facilitating conservation and management of natural resources through data synthesis projects and technical assistance with increased access to conservation data. As part of a 2018 analysis of the CTP sector priority training and technical assistance topics and the network dynamics the CTP sector developed the consensus definition of a priority topic as one that:

1. Uses the CTP's niche capabilities while advancing the mission of the Reserve; and

2. Is considered important to target audiences and/or advisory groups and/or addresses a science-based need identified by the Reserve or its stakeholders

Unique conditions in Alaska make the following issues priorities, particularly on the Kenai Peninsula, where ecological functions are relatively intact, providing a myriad of ecosystem services to residents and visitors. In a low-regulatory environment, conservation and effective resource and land use planning are desired approaches instead of habitat restoration and mitigation. Additionally, climate impacts have been observed in the Gulf of Alaska and statewide, raising concerns and reflecting the immediacy of an adaptive response to these issues. Fish habitat (in the watershed, nearshore and ocean environments) is of particular concern to local audiences as Alaskan commercial, subsistence, and recreational fishing significantly contribute to the economic and cultural resilience of the population. In addition, CTP uses the positive and negative perceptions of natural resource management, policy, and practices from an Ecosystem Services Assessment (Flaherty et. al, 2019) to inform CTP training needs in regard to the context of state and local decision-making. Perceptions of resource management are useful in understanding opinions and attitudes, as well as in improving communication between organizations and the community.

Table x: Negative and Positive Perceptions of Natural Resource Management
(% of Interviews = total percentage of interviews that contained the associated threat) (n = 31).

Negative Perceptions

Natural Resource Management

Management-Related Topic	*% of Interviews*
Science Gaps	51
Fisheries Management	45
Agency Budget Constraints	35
Political Influence	25
Disjointed/Ineffective Management/Policies	19
Insufficient Enforcement	9

Positive Perceptions

Natural Resource Management

Management-Related Topic	*% of Interviews*
Federal & State Policies and Protections	58
Local Policies & Protections	29
Scientific Research	26

The highest request for training and technical assistance by coastal decision-makers has been for coastal science knowledge transfer, specifically on climate change impacts, fish and wildlife management in a changing climate, habitat protection, and cumulative impacts. Additional technical training and skill development topics have been requested that allow people to more effectively use coastal science, such as effective public outreach and engagement, how to communicate science, planning for climate change, sustainable design and development, permitting and planning processes, geospatial mapping, invasive species identification and response, and other ecosystem-based management tool trainings. Results of the 2010 Needs Assessment indicated that climate change, conservation biology, ecosystem-based management, oceanography, and cumulative impacts were topics of high interest for CTP audiences. In recent years CTP has developed trainings that address these topics while integrating up-to-date local research and monitoring data.

To refine the priority issues and training needs highlighted in the Needs Assessment for this management plan, the KBNERR team first met in a strategic planning process. The KBNERR Community Council and Education and Research Subcommittees also met as a part of a program review by NOAA OCM in 2018-2019 to select priority coastal management issues of the KBNERR. While the priority issues are fairly broad in nature, they are all connected and influence the way in which we inhabit this coastal area and support KBNERR efforts and its ability to effectively fulfill its mission. The following topics align with strategic goals and reinforce the priorities from the Needs Assessment:

Understanding Environmental Change: Enhancing community resilience to prepare for or prevent impacts of climate change

Training Needs: Water quality, extreme weather, marine toxins and HABs, invasive species, ocean acidification, freshwater resources, coastal erosion and shoreline change, flooding, glacier loss, habitat loss, climate mitigation and adaptation ecosystem services

Understanding Land Use and Human Impacts: Providing science to mitigate anthropogenic stressors and maintain coastal ecosystem services

Training Needs: Siting industrial and commercial activities, natural infrastructure solutions, monitoring socio-economic change, managing visitor use, ecological functions and ecosystem connectivity

Community Relevant Engagement: Building capacity to connect with stakeholders and contextualize place-based research in decision-making

Training Needs: Effective public outreach and education, sustainable design and development, suitability mapping, planning for climate change

Long-Term Ecosystem Monitoring: Understanding drivers of habitat quality, biodiversity and ecology of species of local importance

Training Needs: Harvestable species: groundfish, anadromous fish, shellfish; utilization species: migratory shorebirds and waterfowl, marine mammals

Emerging skills training needs in the next five years are based in social science, new technology and tools for more effectively understanding and communicating coastal management issues. Examples are ecosystem service valuation, resource economics, land and resource use conflict resolution, effective virtual stakeholder engagement, community based social marketing, and risk communication skills. Emerging topical issues or training needs that are anticipated in the next five years will potentially be cross-linked to more than one priority topic such as resource use and development pressure in a changing climate. Example topics:

Increasing HAB risk with growing mariculture industry or wild shellfish harvest

Drought in tandem with increasing agriculture and material extraction activity in watersheds

The KBNERR CTP has already offered workshops, trainings and/or technical assistance opportunities on most of the topics listed, and the program will continue to offer, develop, and expand its training opportunities to address the key issues outlined in current and future needs assessments based on periodic review and as new decision-makers are identified in the region.

Priority Audiences

While the efforts of the KBNERR's education programs make information available to a wide audience of residents and visitors (preK-16 students, families, adults), the primary audiences of the CTP are coastal decision-makers. Here, "coastal decision-maker" describes any individual who makes regular decisions that impact the coastal or estuarine environments, either directly or indirectly, through their professional or volunteer activities. They can be divided into four general categories: coastal policy decision-makers, coastal resource managers, coastal resource user groups, and researchers.

1. coastal **policy decision-makers** at all levels (local, tribal, borough, state, federal), including elected officials, land use and resource planners, and regulatory agencies;
2. coastal **resource and land managers** at the local, tribal, borough, state, and federal, levels;
3. coastal **resource user groups**, including local business and community stakeholders—this varied group ranges from land developers, tourism businesses, and recreators to environmental and educational non-profits; and
4. **researchers** from varied backgrounds and disciplines interested in conducting research or developing multidisciplinary partnerships.

Table x: Priority CTP audience categories and example entities

Audience Type	Example Entities

Policy DMs Local-State Government *staff, elected and appointed officials*	City of Homer City of Seldovia Kenai Peninsula Borough Seldovia Village Tribe Port Graham Tribal Council Nanwalek IRA Council Ninilchik Traditional Council
Land Managers Landowners *staff of corporations, land trusts*	KPB Land Management Kachemak Heritage Land Trust SOA Department of Natural Resources Cook Inlet Regional Inc. Tribal Corporation Kenai National Wildlife Refuge Kenai Fjords National Park Alaska Maritime National Wildlife Refuge
Resource Managers *Regulatory Agency Staff*	SOA Department of Fish and Game- Sport, Commercial, Subsistence and Habitat Divisions SOA Department of Environmental Conservation- Division of Environmental Health SOA Department of Natural Resources- State Parks SOA Department of Health and Social Services- Division of Public Health NOAA Fisheries Enforcement Field Office
Resource users *Businesses, staff of nonprofits, advocates, educators*	Fishermen Tourism Businesses Mariculture Operators Chamber of Commerce Homer Soil and Water Conservation District Kenai Watershed Forum
Researchers *academics, conservation*	NOAA NCCOS Kasitsna Bay Lab University of Alaska: UAF CFOS, UAA ACCS, UAA KPC Alaska Pacific University Cook Inletkeeper Cook Inlet Regional Citizens Advisory Council USGS Smithsonian Institute

In the 2019 Ecosystem Services assessment most interviewees emphasized that responsibility for local resource management largely falls to state and local authorities and felt federal influence over the Kachemak Bay area's resources was fairly removed. The most frequently mentioned management and regulatory authorities include ADF&G, City of Homer Planning Commission, and Kenai Peninsula Borough. The Department of Fish and Game was most often discussed in the context of fishery and wildlife management, while the Homer Planning Commission and Kenai Peninsula Borough were largely tied to land use and development decision-making.

Alignment within the Reserve

Like all KBNERR programmatic sectors, CTP leverages KBNERR and NERR system-wide resources to create effective training opportunities for diverse audiences. Specific initiatives and projects are detailed in the strategic partnerships section.

CTP provides expertise in collaborative project design and evaluation, as well as stakeholder engagement and social science tools that enhance capacity to attract extramural funding. Typically, emerging priority training issues parallel new research and monitoring lines of inquiry, as stakeholder needs are identified through CTP engagement and evaluation, and research and monitoring staff discover innovative research and methods and develop new coastal science to connect with decision-makers. CTP training and technical assistance experts work with R&M sectors to root stakeholder engagement and training programs in KBNERR science, drawing on research, data and expertise of R&M staff. CTP works closely with the Education Program to translate place-based research into place-based learning opportunities for both programs' audiences. CTP and education staff

collaboratively plan mutually beneficial holistic engagement, such as offering topical or thematic in-school programs, community leader training, and technical assistance on the same day in remote communities. CTP also works with Education to facilitate intergenerational and place-based learning opportunities, connecting students and coastal decision-makers.

CTP contributes to system-wide sector planning and initiatives through performance monitoring and success stories. CTP also provides unique perspectives in incorporating local knowledge and creative engagement strategies from a rural subarctic setting to the national NERR story.

4.3.3 Coastal Training Program capacity

Capacity
CTP tasks are funded by the NOAA Operations award; the CTP Coordinator position is dependent on additional extramural funding. The National CTP provides 9 months of full-time funding (approximately .75 FTE) to coordinate and implement the local program, and additional funds may be available from other projects to supplement the position. Partner programs provide oversight, staff time, and in-kind support by participating on the KBNERR CTP's Advisory Committee, providing feedback on needs assessments and program design, and assisting with supplies and marketing. As a leading sector in engaging social science tools and expertise in the NERR system, there are future opportunities to increase capacity by seeking extramural funds on emerging coastal socio-economic issues. Additional options to increase capacity are building out a fee structure for payment for training, although it is preferred to provide services free of charge to ensure access for target audiences.

Strategic Partnerships
Social networking and participating in cross-sector and community events supports existing relationships and attracts potential partners. CTP also participates in multidisciplinary workgroups focused on local, regional, or state issues. This enables CTP to share current research findings and promote science-informed resource management. Participating in workgroups also familiarizes KBNERR CTP staff with partner informational needs. Specific active partnership activities are listed in Appendix A.

Strategic partnerships with other sectors
Education and training:

- Staff work together to design and evaluate Master Naturalist and TOTE training, coordinate topics for youth and community engagement with professional and decision maker training so the whole population is talking about the same thing (unified approach).
- Accessing decision makers through multi-generational events, co-presenting with youth into governing bodies, or offering joint programming to youth and decision makers when traveling to remote communities.
- Design and evaluate conservation action education collaborative learning processes.

Research and Monitoring:

- Co-producing workshops and training with research and professional partners.
- Identifying end user needs, writing grant proposals

Strategic Partnerships within Reserve System

- NERR Science Collaborative Research Projects
- Topical or Methods Science Transfers
- Informal NERR exchanges
- Routine CTP Sector Engagement

Strategic Partnerships with External Programs
CTP commonly works with external programs and initiatives outside the Reserve system. CTP is involved or takes a leadership role in several collaborative local and regional programs, including:

- Ad-hoc or routine multi-partner workgroups and coalitions (Kachemak Bay and Lower Cook Inlet Marine Ecosystem Workgroup, Woodard Creek Coalition, MAPP)
- Issue-driven policy workgroups (Material Site Extraction, Habitat Protection Districts, Climate Resilience and Sustainability)

- Coordinating Partner of the triennial Kachemak Bay Science KBSC

Training Partnerships

Local, state and national partnership opportunities are important for effective training delivery. A statewide market analysis was conducted initially in 2002, and updates were made in Fall 2009 through phone interviews, feedback from the CTP Advisory Committee, and internet searches. The goal of the market analysis is to determine regional training efforts already in existence to avoid duplication by the KBNERR CTP. In addition to helping determine the KBNERR CTP 'niche', the market analysis identifies partnership opportunities for program delivery. The most common types of training that occur on the Kenai Peninsula outside of the CTP are public meetings, agency-specific training/workshops, citizen science training, and training for required certifications. Overall, the market analysis results emphasize the absence of redundant services on the Kenai Peninsula. Most organizations on the Kenai Peninsula that were part of the market analysis do not provide regular training/workshops to coastal decision-maker audiences, all of them, however, could provide or already have provided partnerships for coordinated training events.

This finding was reconfirmed through the 2018 analysis of the CTP sector priority training and technical assistance topics and the network dynamics. The KBNERR CTP provided data on key partners that included:

1. Any organization that touches the funding for the reserve (provide, pass-through or manage funds).
2. The responsible entities for the program (state and federal partners, local council).
3. Entities that are responsible for the operation and success of the program (administrative partners)
4. Entities that send staff to training sessions (including entities that provide grants) on a regular basis.
5. Entities that are responsible for helping the CTP meet its management goals. This includes other entities that are providing training in the area, as well as entities that provide "in-kind" services such as entities that work with or assist you in planning/implementing training or technical assistance that provide training space/materials.

Training partnerships span the spectrum of networking (weakest collaboration), cooperation, coordination, coalition to collaboration (strongest collaboration). The nature and level of collaboration varies among CTP partners, depending on the "type" of partner (e.g., Federal, state), whether they engage through training, technical assistance or both, and the potential for partners to extend the reach or leverage the CTP impact. Below are key local, regional, state and national training partners, for additional information about these and other CTP partners, see Appendix A [partnership matrix].

- National key partners for CTP are the NOAA Digital Coast training program, NOAA Office for Coastal Management Learning Services Division, the NERR Science Collaborative, and individual and groups of other NERRs in the national system.
- Statewide organizations and agencies that KBNERR regularly partners with include the Alaska Sea Grant & Marine Advisory Program, Alaska Department of Fish & Game, Alaska Ocean Observing System (AOOS), and the University of Alaska system.
- Regional partners on the Kenai Peninsula include the Kenai River Center agencies (Kenai Peninsula Borough, Alaska Department of Fish & Game, U.S. Fish & Wildlife Service, the EPA, and the Department of Natural Resources – State Parks), the Kenai Watershed Forum, and regional non-profit organizations.
- Local partnerships within Kachemak Bay include Center for Alaskan Coastal Studies, City of Homer, Cook Inletkeeper, Homer Soil and Water Conservation District, Kachemak Heritage Land Trust, Seldovia Village Tribe, NOAA NCCOS Kasitsna Bay Lab, and local non-profit organizations.

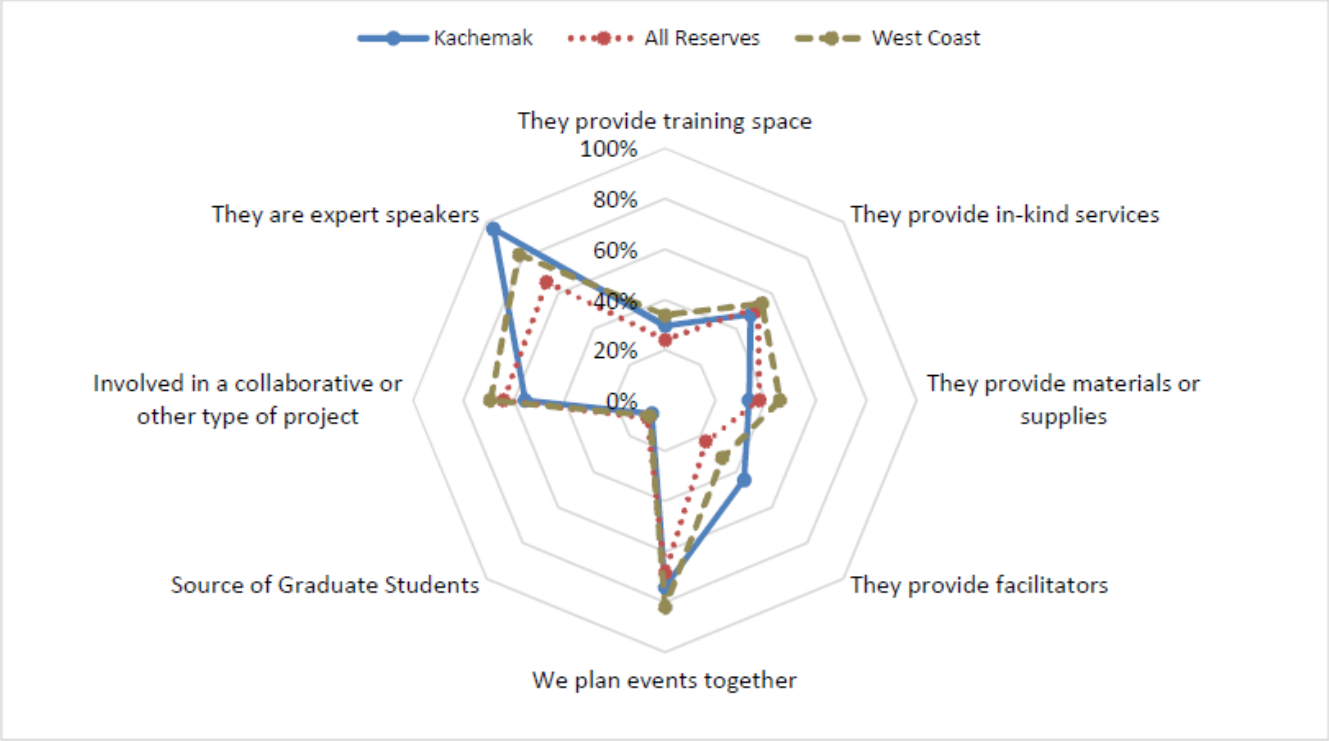


Figure 8. Analysis of the KBNERR CTP, regional CTP and NERRS CTP partner network dynamics (2018)

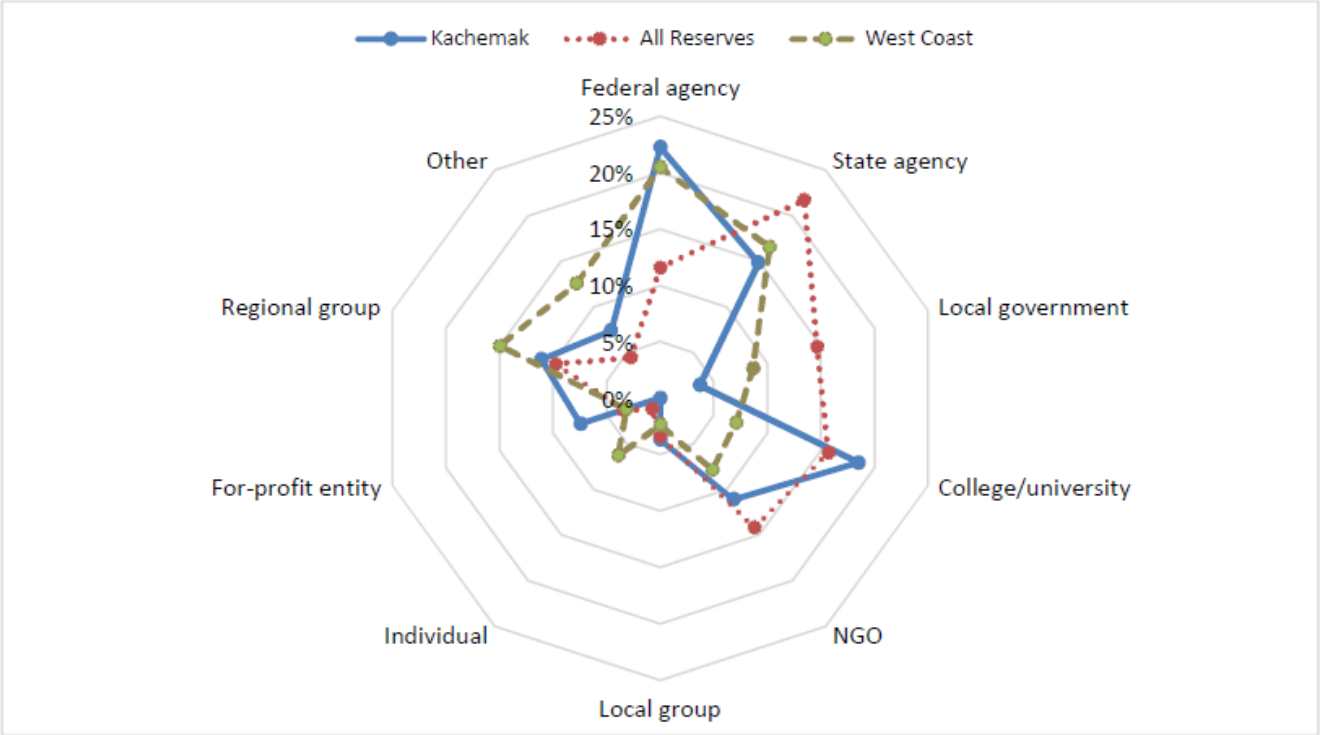


Figure 9. Analysis of the KBNERR CTP, regional CTP and NERRS CTP partners (2018)

Future opportunities include working more with:

- Professionals who interact with larger audiences for other reasons- stakeholder liaisons or nodes like planners and permitters, economic development and commerce groups.
- Advocacy organizations that enhance stewardship outcomes and community based social marketing

4.3.4 Coastal Training Program delivery

Target audiences for CTP offerings are described in detail in section 4.3.2 KBNERR Coastal Training Program context. To serve these diverse audiences, CTP develops offerings in a variety of formats tailored to the needs and backgrounds of different groups. Formats include seminars, hands-on skills training, lectures and demonstrations, collaborative roundtable workshops, presentations to specific decision-making bodies, and guided educational field trips and field-based training. CTP also develops products such as graphics, GIS-based story maps, and publications to deliver information useful and relevant to specific audiences. Training events and educational products that are organized for one audience, like a policy maker, can additionally benefit and serve other coastal decision-makers, such as industry representatives.

The majority of training events occur at the Kachemak Bay Campus of the Kenai Peninsula College, UAA or the AIOVC in Homer due to the concentration of coastal decision-makers in the area, and the excellent training venues. The Kenai River Center in Kenai-Soldotna, located equidistantly between Seward and Homer, is also a primary location for training delivery, particularly for trainings of peninsula-wide interest. Due to capacity and need, focus for training delivery has remained on the Kenai Peninsula. An exception is when CTP can fill statewide needs and recruitment of larger audiences is necessary. The statewide training approach relates to coastal management topics and skills-based training in the absence of a state Coastal Zone Management Program, and to serve additional training needs for the University of Alaska. Statewide training venues include the Gorsuch Commons at UAA in Anchorage, and conference centers when training is delivered as part of regional or state workshops, conferences and symposia.

The KBNERR CTP continues to foster external partnerships with government agencies, non-profit organizations, and academic institutions to leverage resources for program design, marketing, and delivery. Results from workshop evaluations and decision-maker preferences drive selection of format and delivery methods. Generally, workshop lengths of 2 hours to 2 days are preferred, and considerations for supervisory approval, low-cost, and close proximity of workshop delivery increase participation. Annual activities for CTP depend upon current interest and need to address locally relevant issues (including coastal erosion, flooding, HABs, groundwater resources, and risk communication) and decision-maker needs. One or more topics or audiences may be targeted annually in a comprehensive initiative to provide training and supporting technical assistance to address priority management issues. These initiatives can be designed within the CTP annual work plan or be supported by external grant funding.

Training and Technical Assistance Approaches and Activities:

- Deliver coastal science and technological training topics based on recent needs assessments, KBNERR priorities, CTP Advisory feedback & partnerships, and opportunistic events.
- Continually identify barriers and gaps through informal conversations and formal evaluations after the completion of workshops and/or training.
- Coordinate issue or topically driven workgroups to increase the opportunities of coastal scientists to network, coordinate, and share their plans/results to support ecosystem-based management. Coordinate additional outreach of these scientists' efforts and results.
- Participate in directed collaborative efforts such as Science Collaborative projects, and coordinate science outreach through workshops, conferences, colloquiums, and/or distributed written materials.
- Coordinate science communication workshops to facilitate better exchange between scientists, the media, and the public.
- Continue to use informal requests and unsolicited feedback on evaluations to identify needs and shape training events.
- Meet consistently with and provide updates to CTP Advisors, KBNERR management team and partners to discuss CTP and KBNERR priorities and upcoming events.
- Request evaluations for each effort and report these in the National Estuarine Research Reserve performance measures. Use additional details to inform the local KBNERR CTP efforts.

- Maintain the KBNERR website and utilize local and statewide partners, radio, newspaper, and electronic listservs to outreach each CTP events (where appropriate).
- Contribute to the overarching reserve communication and marketing plan. This will include the creation of an outreach 'how to' that provides templates and checklists for delivering an effective outreach and marketing effort.

4.3.5 Coastal Training Program future needs and opportunities

CTP monitors local decision-making frameworks and processes such as elected and appointed bodies, long term collaborative planning processes, and agency initiatives to address training needs on an ongoing basis. CTP detects emerging issues at the local, regional and statewide level and incorporates system-wide priorities and NOAA OCM resources to deliver to priority audiences.

Opportunities exist for the Reserve to increase its outreach to and involvement with Kachemak Bay communities beyond Homer. KBNERR collects information relevant to residents of all communities surrounding Kachemak Bay, including the three Native villages on the south side of the bay—Seldovia, Port Graham, and Nanwalek—and the four Russian "Old Believer" villages on the north side, three near the head of the bay—Razdolna, Kachemak Selo, and Voznesenka—and Nikolaevsk in the Anchor River watershed. Opportunities exist to geographically expand training and technical assistance based on KBNERR research and monitoring relevant to Gulf of Alaska Coast and Cook Inlet Basin ecoregions, particularly in partnership with organizations that serve the seven tribes of the Chugach Region (CRRC), and regional citizens advisory councils (Prince William Sound Regional Citizen Advisory Council (PWSRCAC) and Cook Inlet Regional Citizen Advisory Council (CIRCAC)). Statewide expansion could leverage UA community campuses and distance delivery capacity to reach more rural Alaskan communities that could benefit from KBNERR training and technical assistance.

4.3.6 Strategies for CTP Monitoring and Evaluation

The Coastal Training Program requires a systematic approach to clarify the Reserve's niche in the training market and to develop appropriate offerings. Needs assessments of particular audiences are used to determine issues and topics of greatest interest, which then guide development of CTP workshops. Achievement of short-term outcomes are measured through workshop/training participant evaluation surveys, informal exchanges, and unsolicited feedback, and is recorded quarterly for the NERR performance measures. Mid- and long-term outcomes will be determined from a combination of success stories, reflection and analysis of progress or change over time, and formal evaluation techniques, such as external program evaluation.

To enhance the training and technical assistance of the Kenai Peninsula and Coastal Alaska decision-makers, the KBNERR CTP is guided by the KBNERR Community Council with special oversight by the Education Subcommittee and targeted advice from core statewide partners who cannot attend regularly scheduled meetings in Homer. Statewide advisors to the CTP include UAA ACCS, NOAA regional, Alaska Sea Grant, and Alaska Ocean Observing System, Chugach Regional Resource Commission, and Prince William Sound Science Center staff who provide guidance, program reviews, and additional perspectives on program development. The KBNERR Community Council Education Subcommittee meets quarterly to discuss upcoming goals, activities, and possible partnership efforts between the KBNERR CTP and other organizations within and outside the committee membership. The statewide advisors help to ensure effective statewide communication and efforts of coastal science outreach. The KBNERR CTP also collaborates and coordinates with a wide range of additional government, university, and non-profit partners. (See Appendix B for description of KBNERR Community Council and Subcommittees and Appendix C for CTP advisory partners list.)

4.3.7 KBNERR CTP goals, objectives, and strategies

CTP Mission: Enhance understanding, appreciation, stewardship, and ecosystem management of Alaskan coastal ecosystems by providing science-based training, technical assistance, and collaborative learning opportunities to decision-makers.

CTP Goal: To inform and enhance collaborative decision-making for the sustainability of Alaskan coastal ecosystems, particularly in Kachemak Bay and the Kenai Peninsula in the Gulf of Alaska.

Training staff take a leading role in the KBNERR overarching Goal 3. Build capacity for coastal stewardship through information exchange, skills-building, and partnerships and have significant parts to play in all KBNERR goals and strategies to meet collective objectives. Desired program outcomes for the next 5 years are reflected in the CTP Logic Model and the CTP strategies in the Reserve Strategic plan and are consolidated in Appendix C). Currently found at: https://drive.google.com/file/d/129gPERJKuYAoxJxxE-n4W28JJb9YQ0fn/view?usp=sharing.

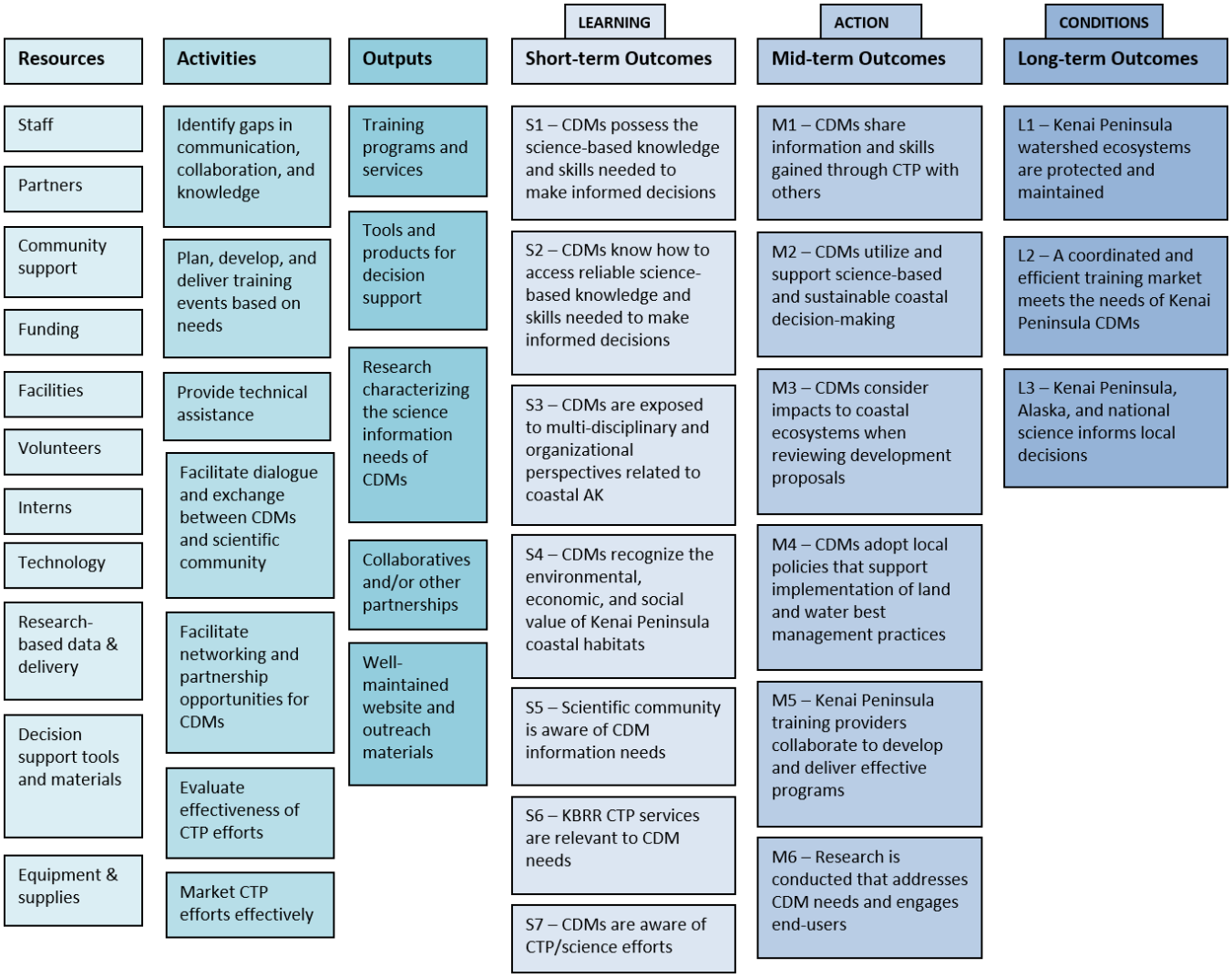


Figure 10. KBNERR CTP Logic Model

5. Administration and staffing

Goals, objectives, and strategies for the Administrative programmatic sector for the next 5 years can be found at: https://drive.google.com/open?id=1zYAidzKLaotGFt0yfS8PaYEtT_mdnH3d

5.1 Background

KBNERR is characterized by a small, close-knit staff focused on key NERR programmatic sectors. Reserve staff regularly collaborate on grant writing, field research, monitoring, outreach, and educational programs. All staff members have the responsibility to deliver coastal knowledge to community audiences and decision-makers, who benefit from direct communication with researchers. Staff benefit from opportunities for professional development and cross training to hone science communication skills and a deeper understanding of the range of research methods and data-collection processes. Seasoned staff make special efforts to bring new staff (as well as interns and students) into the field to assist with data collection at different sites and for different projects. Time spent in the field translates to a more articulate explanation of research and results when informing decision-makers and presenting to local audiences.

KBNERR administration and staffing have undergone a significant transition since the previous management plan. During FY2014 (July 2014–June 2015), Reserve staff developed a six-page prospectus and approached both the University of Alaska Fairbanks, School of Fisheries and Ocean Sciences (UAF), and ACCS to evaluate their interest in and ability to become the state administrative partner. After several meetings between KBNERR, NOAA, ACCS staff, and UAA's Dean of the College of Arts and Science, a Memorandum of Agreement was drafted and UAA became the state administrative partner effective July 1, 2015. KBNERR transitioned from its original state partner with five existing staff who became term employees and moved offices to the Field Station modular office and bunkhouse on Kachemak Dr. This agreement was made possible because UAA is part of the Pacific Northwest Cooperative Ecosystem Studies Unit (CESU) [See 312 #11 for details.]

Although this transition occurred recently, the Reserve is already networking more broadly within the region and state and successfully attracting new funding sources. A significant advantage to transitioning from ADF&G oversight to oversight by an academic partner is an increased ability to apply for funding outside the mission of ADF&G's Sport Fish Division to meet the community needs more holistically.

Another benefit is a change in staff structure. Rather than the steeply hierarchical structure characteristic of ADF&G, staff structure has flattened, allowing a more collaborative approach to decision-making, grant writing, and program delivery.

5.2. Organizational framework and charts

5.2.1 Organizational chart, Alaska Center for Conservation Science, University of Alaska, Anchorage

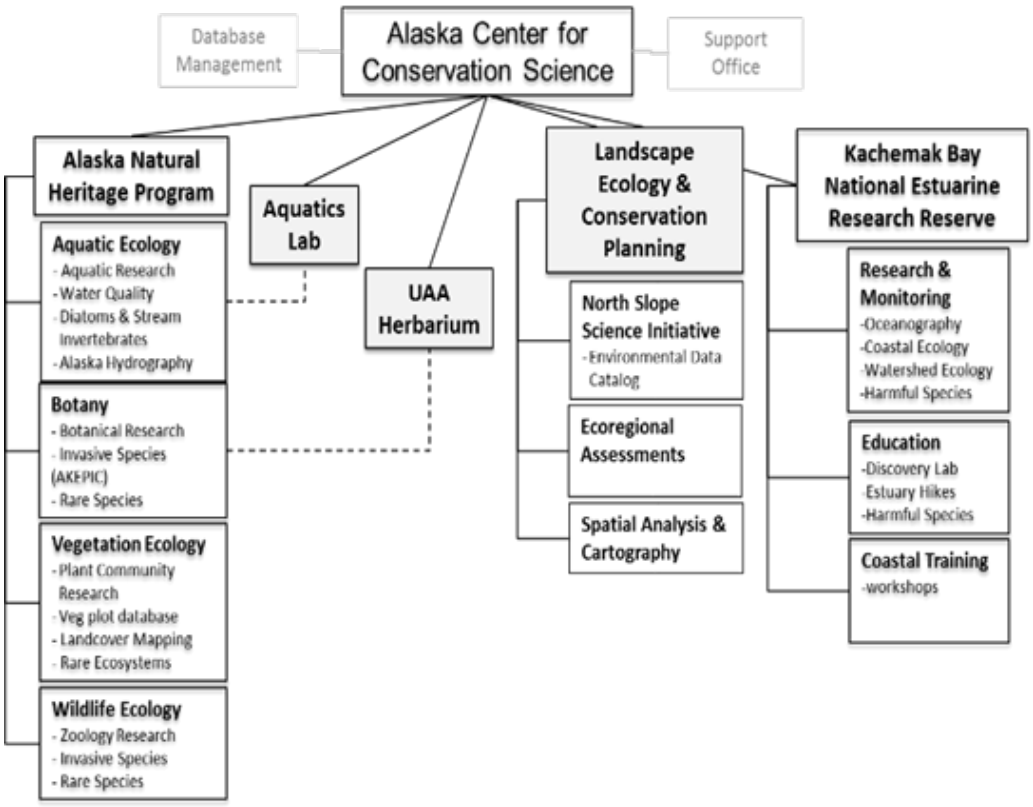


Figure 11. Organizational chart of ACCS

5.2.2 Organizational chart, Kachemak Bay National Estuarine Research Reserve

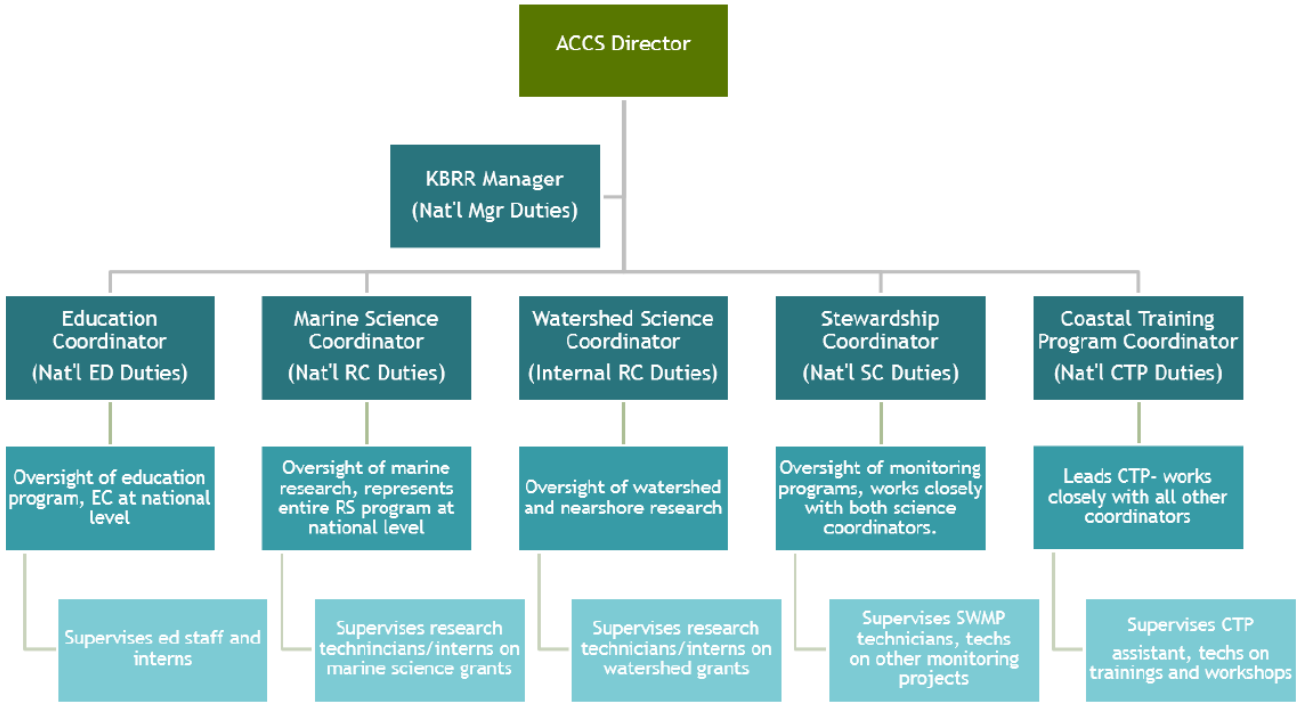


Figure 12. Organizational chart of KBNERR

5.3. *Staffing needs and plan*

Staff turnover has been high between January 2014 and December 2019. The Reserve has had gaps in a dedicated Manager with the Education Coordinator serving as Acting Manager. There have been three CTP Coordinators and six administrative support staff since the last management plan. In July 2017, the Research Coordinator position was vacated. Persistent financial and organizational insecurity, and the need to handle inherited or multiple projects have led to staff burnout. For long term success of KBNERRs programs, increasing staff stability is desirable.

5.4 *KBNERR Partnerships*

As noted in Section 2.1.4, KBNERR's key federal and state partners are, respectively, NOAA's Office for Coastal Management, National Estuarine Research Reserve System and the University of Alaska Anchorage, Alaska Center for Conservation Science. KBNERR's vision and mission complement those of its state and federal partners and its Strategic Plan (Section 3) provides a framework for guiding key partnerships.

Developing other active and effective partnerships is a priority and strength of KBNERR. As Goal 3, Objective 4 specifies in Section 3, "By 2026, the Reserve will engage in collaborative forums to maintain and grow partnerships." As is clear from discussions of KBNERR programmatic sectors in Section 4, many partnerships significantly leverage, strengthen and expand KBNERR programs and operations. Partnerships also dramatically expand the resources and expertise the Reserve can bring to bear in its information gathering, educational outreach, coastal training, and problem-solving efforts. The striking diversity of KBNERR partners—federal and state agencies, local governments, academic and non-profit organizations, community groups, etc.—and the types of partnerships maintained are summarized in Appendix A. These partnerships reflect five general levels of engagement:

Members belong to one system, consensus is reached for all decisions Frequent communication is characterized by shared trust	**Collaboration (strongest collaboration)**
Share ideas, share resources, Frequent and prioritized communications, All members have a vote in decision-making	**Coalition**
Share information and resources, defined roles Frequent communications, some shared decision-making	**Coordination**
Provide information to each other, somewhat defined roles Formal communications, all decisions made independently	**Cooperation**
Aware of organization, loosely defined roles All decisions are made independently	**Networking (weakest collaboration)**

5.4.1 *Partnership Matrix*

In addition to its key federal and state partners referenced throughout this plan, a wide variety of other entities work with KBNERR and, in countless ways, support its activities and operations. The variety of these partnerships is suggested in the Partnership Matrix. The Partnership Matrix identifies KBNERR's types of ongoing partners, along with their level of engagement, as defined above, with KBNERR programs and operations—ranging from co-decision makers to partners that are simply kept informed on a regular basis. The Partnership Matrix also suggests in what ways partner efforts support and/or overlap with KBNERR's four programmatic sectors. Information in the Partnership Matrix provides a straightforward way for KBNERR staff to identify which partners should be actively involved in specific KBNERR efforts and which to approach for various kinds of advice, feedback, cooperation, information, or support. The table below outlines these relationships in general, for the full Partnership Matrix, see Appendix A.

Type of entity	Partnership type
Local NGOs, regional collaborations, federal agencies, schools and universities, advisory council	**Collaboration**
Federal agency/university partnership	**Coalition**
Advocacy groups, Tribal coalitions, NGOs, federal agencies, schools and universities, regional land managers	**Coordination**
State and federal agencies, local and regional governments, Tribal entities, NGOs and universities	**Cooperation**
State and federal agencies, for-profit consultants	**Networking**

5.5 Advisory committees and purpose

KBNERR benefits significantly from a Community Council that serves as an advisory board and lends a comprehensive perspective to KBNERR activities and programs. The Council facilitates input from local government, state and federal agencies, and other key stakeholders interested in Reserve activities and directions. Nine community members and two alternates are selected for 3-year terms through an application process, with final selection and appointment made by the UAA ACCS Director. Additionally, agency members represent KBNERR's key borough, state and federal partners and are selected as outlined in the Community Council charter, which provides direction for community involvement with the Reserve. The Community Council has established standing committees for research, education, and legislative affairs. Other subcommittees may be formed to assist in implementation of Reserve programs on an as needed basis. The Council meets quarterly in March, June, September, and December. Most meetings are 3 hours, but occasionally the staff organize all-day events with site visits to other communities such as Seldovia or Soldotna. Quarterly Community Council meetings provide an important forum for identifying coastal management needs. Committees provide a sounding board for program ideas and collaborations.

Other forums for gaining input include the tri-annual Kachemak Bay Science Conference (2012, 2015, 2018, 2021), annual Alaska Marine Science Symposia (annually), and topic-driven workshops and workgroups. Since the dissolution of Alaska's Coastal Management Program in 2011, KBNERR has continued to work closely with the regional (Kenai Peninsula Borough) coastal management program, as well as with other coastal management entities (state, federal, and non-governmental) to evaluate and respond to local community concerns.

5.6 Budget considerations

Over the next 5 years, funding at both state and federal levels is anticipated to remain unstable. If reductions occur, the Reserve may experience a shortfall in non-federal matching funds, at which point obtaining a stable match source for NOAA Operations award will become a primary task for administrative and management teams. Future funding plans will continue to advocate for stable or increased state support to reduce the need to look elsewhere for non-federal funds.

Overall expenditures are projected to grow by at least 5% annually across the board (e.g., personnel, operations and maintenance, equipment). To continue to thrive, KBNERR—like the National Research Reserve System—must innovate to keep programs healthy and relevant. KBNERR staff in all sectors must be ready to pursue new opportunities that can meet the Reserve's vision and mission and anticipate staff expansion or attrition based on grant funded initiatives.

The KBNERR Manager works closely with other NERR Managers and with the non-profit National Estuarine Research Reserve Association (NERRA) to provide timely information to Congress on system-wide successes as well as program and facility needs to inform annual budget requests.

5.7 Communication Plan

The goal for this communication plan is outlined in Goal 2, Objective 1 of the Strategic Plan: By 2026, every initiative has a communication plan with messages, mediums, and venues for target audiences. As a reserve wide communication plan and guidelines develop over the next 5 years, it will involve internal as well as external communications, and provide guidance for routine and initiative-based strategies. Internally, the goal is to increase clarity and information transfer between program sectors with consistent and defined expectations for all staff, students, volunteers and interns. Externally, the goal of outreach and communication is to be consistent, thoughtful, and well-branded to ensure that messages find their target audiences with regularity and clarity. This will help the Reserve develop a reputation as

- a responsible partner with consistent communication for coordination of cooperative efforts and
- a resource for information that is timely and pertinent to local constituents.

To this end, KBNERR has identified the need to create a specific communication strategy whenever a new project is initiated. To maintain consistency between projects and create a culture of inclusion among staff, when a new project is initiated, the tasks listed below will be accomplished to identify communication expectations:

1. Create project team that includes representation from necessary programs
2. Identify communication roles within team
3. Identify audiences for targeted outreach
4. Identify communication needs/objectives for the project
5. Identify schedule/methods/responsible parties for outreach
6. Develop an evaluation plan

5.7.1 Audiences

KBNERR audiences include all coastal decision makers, from policy makers to local property owners. Since KBNERR does not own land nor have authorities to enforce best management practices, building strong collaborations with agencies and educating the public are important to ensure stewardship of lands within the Reserve boundary. With such a broad reach, KBNERR needs to link their niche in the community strongly to their outreach potential. This means identifying different levels of expectations for communication with different audiences, as well as identifying key players who can most successfully outreach Reserve efforts to different audiences. For starters, KBNERR staff have identified audiences such as:

- The Community Council
- Stakeholders pertinent to each project
- Partners on each project
- Funders for each project
- Teachers and Environmental Educators
- Pre-K to post-secondary students
- Community monitors and volunteers
- Residents and visitors interested in issue addressed by project
- Media sources
- Political officials and policy makers

5.7.2 Message development and delivery

Due to its great variety of projects and audiences, KBNERR has identified the need to learn more about message development through professional training for staff and administration. Part of this learning will also come from evaluating the outreach that the Reserve does with different audiences on different projects.
For all messaging coming from the Reserve, it will be necessary to identify:

- the key objectives of the communication
- what message will be most effective for the different audiences identified
- what method of delivery will be most effective to reach that audience
- who will be best at this delivery (KBNERR staff, partner organization, or media person)
- the best timing and frequency for message delivery

5.7.3 Branding

The Reserve team will be able to use these next 5 years to develop a pattern for consistent communication to build recognition of KBNERR's products. This will include style guidelines for outreach materials such as pamphlets or presentations, business communications such as letterhead and business cards, and the Reserve's social media presence such as on Facebook. Since the website used by the Reserve is part of the UAA system, certain decisions about design and content are out of Reserve staff control. With those parameters in mind, branding is to be as clear and repeatable as possible.

6. Resource protection plan

As outlined in Section 2.6, the Reserve does not own land within Reserve boundaries. Most Reserve lands are legislatively designated areas (LDAs) in state ownership, but other ownerships are represented and discussed below. Landowners and their interests play a significant role in how resources are managed. For maps of Reserve boundaries and land ownership, refer to Section 2.6.

6.1 Management of legislatively designated areas

Most lands encompassed by KBNERR are protected through state legislative designations (see below). In addition, Alaska's fish protection statutes mandate the ADF&G Habitat Division to protect freshwater habitat for salmon and other anadromous fish and to ensure free passage for all fish in rivers, lakes, and streams anywhere in the state. Protected rivers, lakes, and streams are identified in ADF&G's Anadromous Waters Catalog online interactive mapper and include many streams and rivers in the Reserve.

6.1.1 Legislatively designated areas (LDAs)

State legislatively designated areas (LDAs)[5] are managed in accordance with enabling legislation, applicable regulations, and specific management plans. As discussed in Section 2.6, Reserve core lands consist of two LDAs: Fox River Flats CHA and Kachemak Bay CHA. Additional Reserve core and buffer areas are within Kachemak Bay State Park and Kachemak Bay State Wilderness Park, see below.
Enabling legislation and LDA acreage are listed in the table below. Anchor River-Fritz Creek CHA is included because the Anchor River mouth is the northern coastal boundary of KBNERR. Lower Anchor River and its estuary are within Anchor River State Recreation Area, which is managed by State Parks staff who manage Kachemak Bay State Park units. Anchor River watersheds provide ideal locations for studying salmon habitats and comparing these to habitats in Kachemak Bay watersheds.

Name of LDA	Alaska Statute (AS) Established Year	Current Year	acres[6]	link to management plan
Anchor River-Fritz Creek CHA	AS 16.20.605, 1985	1989	18,581	www.adfg.alaska.gov/index.cfm?adfg=anchorriver.managementplan
Fox River Flats CHA	AS 16.20.580, 1972	1993, update in progress	7,197	www.adfg.alaska.gov/index.cfm?adfg=foxriverflats.managementplan – plan being updated
Kachemak Bay CHA	AS 16.20.590, 1974		229,620	www.adfg.alaska.gov/index.cfm?adfg=kachemakbay.managementplan – plan being updated
Kachemak Bay State Park	AS 41.21.131, 1970, amended	update in progress	371,000	http://dnr.alaska.gov/parks/plans/kbay/kbayplan.htm and http://dnr.alaska.gov/parks/plans/kbay/kbay_prd_complete.pdf
Kachemak Bay State Wilderness Park	AS 41.21.140, 1972, amended			

[5] LDAs include state refuges, sanctuaries, critical habitat areas, ranges, special management areas, forests, parks, recreation areas, preserves, public use areas, recreation rivers, recreational mining areas, and mental health trust lands.
[6] Acreage figures are approximations of acreage of all lands, regardless of ownership, within exterior boundaries of legislatively designated areas. Consult referenced Alaska Statutes to determine legal description and management intent.

6.1.2 Critical Habitat Areas (CHAs)

Legislatively designated CHAs support essential life functions of fish and wildlife (e.g., nesting, staging, spawning) or large concentrations of one or more fish and wildlife populations. ADF&G Habitat Division develops management plans for and oversees activities within these areas. Habitat Division also implements a statewide special areas permitting program to manage land and water uses within Special Areas such as CHAs. Activities that may impact fish, wildlife, habitats, or existing public uses require a Special Area Permit; common, minimal impact activities are permitted under General Permits. All uses or activities must be conditioned to (1) be consistent with protection of fish and wildlife and their use, protection of fish and wildlife habitats and the purpose for which the special area was established; (2) not unduly restrict or interfere with public use and enjoyment of resource values for which the special area was established; and (3) ensure that any adverse effect on fish and wildlife and their habitats, and any restriction or interference with public uses, will be mitigated in accordance with 5 Alaska Administrative Code (AAC) 95.900. KBNERR complies with these regulations and obtains all necessary permits.

6.1.3 Kachemak Bay State Park and Kachemak Bay State Wilderness Park

The largest areas of Reserve lands and waters that are managed by ADNR State Parks are within Kachemak Bay State Park—Alaska's first state park—and Kachemak Bay State Wilderness Park—the state's only wilderness park (Figure 16). The two essentially roadless parks encompass roughly 371,000 acres of diverse lowlands, mountains, glaciers, forests, tundra, and marine waters. Acreages within park watersheds that drain into Kachemak Bay are included within Reserve buffer areas. Kachemak Bay State Park units encompass numerous inholdings. These include 201 privately owned parcels (approximately 845 acres) and 7 other parcels (189 acres), which are owned by University of Alaska, Seldovia Native Association, U.S. Bureau of Indian Affairs, or U.S. Bureau of Land Management.

Figure 13. Kachemak Bay State Park and Kachemak Bay State Wilderness Park. For a higher resolution map, go to: http://dnr.alaska.gov/parks/maps/KachemakBaySPMap2016.pdf.

6.2 Management authorities and land uses on other public lands in and adjacent to KBNERR

Extensive areas of non-legislatively designated state-owned public lands are adjacent to, upslope, and inland of KBNERR core and buffer areas. Some of these represent lands whose management and use are likely to affect KBNERR lands in the long-term.

6.2.1 State lands managed under the Kenai Area Plan and other state lands

In addition to State Parks (Division of Parks and Outdoor Recreation), three other ADNR divisions have significant roles in managing state lands within and adjacent to KBNERR. These are the DML&W, Division of Agriculture (DOA), and the Trust Land Office, which serves the Alaska Mental Health Trust Authority.

The bulk of non-legislatively designated state lands within and adjacent to KBNERR are managed in accordance with the state's Kenai Area Plan (KAP), which was adopted by ADNR in 2001[7] and is available at http://dnr.alaska.gov /mlw/planning/areaplans/kenai/. The plan gives each state parcel a number and then designates primary and secondary land uses for that "unit" (which may consist of one or many parcels). Land use designations are defined in Chapter 3 of the KAP. Designations trigger applicable state regulations that define how particular land uses can be conducted. Other uses may be allowed if compatible with primary uses or with resources for which a unit is designated. Three of the twelve regions distinguished in the KAP encompass watersheds draining into Kachemak Bay and uses of lands in these regions can affect conditions in KBNERR.

Within KAP Region 8, Unit 271 consists of grazing lands leased by the Fox River Cattlemen's Association. This lease overlaps about 4,100 acres of the Fox River Flats CHA—a Reserve core area. The grazing lease is overseen by two DNR divisions: DMLW and DOA. The grazing lease includes acreage within Fox Creek, Fox River, Sheep Creek, and Bradley River watersheds. An overview of the lease area, its relevant regulations, and a grazing management plan are provided in the *Fox River Flats Grazing Lease Area Coordinated Resource Management Plan* (CRMP), available at http://www.homerswcd.org/publications.htm #landuse). That plan is currently being updated with input from stakeholders, including KBNERR.

Other large state land units at the head of Kachemak Bay include units 261 and 271D, both designated for settlement (e.g., transfer to private owners for residential or commercial use); 271B, designated for resource management; and 271D and 271E, designated for general use (primary uses are not specified). KBNERR has an important and significant role to play in informing and educating decision-makers involved in planning and managing uses on these state lands.

Nine large blocks of state land within KAP Region 9A south of Seldovia. These parcels are designated for public recreation and tourism (units 183, 184, and 184A) or for water resources and uses (unit 184B). These uses are compatible with KBNERR aims and activities and can be informed and improved by integration with KBNERR programs. The Seldovia Native Association owns and manages lands that border Kachemak Bay State Park and State Wilderness Park and Kachemak Bay CHA. KBNERR coordinates with SNA.

6.2.2 Alaska Mental Health Trust Authority, Trust Land Office (TLO)

Some state lands within KBNERR boundaries are managed by DNR's Trust Land Office, whose sole responsibility is administering lands for beneficiaries of the Alaska Mental Health Trust (AMHT), managed by the Alaska Mental Health Trust Authority. Beneficiaries AMHT include individuals experiencing mental illness, developmental disabilities, chronic alcohol or drug addiction, Alzheimer's disease and related dementia, and traumatic brain injuries. The TLO manages about 4,568 coastal acres in Kachemak Bay, outlined in orange on the map above.

[7] State "Area Plans" are developed by ADNR DML&W in concert with other ADNR divisions, state departments, local governments, and area stakeholders, including the public.

6.2.3 Bradley Lake Hydroelectric Project

The Alaska Energy Authority leases about 6040 acres (ADL 222656) of state land south of the Fox River Flats CHA for operation of the Bradley Lake Hydroelectric Project. The lease expires in 2049. Activities at the site can impact adjacent KBNERR resources.

6.2.4 Alaska Maritime National Wildlife Refuge and Bureau of Land Management

Scattered parcels of federal lands are also encompassed within KBNERR boundaries, including roughly 1,195 acres in 19 BLM parcels (including NOAA's Kasitsna Bay Lab) and numerous small units of the AMNWR. The map at right shows Maritime Refuge lands within Kachemak Bay (as well as a part of Kenai National Wildlife Refuge located east of the bay). The Maritime Refuge is headquartered in Homer at the Alaska AIOVC.

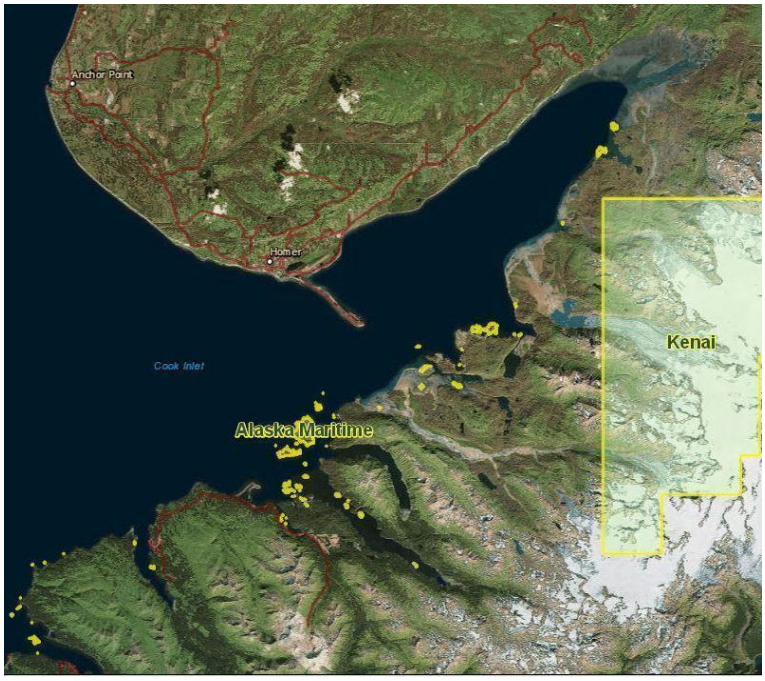


Figure 14. Alaska Maritime and Kenai National Wildlife Refuge Lands

6.3 Other ownership, management, and regulatory entities

Tribal entities

Large areas of lands adjacent to Reserve core and buffer areas, including lands in Anchor River watershed, are owned by Alaska Native entities. Among these owners and managers are Cook Inlet Region, Inc., Ninilchik Native Association, Seldovia Native Association, Inc., Nanwalek Village, English Bay Corporation, Port Graham Village Council, and Port Graham Corporation.

Kenai Peninsula Borough

The Kenai Peninsula Borough Coastal Management Plan has both enforceable and recommended policies. Based on this plan, the borough can comment on projects within coastal zone boundaries, which are defined as follows:

- Landward Limit: The landward limit of the interim coastal zone boundary is the 1,000-foot elevation contour in the Kenai Peninsula Borough.
- Seaward Limit: The seaward boundary of this zone includes the offshore waters to the 3-mile limit of state jurisdiction.

The Kenai Peninsula Borough Comprehensive Plan provides general planning guidance for borough lands in Kachemak Bay watersheds (and other watersheds throughout the borough). The most recent borough comprehensive plan was approved by the borough assembly in July 2018 (http://kpbcompplan.com/). The Kenai Peninsula Borough has worked with peninsula cities to develop a multi-jurisdictional mitigation plan, *Kenai Peninsula Borough All Hazards Mitigation Plan*. This document provides guidance for planning and development relative to hazards, such as earthquakes, floods, wildfires, tsunamis, seiches, and severe weather events. (http://www2.borough.kenai.ak.us/emergency/hazmit/plan.htm).

Alaska Department of Environmental Conservation

Alaska Department of Environmental Conservation (ADEC) has delegated responsibility from the U.S. Environmental Protection Agency (EPA) for air and water quality standards and nonpoint source pollution control activities. Water quality standards address physical and chemical properties and are enforced through permitting, field evaluations, and voluntary monitoring activities by public organizations. ADEC comments on permits administered by the U.S. Army Corp of Engineers and, with EPA, provides regulatory oversight of oil and gas exploration, municipal wastewater, and seafood processing discharge through the National Pollutant Discharge

Elimination System (NPDES). Air emissions are regulated by ADEC under delegated permitting responsibility from EPA. Oil pollution prevention planning for facilities and vessels is regulated by ADEC under 18 AAC 75, which requires a plan review every 3 years. Cook Inlet Spill Prevention and Response, Inc. (CISPRI) and Alaska Chadux Corporation currently hold member contingency plans for Cook Inlet and Kachemak Bay. ADEC also certifies water quality statewide for aquatic farming sites and commercially harvested shellfish beaches.

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers evaluates applications for discharge of dredge and fill material into waters of the U.S., including wetlands. Federal and state agencies (including the USFWS, National Marine Fisheries Service, and EPA), along with local governments (e.g., Kenai Peninsula Borough and City of Homer), review applications for USACE permits pursuant to the Fish and Wildlife Coordination Act (16 USC 661-666 et. seq.).

U.S. Environmental Protection Agency

Activities associated with the Clean Water Act (CWA) are regulated by the EPA. The CWA (33 USC § 1251, et seq.) prohibits discharge of sediments, fill material, and other pollutants into waters of the United States, except as authorized by a permit issued pursuant to Section 402 or 404 of the CWA (33 USC § 1342 or 1344). Section 308(a) of the CWA (33 USC § 1318(a)) authorizes EPA to require the submission of information regarding such discharges.

U.S. Coast Guard

Approval from the U.S. Coast Guard is required for certain kinds of work in navigable waters.

6.4 Surveillance and enforcement

The primary mechanism for enforcing state laws and regulations within the Reserve is through permit review. ADF&G and ADNR conduct some surveillance and enforcement within these areas with assistance from the Alaska Department of Public Safety (State Troopers and Fish and Wildlife Protection). Public Safety officers are currently based in Anchor Point, approximately 15 miles north of Homer. Some ADF&G and ADNR employees are deputized and authorized to enforce their department's regulations and issue notices of violation and citations. Officials with the Alaska Department of Public Safety have the authority to make arrests or take other appropriate action for violation of state laws and regulations.

7. Public access

7.1 Public access context

Public access is the ability of community members and visitors to pass physically and visually to, within, from, and along the ocean shoreline, other waterfronts, and over public lands. Opportunities to explore, experience, study, and enjoy Reserve lands and waters are directly related to public access. KBNERR itself does not own or directly manage lands or waters within Reserve boundaries and, as a result, does not manage access to and through the Reserve. As outlined in Section 6, most Reserve public lands and waters are managed by state agencies, primarily ADF&G Habitat Division, which manages CHAs, and ADNR Alaska State Parks, which manages State Park units. ADNR DML&W has responsibilities related to easements. Access to and within Reserve state lands and waters is managed in accordance with relevant state management plans, enabling legislation, and applicable state laws.

The current management plan for Fox River Flats and Kachemak Bay CHAs states: "Maintain existing public access into Kachemak Bay and Fox River Flats CHAs. Improve public access within Kachemak Bay CHA consistent with the goals of the management plan. Fox River Flats Trail should continue to be used as an all-weather trail with appropriate terms and conditions, including weight restrictions placed on use of motorized vehicles." Maintaining public access is also part of the mission of Alaska State Parks: "The Division of Parks and Outdoor Recreation provides outdoor recreation opportunities and conserves and interprets natural, cultural, and historic resources for the use, enjoyment, and welfare of the people." As management plans for the two CHAs and

for Kachemak Bay State Park are updated, and access issues are among the topics considered. KBNERR is routinely a key participant in these planning processes.

ADNR DML&W has the lead role in managing access on state lands adjacent to and upland of KBNERR; DMLW also manages submerged lands in the bay. These state lands are managed in accordance with the Kenai Area Plan—discussed in Section 6.2.1—and applicable state regulations. The Kenai Area Plan allows access to state lands for recreation, study, and other activities compatible with specific state land use designations.

The key role that the Reserve plays in regard to access is to educate decision makers and public users about information available to help identify sites best suited for different kinds of access and how that access can be accommodated in sustainable, resilient ways. Information collected and shared by the Reserve is also used to help address and ameliorate access issues that arise (see below).

The Reserve does not foresee major expansions in public access from land management agencies over the next 5 years. Existing access sites will be improved by land managers as resources permit and conditions warrant. As appropriate, KBNERR staff will continue to assist landowners and managers in planning access improvements,

7.2 Current public access and map of access points

Most visitors to Kachemak Bay arrive in the Homer area by motor vehicle or plane. Fewer arrive via the Alaska Marine Highway System (state ferry) or cruise ships; the number of cruise ships has been increasing in recent years. Public ferries operated by Seldovia Native Association (from spring to fall) and the Alaska Marine Highway System connect Seldovia to the Homer harbor. (The state ferry also connects Seldovia and Homer to Kodiak and the Aleutian Islands.) Individuals access the bay and its beaches in numerous ways, including via motorized and non-motorized watercraft, on foot, on 4-wheelers and other off-road vehicles, and on horseback.

Once in Homer, access to Kachemak Bay and Fox River Flats CHAs and Kachemak Bay State Park and State Wilderness Park is primarily via Kachemak Bay proper and a system of public trails. The state park map in Section 6.1.3 identifies many of these access points. There are approximately ten public boat ramps and docks located around Kachemak Bay, with the city-operated public boat launch in Homer harbor serving as the primary access point. Bay access can also be gained through Seldovia Harbor, Bradley River, Halibut Cove, and Jakolof Bay on the south side, and via Mud Bay, Mariner Park, Bishop's Beach, and Diamond Creek Trail on the north side. Fox River Flats can be accessed from the bay, via the beach on the north side of the bay, and via the Switchback Trail at the terminus of East End Road. Other public access can be found along Homer Spit, Homer Airport beach, and Sterling Highway.

North Side Access

On the north side of the bay, beach access is available by road from the Sterling Highway at the Anchor River State Recreation Area in Anchor Point and at Bishop's Beach near Beluga Slough in Homer. Beluga Slough and Bishop's Beach can be reached by a short walk on an improved trail from the AIOVC. Mud Bay in Homer is accessible from Kachemak Drive to non-motorized use. Several pull-outs along the Homer Spit Road allow for motorized and pedestrian beach access. On the whole, however, access to the north side of the bay is limited due to high bluffs to the east and west of Homer's central business district. The few available access points along the north shore are heavily used. Conflicts between users was recently addressed by the Homer City Council, with a ruling that vehicle traffic on Homer beaches be limited to tidal lands to the west of Bishop's Beach throughout the year and Mariner Park during winter months.

The Switchback Trail at the terminus of East End Road connects via the beach to the Fox River Flats Trail, which runs from the head of the bay up the valley on the north and west side of Fox River Flats. The Switchback Trail has been improved by local users and now provides vehicle access to the Russian Old Believer village of Kachemak Selo. KBNERR is involved in exploring ways to address issues related to increased levels of travel and use of larger vehicles across the Fox River Flats.

South Side Access

The south side of Kachemak Bay is not accessible by road and has sustained less human impact than the north side. Travel to the south side from Homer requires a boat or small plane, and each summer, hundreds of private boats, water taxis, and public and private ferries cross the bay in support of recreational, educational, and research activities.

Kachemak Bay State Park provides 15 named trailheads on the south side of the bay, with state park cabins and campsites available at a variety of locations. Owners of private land inholdings on the south side of the bay access the park via their properties and along the shore.

7.3 KBNERR activities related to public access

As indicated above, while KBNERR is non-regulatory and does not own land or manage access, Reserve staff work to encourage public enjoyment of, and access to, lands within KBNERR boundaries. The Reserve also assists in developing ways to ameliorate damage caused by access. For example, the Reserve routinely brings together primary coastal land managers and stakeholders in collaborative workshops to solve issues. Reserve staff are involved in public planning efforts, including management plan renewals and municipal comprehensive, transportation and land use plans. The Education Program collaborates with Kachemak Bay State Park (KBSP) on public access enhancements by participating in trail building, providing public KBSP-sponsored naturalist hikes on the south side of the bay. Staff also work closely with Kachemak Bay Water Trail, which strives to increase access and enjoyment of the bay.

8. Facility development and improvement plan

8.1 Overview of current facilities, uses, and challenges

From 2004 until 2015, KBNERR headquarters were located in the AIOVC, a public facility owned and operated by the U.S. Fish and Wildlife Service. While transitioning from its former state partner to its current state partner KBNERR terminated its lease at AIOVC and relocated Reserve staff to the Field Station modular building at 2181 Kachemak Drive, where KBNERR offices were located prior to 2004. The Reserve owns the Field Station with a land lease to Alaska Department of Transportation (ADOT). The move from AIOVC was necessitated by budget reductions but resulted in lower public visibility for the Reserve. Reserve educational exhibits at AIOVC (installed in FY2010) remain in place, and KBNERR continues to offer education and training programs at AIOVC, but less frequently.

One wing of the Field Station has 10 offices, a large conference room (capacity 32 without tables), and a small conference room (capacity 10), plus a reception area. The second wing has a three-bedroom bunkhouse (capacity 10), a large kitchen, two bathrooms, and a laundry room. This space is used by UAA students at the local Kachemak Bay Campus who are enrolled in the Semester by the Bay program in the fall, by interns and students working directly with KBNERR throughout the year, and by visiting researchers and their students engaged in complementary research on an as-needed basis when space is available. Two of the offices are rented out to ADF&G to accommodate two of their staff, which contributes to operational funding and provides support for a building maintenance fund.

The Bay Avenue lab at 1432 Bay Avenue provides for Reserve research and storage needs. The building has a large carport overhang that shelters the Reserve boat—a Boston Whaler—in winter. Transfer of the Bay Avenue Lab from ADF&G to UAA is still pending.

The Field Station headquarters, and Bay Ave lab are supported with dedicated funding in the annual NOAA Operations award. Unlike other units managed by the University of Alaska, the Reserve bears the fiscal burden for all costs associated with these buildings, including a land lease, heating, phone and internet service, water and sewer, janitorial, waste removal, lawn care, and maintenance and repairs. KBNERR realized substantial savings by moving out of AIOVC, but facility costs still constitute a significant expense. In addition, staff continue to struggle with IT and equipment issues, which is one drawback to the remote location, 250 miles from the UAA campus.

8.2 Partner facilities

8.2.1. Kasitsna Bay Laboratory

Kasitsna Bay Laboratory (KBL) is located on the south shore of Kachemak Bay within the boundaries of the Reserve. KBL is the Alaska field laboratory of the Center for Coastal Fisheries and Habitat Research (CCFHR), one of five centers within the National Centers for Coastal Ocean Science (NCCOS) in the National Ocean Service (NOS) line office of NOAA. KBL is the only NCCOS field laboratory on the U.S. Pacific Ocean coast and includes a pier, wet and dry laboratories, SCUBA station, maintenance shop, two dormitories, a warehouse, and water/sewer infrastructure. The lab can host up to 48 visiting researchers onsite for studies lasting from days to months—including in winter—and offers unique opportunities for cost effective collaborations. NCCOS and the University of Alaska Fairbanks (UAF) School of Fisheries and Ocean Sciences conduct collaborative research and education programs at KBL. KBL also provides an ideal test site for developing and refining applications of emerging technology to subarctic coastal ecosystems, such as multibeam sonar, airborne LiDAR, algal bloom detection kits, satellite remote sensing, autonomous underwater vehicles, etc. Lab research is enhanced by the capacity to conduct experiments under controlled conditions in both flowing sea water and dry laboratories. Coastal field ecology studies are enhanced by ready access to eelgrass, kelp, and salt marsh communities, rocky fjords, mudflats, and glacial rivers and watersheds.

KBL staff collaborate closely with KBNERR on coastal science issues affecting Kachemak Bay. Collaborative efforts to date include projects funded by the Exxon-Valdez Oil Spill (EVOS) Trustee Council and cooperative (unfunded) activities such as Cook Inlet/Kachemak Bay circulation studies, shellfish monitoring for paralytic toxins, Hollings Scholar student support, and the Hydropalooza benthic mapping project.

8.2.2 Kachemak Bay Campus of Kenai Peninsula College, University of Alaska, Anchorage

The Kachemak Bay campus provides a local University of Alaska partner facility supporting KBNERR programs, especially its educational offerings. The campus includes numerous classrooms, most supporting digital presentation formats, and a variety of labs. There is also a bookstore and comfortable common area for informal larger gatherings. KBC instructors coordinate closely with KBNERR and KBL to incorporate Reserve information into their classes and serve as content experts for education and training program development.

8.2.3 Distributed educational opportunities

As a world class visitor destination, the Kachemak Bay area offers numerous facilities, trails, and other improvements that KBNERR uses as venues for outreach to the community and educational offerings. These include a variety of outdoor shelters, pavilions, decks, and boardwalks, among them the Boathouse pavilion, Kachemak Bay Water Trail pavilion, Lighthouse Village deck, Beluga Slough boardwalk, Beluga Lake wildlife viewing platform, Calvin and Coyle Trail and wildlife viewing platform, and many sites further afield, including Bradley Lake dock and access road, Anchor River State Recreation Area campgrounds and day use areas, Stariski Creek elevated walkway, and facilities in Seldovia, among others. These are owned and managed by a variety of entities, including the cities of Homer and Seldovia, Alaska state, USFWS, and area nonprofits. KBNERR also takes advantage of opportunities to network and to outreach its activities and accomplishments at conferences held throughout Alaska, particularly in Anchorage, but also in Homer and Fairbanks.

8.3 Description of facility needs

Since transitioning to the University of Alaska Anchorage, the Reserve has placed greater emphasis on reaching middle school, high school, and college students. As programs develop to incorporate these older students, the demand for student housing is increasing. To meet these needs, the Reserve is planning new bunkhouse and office spaces. Other facility plans include updating the Reserve's laboratory and promoting more green energy sources. The plan for completing the facility project list is to develop non-federal funding sources that can be used to leverage federal funding available through the NERRs.

Facility Project	Explanation of Need	Estimated Cost
Retrofit of existing Reserve modular building (current offices) to bunkhouse and meeting rooms	There is very limited inexpensive housing in the Homer area, and graduate students, undergraduate interns and scholars, and college field-based classes coming to the Reserve for programming and projects need housing. The retrofitting includes conversion to natural gas.	$280,000
New office space for Reserve staff (10)	Reserve staff will need to vacate the current modular building in order to make room for the bunkhouse expansion.	$400,000
Laboratory safety features	The Reserve's laboratory space is currently in need of updated safety features, including a working chemical hood and shower facilities onsite. Additional storage is also needed.	$55,000

9. Land Acquisition Plan

Kachemak Bay NERR is not actively involved in land acquisition but works closely with entities—governmental, private, and nonprofit—that acquire land for conservation purposes or protect land through other legal mechanisms, such as easements. These entities include: ADF&G (especially through the EVOS restoration program), Alaska State Parks, (especially with regard to assistance in acquiring park inholdings), Kachemak Heritage Land Trust, Moose Habitat, Inc., City of Homer, U.S. Fish and Wildlife Service, and The Nature Conservancy (TNC) in Alaska. Except for The Nature Conservancy[8], information about these partners is provided in Figure __ [Partnership Matrix].

Information collected by KBNERR can be used by these and other land acquisition and conservation entities to identify lands and waters with high priority for retention. Consistent communication and coordination between these entities and KBNERR will facilitate cooperative efforts on land acquisition, management, and potential restoration projects, as well as collaboration on critical resource issues, research needs, and outreach efforts on affected lands.

10. Resource Manipulation Plan

10.1 Habitat manipulations for research purposes

Habitat manipulations for research purposes are allowed within the Reserve in accordance with the following regulations (15 CFR §921.1 (d)). The activity must be:

1. consistent with the mission and goals of the NERRS;
2. limited in nature and extent to the minimum manipulative activity necessary to accomplish the stated research objective; and
3. specified in, or be compatible with, research objectives specified in the Reserve's management plan.

For areas within the Reserve covered by approved management plans (e.g., CHAs or state park units), any manipulative activities must be consistent with the policies contained in those plans. Such policies were developed to ensure that activities are conducted in an environmentally sensitive manner consistent with the purposes for which those lands were legislatively designated.

[8] TNC has no Kenai Peninsula office, its Alaskan office is in Anchorage. TNC owns nine parcels on the north side of Kachemak Bay, including 5 parcels totaling roughly 307 acres in the ___ watershed draining into Kachemak Bay.

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Appendices

APPENDIX A: Partnership Matrix

adm. = administers or advises programs focused on protecting or managing natural resources within KBNERR boundaries or related areas

ct. = involved with programs educating landowners, resource managers, governments, etc. on Reserve coastal and adjacent ecosystems

ed. = conducts programs to educate schools, students, and communities about ecosystems within KBNERR boundaries or related areas

r&m = collects data about organisms and/or natural systems and/or human impacts within Reserve boundaries or related areas

Partner name and type of entity	Partnership type	adm.	ct.	ed.	r&m
Kachemak Bay Environmental Educators Alliance (KBEEA) -- Regional educational alliance	Collaboration			✓	
Kachemak Bay NERR Community Council -- Regional resource advisory and advocacy group	Collaboration	✓	✓	✓	
Kachemak Heritage Land Trust (KHLT) -- Regional NGO land trust	Collaboration	✓	✓	✓	✓
Kenai Peninsula Fish Habitat Partnership (KPFHP) -- Regional multi-entity collaboration involving agencies and NGOs	Collaboration		✓	✓	✓
National Estuarine Research Reserve System (NERRS) -- Federal agency	Collaboration	✓	✓	✓	✓
Nautilus Impact Investing -- For-profit resource consulting firm	Collaboration		✓	✓	
Project Grad -- Regional KPBSD, UAA, and Project Grad partnership	Collaboration			✓	
University of Michigan NERR Science Collaborative -- College/university	Collaboration		✓	✓	✓
NOAA Kasitsna Bay Lab -- Federal agency/university partnership	Coalition	✓	✓	✓	✓
Alaska Marine Conservation Council (AMCC) -- Statewide resource advisory and advocacy group	Coordination	✓	✓	✓	
Alaska Sea Grant, University of Alaska, Fairbanks -- College/university	Coordination		✓	✓	✓
Center for Alaskan Coastal Studies (CACS) -- Educational NGO, also owns and manages Kachemak Bay coastal lands	Coordination	✓	✓	✓	
Chugach Regional Resource Commission -- Regional Tribal resource advisory and advocacy coalition	Coordination	✓	✓	✓	
Girassol Preschool -- School	Coordination			✓	
Kachemak Bay Conservation Society (KBCS) -- Local resource advocacy NGO	Coordination		✓	✓	

Kenai National Wildlife Refuge (KNWR) -- Federal agency, manages KNWR	**Coordination**	✓		✓	✓
Kenai Peninsula Borough School District (KPBSD) -- Regional school district	**Coordination**			✓	
Kenai Peninsula Borough Resource Planning Department, Land Management Division -- Regional agency managing borough lands	**Coordination**	✓		✓	
NOAA Office for Coastal Management (OCM) -- Federal agency providing coastal management support and program oversight	**Coordination**	✓	✓	✓	✓
Alaska Department of Environmental Conservation (DEC) -- State agency protecting air and water quality and environmental health	**Cooperation**	✓		✓	
Alaska State Parks (Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation) -- State parks management agency	**Cooperation**	✓		✓	
Alaska Maritime National Wildlife Refuge (AMNWR) -- Federal agency, manages AMNWR	**Cooperation**	✓	✓	✓	✓
City of Homer -- Local city government	**Cooperation**	✓		✓	
Cook Inletkeeper (CIK) -- Regional NGO focused on advocacy, education, and research	**Cooperation**	✓	✓	✓	✓
Homer Soil and Water Conservation District (HSWCD) -- Local quasi-state entity promoting informed use and management of natural resources	**Cooperation**	✓	✓	✓	
Kenai Peninsula Borough Coastal Management Program -- Regional government advising and overseeing coastal management	**Cooperation**	✓	✓	✓	
Seldovia Village Tribe -- Local Tribal entity overseeing natural and community resources	**Cooperation**	✓	✓	✓	✓
University of Alaska Fairbanks -- College/university	**Cooperation**	✓	✓	✓	✓
Alaska Department of Fish and Game -- State agency managing fish and wildlife	**Networking**	✓	✓	✓	✓
Alaska Department of Health and Social Services -- State Agency	**Networking**				✓
NOAA National Centers for Coastal Ocean Science (NCCOS) -- Federal Agency	**Networking**	✓	✓	✓	✓
USDA Natural Resources Conservation Service (NRCS) -- Federal Agency providing technical and financial assistance	**Networking**		✓	✓	✓
US Fish & Wildlife Service (USFWS)-- Federal Agency managing National Wildlife Refuges, Endangered Species, and other federal lands and fish and wildlife	**Networking**	✓	✓	✓	✓

APPENDIX B: KBNERR Community Council
(*Indicates KBNERR Education Subcommittee Members)

Appointed Community Members:
James Hornaday
Ralph Broshes
Paul Allen*
George Matz
Michael Opheim
Donna Aderhold
Linda Robinson*
Curtis Jackson
Francie Roberts*
Tony Burgess
Jane Middleton*
Carol Harding

Agency members:
Willie Dunne, KPB Assembly
Luke Byker, KPB River Center
Kris Holderied, NOAA NCCOS Kasitsna Bay Lab
Katrin Iken, UAF CFOS
Jason Okuly, ADNR State Parks
Sarah Apsens ADEC
Emily Munter, USFWS
Brian Blossom, ADFG Habitat
Reid Brewer, UAA KPC KBC
Michael Booz, ADFG Sport Fish

APPENDIX C: CTP Advisors

Core Statewide Advisory Partners:

University of Alaska Anchorage,
As the administering partner agency for the KBNERR, the University of Alaska Anchorage has a mission to discover and disseminate knowledge through teaching, research, engagement and creative expression. Within the College of Arts and Sciences, the largest college in the University of Alaska system, the Alaska Center for Conservation Science fosters research, education, and collaboration on biological conservation and natural resource management in Alaska and the Arctic. University representative = Matt Carlson, ACCS Director

Alaska Sea Grant
Alaska Sea Grant's mission is to support wise use and conservation of Alaska's seas and coasts through research, education, and extension. They do this through supporting marine and coastal research, providing education and extension services, and distributing information about Alaska's seas and coasts. Sea Grant's Marine Advisory Program has university faculty located in 10 coastal communities to provide information, technical assistance, and workforce development opportunities. Providing similar services as the KBNERR CTP (although to different audiences), it is important to foster communication and leverage resources between two organizations to enhance the effectiveness of each program. Agency representative = Davin Holen, Coastal Community Resilience Specialist

NOAA Regional
NOAA regional coordinator facilitates the communication of inter-agency efforts to the national, state and local levels, including coastal mapping, weather and climate products and services, ocean acidification, and coastal and marine spatial planning. The regional coordinator plays a large role in supporting collaborative efforts amongst various NOAA offices and partnering organizations. Agency representative = Amy Holman, Alaska Regional Coordinator.

Alaska Ocean Observing System
As the "eye on Alaska's coasts and oceans," AOOS represents a network of critical ocean and coastal observations, data and information products that aid our understanding of the status of Alaska's marine ecosystem and allow stakeholders to make better decisions about their use of the marine environment. KBNERR partners with AOOS on collaborative workshops, trainings, and technical assistance related to geospatial and monitoring data in the Gulf of Alaska on topics of OA and HABs. Agency representative = Darcy Dugan, Network Coordinator

Chugach Regional Resources Commission
The goal of CRRC is to "promote Tribal sovereignty and the protection of our subsistence lifestyle through the development and implementation of Tribal natural resource management programs to assure the conservation, sound economic development, and stewardship of the natural resources in the traditional use areas of the Chugach Region." KBNERR partners with CRRC and tribal environmental coordinators on environmental monitoring and provides technical training to staff and stakeholders through formal workshops, listening sessions, and integrated programs with youth. Commission representative = Willow Hetrick, Executive Director

Prince William Sound Science Center
PWSSC is the Outreach and Community Involvement effort coordinator for the Gulf Watch Alaska Program, the long-term ecosystem monitoring program of the Exxon Valdez Oil Spill Trustee Council for the marine ecosystem affected by the 1989 oil spill. Center Representative = Donna Aderhold

APPENDIX D: Public involvement in plan development
TO BE ATTACHED

APPENDIX E: Memorandums of Understanding
Separate Documents- TO BE ATTACHED

City of Homer
www.cityofhomer-ak.gov

Port and Harbor
4311 Freight Dock Road
Homer, AK 99603
port@cityofhomer-ak.gov
(p) 907-235-3160
(f) 907-235-3152

Memorandum

TO: PORT AND HARBOR ADVISORY COMMISSION

FROM: COOWE WALKER, KBNERR RESERVE MANAGER

THRU: BYRAN HAWKINS, HARBORMASTER PORT DIRECTOR

DATE: OCTOBER 12, 2020

SUBJECT: MOU BETWEEN THE CITY AND KBNERR (UAA)

Port and Harbor staff shared the last meeting minutes from the Sept. 23rd Port and Harbor Advisory Commissioner's meeting that contained the questions posed over the material with KBNERR Reserve Manager Coowe Walker and the below comments were asked to be shared:

I will make sure that I drive to town for the next meeting on October 28 so that I can have reliable internet.

Meanwhile, please here are my comments on the discussion from the notes. The Kachemak Bay National Estuarine Research Reserve DID NOT host a video about hatcheries.

Commissioner Carroll is likely confusing the with the Kachemak Bay Conservation Society, who did host an event at the Homer Theater where they showed a movie called 'Artifishal', which KBNERR did not attend.

Our focus is on scientific research, education and trainings. We do not manage or regulate anything. Our Management Plan is about managing the way that we work, not managing any place or resource. Our Reserve works closely with the City, primarily the Planning Department, whom we engage with in skill-building workshops and information exchanges. Examples of some of the products we provide to the City include data for understanding relative sea-level rise, and maps of coastal erosion rates.

Please share my comments with the Mr. Hawkins and the Port and Harbor Commissioners. We value our relationship with the City, and I will plan on attending the October 28 meeting to help clarify any questions or misunderstandings.
Thank you,
Coowe

Coowe Walker, Reserve Manager
Program Watershed Ecologist
2181 Kachemak Drive
Homer, Alaska
(907) 399-3418

JDOLAW
JERMAIN DUNNAGAN & OWENS, P.C.
3000 A STREET, SUITE 300, ANCHORAGE, ALASKA 99503-4097 SERVING ALASKANS SINCE 1976

MEMORANDUM

TO: Bryan Hawkins, Harbormaster
FROM: Michael R. Gatti
DATE: October 22, 2020
RE: KBNERR Proposed MOU

The Port and Harbor Commission (PHC) has presented several questions arising from its review of the Kachemak Bay National Estuarine Research Reserve (KBNERR) proposed Memorandum of Understanding (MOU) which is intended to provide field laboratory and living classroom for data acquisition and education related to coastal watersheds and estuaries. The MOU outlines the responsibilities the signatories to the MOU agree to undertake. The MOU also notes the City has passed resolutions 98-14 and 96-106 supporting the KBNERR plan.

The PHC has reviewed the proposed MOU and has prudently raised several questions about MOU discussed below.

1) Does the MOU limit the City's role to advisory only?

The MOU appears to cast the City in an advisory role unless the Council appropriates funds for MOU activities.

2) Does the MOU bind the City to the KBNERR Management Plan and does that plan supersede City plans or authority affecting implementation of the KBNERR Plan?

The last sentence of MOU Paragraph 2 states the City's authority to administer its lands and programs in the area are not limited UNLESS they adversely affect implementation of the KBNERR management plan. The answer to this question is yes to both questions listed above.

3) Does the MOU financially obligate the City and is the City's role advisory only?

The answer to the foregoing is somewhat contained in Paragraph 5 of the MOU which states that funds are not obligated for payment or expenditure in excess of appropriations authorized by law. So unless the City Council has appropriated funds for the MOU there is no funding obligation. Whether the City has appropriated any funds for the MOU purposes may be found through examination of the City budget which is beyond the scope of this memo.

While the MOU promotes laudable goals its benefit to the City requires further examination before an acceptance of its terms may be recommended. An alternative would be to support the KBNERR plan without signing the MOU.

City of Homer
www.cityofhomer-ak.gov

Port and Harbor
4311 Freight Dock Road
Homer, AK 99603
port@cityofhomer-ak.gov
(p) 907-235-3160
(f) 907-235-3152

Memorandum

TO: PORT AND HARBOR ADVISORY COMMISSION

FROM: BRYAN HAWKINS, PORT DIRECTOR/HARBORMASTER

DATE: OCTOBER 21, 2020

SUBJECT: COPPER RIVER SEAFOODS LEASE AMENDEMENT REQUEST, LOT 13B

Copper River Seafood's current lease, signed in May of 2019, states in the "property development" section, their intention and wish to construct a 42' x47' new construction building. The time line for this construction is currently set to begin in September 2020 and be complete by Dec 31 2020. On October 13 2020 the City received a letter from Copper River requesting an amendment to that construction timeline to change it to a start date of February 2022 and a completion dated of end of year 2022, because of challenges encountered with the Covid 19 pandemic.

The plans for this building project were generated during the past tenant's (Snug Harbor's) term in 2014 before the lease transfer to Copper River Seafoods last year. Snug Harbor had asked for, and was granted, an extension on the project, first until 2017, and then until June 2018. The foundation has been poured for this building and the parking area asphalted as property development improvements that Snug Harbor completed before the sale and lease transfer to the current tenant, Copper River Seafoods. Copper River has stated their intention of continuing and completing the project.

The City of Homer and the Council have passed several resolutions and ordinances in support of the community during this Covid crisis. Copper River Seafoods is a competitively active business in the harbor who is up to date on all account payments with the Port. And lastly, the letter addressing the construction timeline and requesting the amendment, before that existing timeline had elapsed, indicates that they are responsive to their lease and its requirements. With these considerations in mind, after review and evaluation, staff recommend accepting the proposed amended timeline.

RECOMMENDATION

Move to recommend that city council approve the amendment for an extension of the Copper River Seafoods lease property improvements construction timeline to the new start date of February 1 2022 and a new completion date of December 31 2022.

COPPER RIVER SEAFOODS
Main Administrative Office
1118 East 5th Avenue · Anchorage, AK 99501
Phone: (907) 522-7806 · (888) 622-1197 · Fax: (907) 274-0348
www.CopperRiverSeafoods.com

October 13, 2020

City Manager
City of Homer
491 East Pioneer Avenue
Homer, AK 99603

Re: Request for Revision of Construction Timeline

Copper River Seafoods, Inc., as the Tenant, would like to request an extension of time for the construction for our building that we intend to build. This property is located on the Homer spit and is Portion of Lot 13B, City of Homer Port Industrial Subdivision No. 2, Tax Parcel # 18103425.

Copper River Seafoods, Inc., would like to request an extension for 18 months, or until February of 2022. The Coronavirus Covid 19 pandemic has put tremendous pressure on our company as we continue to fight through these challenges moving into the 2021 fiscal year. The Kenai fishery returns have also been very poor for the past two seasons. Article 1, page 2 of our Ground Lease Agreement, 101(h) discusses "excusable delay" and that would appear to be in play at this time. We would therefore ask that you approve our extension request.

Further, please change the contact person for this contract to the following:

Mark Hansen, COO
Copper River Seafoods, Inc.
1118 E 5th Avenue
Anchorage, AK 99501
(907) 522-7806 office
(206) 465- 4512 cell
mhansen@crsalaska.com

I look forward to hearing your thoughts and answer any questions which might have.

Sincerely,

Mark Hansen
Copper River Seafoods, Inc. COO

1ST AMENDMENT TO LEASE AGREEMENT

This amendment is made and entered into effect as of_____, 2020 between the City of Homer, an Alaska municipal corporation ("Landlord") whose address is 491 East Pioneer Avenue, Homer, Alaska 99603, and Copper River Seafoods Inc., an Alaskan business corporation ("Tenant"), whose address is 1118 E. 5th Ave. Anchorage , Alaska 99501 , and amends the Ground Lease Agreement ("Lease") entered into between Copper River Seafoods Inc., and the City of Homer, dated March 1 2019 and recorded by the Kenai Peninsula Borough's recorder's office on May 20 2019, Number 2019-001382-0, Homer Recording District 309, Alaska.

Landlord and Tenant agree as follows:

In Exhibit D -Tenant's Proposed Use of the Property, under the section listed as "2. Development Plan":

Dates	**Tasks**
9/1/20	**Framing**
12/31/2020	**Completion**

Shall be amended to the following:

Dates	**Tasks**
2/1/2022	**Framing**
12/31/2022	**Completion**

IN WITNESS WHEREOF, the parties have executed this Lease Amendment as of the date set forth above.

Landlord:
City of Homer

By: _____

_____
Rob Dumouchel, City Manager

Tenant:
Copper River Seafoods Inc.

By: _____

_____
Mark Hansen, COO

ACKNOWLEDGMENTS

STATE OF ALASKA)
) SS.
THIRD JUDICIAL DISTRICT)

The foregoing instrument was acknowledged before me on _____, 2020 by Rob Dumouchel, City Manager of the City of Homer, an Alaska municipal corporation, on behalf of the City of Homer.

_____
Notary Public in and for Alaska
My Commission Expires: _____

STATE OF)
) SS.
)

The foregoing instrument was acknowledged before me on _____, 2020 by Mark Hansen, as COO of Copper River Seafoods Inc.

_____
Notary Public in and for the state of _____
My Commission Expires: _____

After recording return to:
Melissa Jacobsen, MMC, City Clerk
City of Homer
491 E. Pioneer Avenue
Homer, AK 99603

CITY OF HOMER
HOMER, ALASKA

City Manager

RESOLUTION 20-0xx

A RESOLUTION OF THE CITY COUNCIL OF HOMER, ALASKA, APPROVING AN AMENDMENT TO EXTEND THE PROPERTY IMPROVEMENT CONSTRUCTION TIMELINE ON THE COPPER RIVER SEASFOODS LEASE FOR A PORTION OF LOT 13B, CITY OF HOMER PORT INDUSTRIAL SUBDIVISION NO.2, ACCORDING TO PLAT NO. 80-92, CONTAINING 15,300 SQ FT, ALSO KNOWN AS KPB PARCEL # 18103425.

WHEREAS, Copper River Seafoods entered into a 20 year lease with the City on May 16 2019 where they stated that they wished to build a new 42' by 47' office structure with a construction timeline beginning September1 2020 and with a completion date of Dec 31 of 2020; and

WHEREAS, On October 13 2020 the City received a letter from Copper River Seafoods stating that, due to Covid-19 challenges, they are requesting an amendment to the proposed property development timeline listed in Exhibit D of the lease; and

WHEREAS, This requested amendment would alter Exhibit D of the lease to extend the property development construction timeline to a start date of February 1 2022 and with a completion date of Dec 31 2022; and

WHEREAS, Article 6.04 Extensions of Time for Completion of Required Improvements, of the lease states that Landlord shall grant an extension for the time to Complete the Required Improvements for a period of time equal to the duration of an Excusable Delay: and

WHEREAS, "Excusable Delay" is defined per the lease as any delay due to strikes, acts of God, inability to obtain labor or materials, orders of governmental authority, enemy action, civil commotion, fire, unusual inclement weather, unavoidable casualty or similar causes beyond the reasonable control of Tenant; and

WHEREAS, On October 28 2020, the Port and Harbor Advisory Commission discussed the proposed change and _____; and

WHEREAS, HCC 18.08.160(e) States that any significant changes in the terms (use) of the existing lease must be reviewed by the Port and Harbor Commission and approved by City Council by resolution as an amendment to the lease; and

NOW, THEREFORE, BE IT RESOLVED that the Homer City Council hereby approves the amendment of the Copper River Seafoods lease extending the property improvement construction timeline to a new start date of February 1 2022 and a new completion date of December 31 2022 for a portion of Lot 13B, City of Homer Port Industrial Subdivision No. 2, according to Plat No. 80-92, containing 15,300 square feet, Also known as KBP Parcel #18103425 ,and authorizes the City manager to execute the appropriate documents.

PASSED AND ADOPTED by the Homer City Council on this ___day of _____, 2020.

CITY OF HOMER

_____
KEN CASTNER, MAYOR

ATTEST:

_____
MELISSA JACOBSEN, MMC, CITY CLERK

City of Homer
www.cityofhomer-ak.gov

Office of the City Clerk
491 East Pioneer Avenue
Homer, Alaska 99603
clerk@cityofhomer-ak.gov
(p) 907-235-3130
(f) 907-235-3143

Memorandum

TO: ADVISORY BODIES

FROM: MELISSA JACOBSEN, MMC, CITY CLERK

DATE: OCTOBER 21, 2020

SUBJECT: MEETING SCHEDULE FOR 2021

Please review the draft resolution that establishes your meetings for 2021 and make any changes by way of motion.

Requests for meeting schedule changes will then go to City Council, who will be setting the 2021 meeting schedule for Council and Advisory Bodies via resolution no later than their December 14, 2020 meeting.

Recommendation

Review the attached draft resolution; make a motion to approve the resolution either as-is or with amendments and recommend adoption by City Council.

CITY OF HOMER
HOMER, ALASKA

City Clerk

RESOLUTION 20-0XX

A RESOLUTION OF THE CITY COUNCIL OF HOMER, ALASKA, ESTABLISHING THE 2021 REGULAR MEETING SCHEDULE FOR CITY COUNCIL, ECONOMIC DEVELOPMENT ADVISORY COMMISSION, LIBRARY ADVISORY BOARD, PARKS ART RECREATION AND CULTURE ADVISORY COMMISSION, PLANNING COMMISSION, PORT AND HARBOR ADVISORY COMMISSION, AND AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANCE COMMITTEE.

WHEREAS, Pursuant to Homer City Code (HCC) Section 1.14.020, the City Council annually sets the schedule for regular and some special meetings, noting the dates, times and places of the City Council, Planning Commission, Advisory Commissions and Boards, and Standing Committee meetings; and

WHEREAS, The public is informed of such meetings through notices located at the City Clerk's Office, Clerk's Calendar on KBBI, the City Clerk's Website, and postings at the Public Library; and

WHEREAS, HCC 1.14.020 - 040 states that meetings may be advertised in a local paper of general circulation at least three days before the date of the meeting and that special meetings should be advertised in the same manner or may be broadcast by local radio at least twice a day for three consecutive days or two consecutive days before the day of the meeting plus the day of the meeting; and

WHEREAS, HCC 1.14.010 notes that the notice of meetings applies to the City Council and all commissions, boards, committees, subcommittees, task forces and any sub-unit of the foregoing public bodies of the City, whether meeting in a formal or informal meeting; that the failure to give the notice provided for under this chapter does not invalidate or otherwise affect any action or decision of a public body of the City; however, this sentence does not change the consequences of failing to give the minimum notice required under State Statute; that notice will ordinarily be given by the City Clerk; and that the presiding officer or the person or persons calling a meeting are responsible for notifying the City Clerk of meetings in sufficient time for the Clerk to publish notice in a newspaper of general circulation in the City; and

WHEREAS, This Resolution does not preclude additional meetings such as emergency meetings, special meetings, worksessions, and the like; and

WHEREAS, Council adopted Resolution 06-144 on October 9, 2006 establishing the Regular Meeting site for all bodies to be the City Hall Cowles Council Chambers.

NOW, THEREFORE, BE IT RESOLVED by the Homer City Council, that the 2021 meeting schedule is established for the City Council, Economic Development Advisory Commission, Library Advisory Board, Parks Art Recreation and Culture Advisory Commission, Planning Commission, Port and Harbor Advisory Commission, and the American with Disabilities Act (ADA) Compliance Committee of the City of Homer, Alaska, as follows:

HOLIDAYS – City Offices closed:

January 1, New Year's Day, Friday	February 15, Presidents' Day, third Monday	March 29, Seward's Day, last Monday	May 31, Memorial Day, last Monday	July 4*, Independence Day, Monday	September 6, Labor Day, first Monday
October 18, Alaska Day, Monday	November 11, Veterans Day, Thursday	November 25 Thanksgiving Day, Thursday	November 26, Friday, the day after Thanksgiving	December 25, Christmas, Friday*	

*If on a Sunday, the following Monday is observed as the legal holiday; if on a Saturday, the preceding Friday is observed as the legal holiday pursuant to the City of Homer Personnel Rules and Regulations.

CITY COUNCIL (CC)

January 11, 25	February 8, 22	March 8, 22	April 12, 26	May 10, 25*	June 14, 28
July 26**	August 9, 23	September 13, 27	October 5 Election	October 11, 25 Oath of Office October 11	Canvass Board October 8
November 2 Runoff Election	November 22**	December 13***	December 20*** if needed		

*Tuesday meeting due to Memorial Day.
**There will be no First Regular Meeting in July or November.
*** The City Council traditionally cancels the last regular meeting in December and holds the first regular meeting and one to two Special Meetings as needed; the second Special Meeting the third week of December will not be held.

City Council's Regular Committee of the Whole Meetings at 5:00 p.m. to no later than 5:50 p.m. prior to every Regular Meeting which are held the second and fourth Monday of each month at 6:00 p.m. Council will not conduct a First Regular Meeting in July or November.

ECONOMIC DEVELOPMENT ADVISORY COMMISSION (EDC)

January 12	February 9	March 9	April 13	May 10	June 8
July 13	August 10	September 7	October 12	November 9	December 14

Economic Development Advisory Commission Regular Meetings are held on the second Tuesday of each month at 6:00 p.m.

LIBRARY ADVISORY BOARD (LAB)

February 2	March 2	April 6	May 4	August 3
September 7	October 5	November 2	December 7	

Library Advisory Board Regular Meetings are held on the first Tuesday of the following months: February, March, April, May, August, September, October, November, and December at 5:30 p.m.

PARKS ART RECREATION AND CULTURE ADVISORY COMMISSION (PARCAC)

February 18	March 18	April 15	May 20	June 17
August 19	September 16	October 21	November 18	

Parks Art Recreation and Culture Advisory Commission Regular Meetings are held on the third Thursday February through June and August through November at 5:30 p.m.

PLANNING COMMISSION (PC)

January 6, 20	February 3, 17	March 3, 17	April 7, 21	May 5, 19	June 2, 16
July 21*	August 4, 18	September 1, 15	October 6, 20	November 3*	December 1*

*There will be no First Regular Meeting in July or Second Regular Meetings in November and December.

Planning Commission Regular Meetings are held on the first and third Wednesday of each month at 6:30 p.m.

PORT AND HARBOR ADVISORY COMMISSION (PHC)

January 27	February 24	March 24	April 28	May 26	June 23
July 28	August 25	September 22	October 27	December 22	

Port and Harbor Advisory Commission Regular Meetings are held on the fourth Wednesday of the following months: January, February, March, April, September, October, and December at 5:00 p.m.; and May, June, July, and August at 6:00 p.m.

AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANCE COMMITTEE (ADA)

January 22	February 26	March 25	April 22	May 27	June 24
July 22	August 26	September 23	October 28	December 9	

The Americans with Disabilities Act (ADA) Compliance Committee are held on the second Thursday in the months of April, May, June, July, October, November, and may call additional meetings as needed.

PASSED AND ADOPTED by the Homer City Council this 14th day of December, 2020.

CITY OF HOMER

_____
KEN CASTNER, MAYOR

ATTEST:

_____
MELISSA JACOBSEN, MMC, CITY CLERK

Fiscal Impact: Adverting of meetings in regular weekly meeting ad and advertising of any additional meetings.

Port & Harbor Monthly Statistical & Performance Report

For the Month of: **September 2020**

Moorage Sales	2020	2019
Daily Transient	260	203
Monthly Transient	197	179
Semi-Annual Transient	4	1
Annual Transient	23	13
Annual Reserved	484	503

Grid Usage		
1 Unit = 1 Grid Tide Use	2020	2019
Wood Grid	16	8
Steel Grid	9	4

Services & Incidents	2020	2019
Vessels Towed	0	0
Vessels Moved	32	24
Vessels Pumped	16	9
Vessels Sunk	0	0
Vessel Accidents	0	0
Vessel Impounds	0	0
Equipment Impounds	1	3
Vehicle Impounds	0	0
Property Damage	0	2
Pollution Incident	0	0
Fires Reported/Assists	1	0
EMT Assists	1	7
Police Assists	2	3
Public Assists	37	30
Thefts Reported	1	0

Parking Passes	2020	2019
Long-term Pass	1	5
Monthly Long-term Pass	3	2
Seasonal Pass	1	0

Crane Hours	2020	2019
	141.8	127.8

Stall Wait List		
No. on list at Month's End	2020	2019
20' Stall	5	9
24' Stall	72	72
32' Stall	154	133
32' A Stall	7	0
40' Stall	52	52
50' Stall	30	26
60' Stall	4	5
75' Stall	3	6
Total:	327	303
	.	

Docking & Beach/Barge Use		
1 Unit = 1 or 1/2 Day Use	2020	2019
Deep Water Dock	22	16
Pioneer Dock	28	28
Beach Landings	0	1
Barge Ramp	*170	24

*Implementation of Tracking for use of Barge ramp by vessels under 50 ft

Marine Repair Facility	2020	2019
Vessels Hauled-Out	0	1
Year to Date Total	1	6

Wharfage (in short tons)		
In Tons, Converted from Lb./Gal.	2020	2019
Seafood	442	395
Cargo/Other	714	1637
Fuel	30,161	72,038

Ice Sales	2020	2019
For the Month of September	305	213
Year to Date Total	1,567	2,336

Difference between 2019 YTD and 2020 YTD:	769 tons less

Port & Harbor Water/Sewer Bills

Service Period: September, 2020 — Meter Reading Period: 8/13/20-9/15/20

Meter Address - Location	Acct. #	Meter ID	Service/ Customer Charge	Water Charges	Sewer Charges	Total Charges	Previous Reading	Current Reading	Total Usage (gal)
810 FISH DOCK ROAD - Fish Grinder	1.0277.01	84810129	$13.00	$487.08	$0.00	$500.08	1,102,100	1,065,200	36,900
4244 HOMER SPIT RD - SBH & Ramp 2	1.0290.02	84872363	$13.00	$5,331.48	$0.00	$5,344.48	3,110,200	3,514,100	403,900
4166X HOMER SPIT RD - SBH & Ramp 4	1.0345.01	70291488	$13.00	$828.96	$0.00	$841.96	25,731,300	25,794,100	62,800
4166 HOMER SPIT RD- SBH Restrooms	1.0346.01	38424734	$13.00	$246.84	$418.88	$678.72	640,500	659,200	18,700
4171 FREIGHT DOCK RD - SBH & Ramp 6	1.0361.01	71145966	$13.00	$2,620.20	$0.00	$2,633.20	3,719,000	3,917,500	198,500
4690C HOMER SPIT RD - Pioneer Dock	1.0262.01	70315360	$13.00	$1,366.20	$0.00	$1,379.20	4,231,000	4,334,500	103,500
4690A HOMER SPIT RD - Pioneer Dock	1.0261.01	70315362	$13.00	$755.04	$0.00	$768.04	1,104,900	1,162,100	57,200
4666 FREIGHT DOCK RD - Deep Water Dock	1.0357.01	70564043	$13.00	$211.20	$0.00	$218.72	11,524,300	11,540,300	16,000
4448 HOMER SPIT RD - Steel Grid	1.0230.01	80394966	$6.50	$0.00	$0.00	$6.50	-	-	-
795 FISH DOCK ROAD - Fish Dock/Ice Plant	1.0180.01	70291512	$13.00	$2,016.96	$60.48	$2,090.44	872,057,000	872,212,500	155,500
4147 FREIGHT DOCK RD - SBH & Ramp 6 Restroom	1.4550.01	70315668	$13.00	$134.64	$228.48	$376.12	387,700	397,900	10,200
4147X FREIGHT DOCK RD - Ramp 6 Fish Cleaning	1.0457.01	80856895	$13.00	$176.88	$0.00	$189.88	609,100	622,500	13,400
4001 FREIGHT DOCK RD - L&L Ramp Restrooms	10.4550.01	70364713	$13.00	$155.76	$264.32	$433.08	411,500	423,300	11,800
4667 HOMER SPIT RD L - Port Maintenance	1.0109.01	70257255	$13.00	$35.64	$60.48	$109.12	97,400	100,100	2,700
4667 HOMER SPIT RD - Bldg Near Water Tank	1.0100.02	70315820	*utility meter currently assigned to lessee			$0.00	-	-	-
4667 FREIGHT DOCK RD - DWD Restroom	1.0495.01	84920900	$13.00	$43.56	$73.92	$130.48	124,300	127,600	3,300
4311 FREIGHT DOCK RD - Port & Harbor Office	5.1020.01	83912984	$13.00	$52.80	$58.00	$123.80	62,200	66,200	4,000
4000 HOMER SPIT RD - Ramp 5 Restroom	5.1250.01	86083228	$13.00	$149.16	$163.85	$326.01	434,100	445,400	11,300
4425 FREIGHT DOCK RD - Sys 5 & Ramp 8	5.1050.01	86094861	$13.00	$291.72	$0.00	$304.72	1,619,000	1,541,100	22,100
					Overall Charges:	**$16,454.55**	**Overall Water Usage:**		**1,131,800**

Water/Sewer Monthly Comparison

CY 2016 to Current

	2016		2017		2018		2019		2020	
January	$1,216.22	68,800	$2,142.85	122,300	$1,458.89	83,400	$1,485.10	79,100	$3,419.82	217,800
February	$1,891.14	122,500	$1,287.76	59,600	$2,500.97	144,800	$1,458.19	74,100	$2,308.87	140,600
March	$2,341.13	162,300	$4,076.62	292,100	$2,271.05	138,300	$1,809.53	96,700	$1,715.03	97,800
April	$3,532.78	256,700	$1,726.84	113,100	$2,766.11	272,300	$4,105.23	206,800	$4,032.71	245,300
May	$9,770.89	709,300	$7,807.49	413,000	$3,951.58	304,600	$7,349.43	450,700	$4,577.16	288,700
June	$21,628.74	1,800,700	$14,594.69	1,282,900	$16,995.43	1,349,200	$11,917.20	756,800	$17,557.33	1,176,500
July	$19,490.97	1,583,400	$15,450.93	1,152,500	$18,540.31	1,391,400	$15,669.89	973,600	$18,256.51	1,222,700
August	$22,468.25	2,189,100	$12,947.70	1,060,600	$19,055.83	1,449,800	$23,879.39	1,553,500	$16,763.25	1,162,000
September	$19,710.24	1,651,300	$11,419.68	968,000	$16,345.46	1,328,800	$22,850.15	1,425,100	$16,454.55	1,131,800
October	$8,887.32	708,200	$8,631.96	591,490	$8,965.86	728,200	$16,025.77	744,900		
November	$2,582.53	167,600	$1,852.34	176,000	$2,967.17	195,100	$7,391.65	338,900		
December	$1,154.76	44,900	$1,053.70	68,600	$1,294.53	69,100	$2,691.44	170,800		
YTD Total	$114,674.97	9,464,800	$82,992.56	6,300,190	$97,1	7,455,000	$116,632.97	6,871,000	$85,085.23	5,683,200

2020 Ice & Crane Report						
Date To	**Crane Weekly**	**Crane Month**	**YTD Crane**	**Ice Weekly**	**Ice Month**	**YTD Ice**
1/5/2020	2.3			shut down for maintenance		
1/12/2020	2.1			shut down for maintenance		
1/19/2020	2.2			shut down for maintenance		
1/26/2020	1.1			shut down for maintenance		
Jan Total		7.7	7.7		0	0
2/2/2020	2			shut down for maintenance		
2/9/2020	16.1			shut down for maintenance		
2/16/2020	10.4			shut down for maintenance		
2/23/2020	11.2			shut down for maintenance		
Feb Total		39.7	47.4		0	0
3/2/2020	18			shut down for maintenance		
3/9/2020	8.2			0		
3/16/2020	10.5			6		
3/23/2020	14.3			11		
3/30/2020	8.9			11		
Mar Total		59.9	107.3		28	28
4/6/2020	18.3			2		
4/13/2020	11.6			4		
4/20/2020	7.3			0		
4/27/2020	15.1			9		
Apr Total		52.3	159.6		15	43
5/4/2020	30.9			35		
5/11/2020	32.8			52		
5/18/2020	35.8			50		
5/25/2020	56.3			44		
May Total		155.8	315.4		181	224
6/1/2020	46.4			50		
6/8/2020	62			50		
6/15/2020	56.8			46		
6/22/2020	45.1			58		
6/29/2020	38.2			75		
Jun Total		248.5	563.9		279	503
7/6/2020	54.6			61		
7/13/2020	56.5			113		
7/20/2020	63.4			108		
7/27/2020	30.1			55		
Jul Total		204.6	768.5		337	840
8/3/2020	29.7			75		
8/10/2020	55.6			77		
8/17/2020	71.8			105		
8/24/2020	67.7			97		
8/31/2020	85.5			68		
Aug Total		310.3	1078.8		422	1262
9/7/2020	37.8			91		
9/14/2020	37.9			79		
9/21/2020	43.5			77		
9/28/2020	22.6			58		
Sep Total		141.8	1220.6		305	1567
10/5/2020	13.2			10		
10/12/2020	30.1			73		
10/19/2020	40			83		
10/26/2020						
Oct Total		83.3	1303.9		166	1733
11/2/2020						
11/9/2020						
11/16/2020						
11/23/2020						
11/30/2020				shut down for maintenance		
Nov Total		0	1303.9		0	1733
12/7/2020				shut down for maintenance		
12/14/2020				shut down for maintenance		
12/21/2020				shut down for maintenance		
12/31/2020				shut down for maintenance		
Dec Total		0	1303.9			

Deep Water Dock 2020

Date	Vessel	LOA	Times	Billed	$ Dock	Srv Chg
1/4	Endeavor	181	1210/1420	Cispri	506.00	52.00
1/9	Tufty	606	1100/	AK Maritime	2,957.00	52.00
1/9	Stellar Wind	79	1120/	Cook Inlet Tug	338.00	52.00
1/9	Bering Wind	73	1120/	Cook Inlet Tug	338.00	52.00
1/10	Tufty	606		AK Maritime	2,957.00	
1/10	Stellar Wind	79	/0655	Cook Inlet Tug	338.00	
1/10	Bering Wind	73	/0655	Cook Inlet Tug	338.00	
1/11	Tufty	606		AK Maritime	2,957.00	
1/12	Tufty	606		AK Maritime	2,957.00	
1/13	Tufty	606		AK Maritime	2,957.00	
1/14	Tufty	606		AK Maritime	2,957.00	
1/15	Tufty	606		AK Maritime	2,957.00	
1/16	Tufty	606		AK Maritime	2,957.00	
1/17	Tufty	606		AK Maritime	2,957.00	
1/18	Tufty	606		AK Maritime	2,957.00	
1/19	Tufty	606		AK Maritime	2,957.00	
1/20	Tufty	606		AK Maritime	2,957.00	
1/21	Tufty	606		AK Maritime	2,957.00	
1/22	Tufty	606		AK Maritime	2,957.00	
1/23	Tufty	606	/0730	AK Maritime	2,957.00	
1/27	Perseverance	207	0015/2140	Cispri	788.00	52.00
2/24	Perseverance	207	0800/1343	Cispri	788.00	52.00
2/27	Perseverance	207	0840/1300	Cispri	788.00	52.00
3/2	Perseverance	207	1020/1145	Cispri	788.00	52.00
4/3	Endeavor	181	0800/1446	Cispri	506.00	52.00
4/19	Island Explorer & Seatac 300	300	0645/	AK Scrap	788.00	$52.00
4/20	Island Explorer & Seatac 300	300	/2030	AK Scrap	788.00	
4/30	Endeavor	181	0800/2135	Cispri	$506.00	$52.00
5/9	Shamrock	70	1934/2237	American Mar	338.00	$52.00
5/23	Norseman II	115	1410/1530	Support Vess	$506.00	$52.00
5/26	Sovereign	180	1030/1436	Ocean marine	$506.00	$52.00
6/4	Endeavor	181	0645/	Cispri	506.00	$52.00
6/5	Endeavor	181	/1500	Cispri	$506.00	
6/8	Perseverance	207	1200/	Cispri	$788.00	$52.00
6/9	Perseverance	207	/1225	Cispri	$788.00	
6/16	Perseverance	207	0800/	Cispri	$788.00	$52.00
6/17	Perseverance	207	/1655	Cispri	$788.00	
7/14	Steadfast	108	1455/2338	Aleutian Marit	$52.00	$506.00
7/15	Emery Zidel&Barge	535	0830/	Crowley	52.00	$2,154.00
7/16	Emery Zidel&Barge	525		Crowley		$2,154.00
7/17	Emery Zidel&Barge	525	/1445	Crowley		$2,154.00
7/18	Steadfast	108	1350/1707	Aleutian Marit	52.00	$506.00
7/20	Titan	160	0545/	Ocean Marine	$52.00	$506.00
7/21	Titan	160	/1300	Ocean Marine		$506.00
8/4	Seatac 300	300	1200/	AK Scrap	788.00	$52.00
8/5	Seatac 300	300		AK Scrap	788.00	
8/6	Seatac 300	300	/0535	AK Scrap	788.00	
8/19	Endeavor	181	0645/1420	Cispri	506.00	$52.00
9/13	Pacific Wolf & DBL 55	395	0800/	Kirby Offshore	1,206.00	$52.00
9/14	Pacific Wolf & DBL 55	395	/2145	Kirby Offshore	$1,206.00	
9/15	Perseverance	207	0720/	Cispri	$788.00	$52.00
9/16	Perseverance	207		Cispri	$788.00	
9/17	Perseverance	207		Cispri	$788.00	
9/18	Perseverance	207	/1230	Cispri	$788.00	
9/23	Endeavor	181	0845/0910	Cispri	$506.00	$52.00
9/23	Endeavor	181	1130/1524	Cispri		$52.00
10/20/20				**Year to Date Totals:**	$66,615.00	$9,682.00

Pioneer Dock 2020

Date	Vessel	LOA	Times	Billed	$ Dock	Srv Chg
1/4	Pacific Wolf&55	395	0755/1505	Kirby Offshore	1,206.00	52.00
1/14	Pacific Wolf&55	395	1330/1630	Kirby Offshore	1,206.00	52.00
1/15	Endeavor	181	0900/2110	Cispri	506.00	52.00
1/23	Persevance	207	1000/1555	Cispri	788.00	52.00
1/24	Pacific Wolf&55	395	0805/	Kirby Offshore	1,206.00	52.00
1/25	Pacific Wolf&55	395	/1740	Kirby Offshore	1,206.00	
1/26	Pacific Wolf&55	395	1400/1600	Kirby Offshore	1,206.00	52.00
1/29	Persevance	207	1100/	Cispri	788.00	52.00
1/30	Bob Franco	120	1230/1542	Olympic	506.00	$52.00
2/1	Pacific Wolf & DBL 55	395	2000/2245	Kirby Offshore	1,206.00	52.00
2/9	Pacific Wolf & DBL 55	395	1115/	Kirby Offshore	1,206.00	52.00
2/10	Pacific Wolf & DBL 55	395	/1935	Kirby Offshore	1,206.00	
2/18	Pacific Wolf & DBL 55	395	0830/1230	Kirby Offshore	1,206.00	52.00
2/22	Pacific Wolf & DBL 55	395	0815/2045	Kirby Offshore	1206.00	52.00
2/29	Bob Franco	120	1435/1830	Olympic	506.00	52.00
3/29	Pacific Wolf & DBL 55	395	2120/	Kirby Offshore	1,206.00	52.00
3/30	Pacific Wolf & DBL 55	395	/1045	Kirby Offshore	1,206.00	
4/9	Perseverance	207	0900/1632	Cispri	788.00	52.00
4/11	Pacific Wolf & DBL55	395	0615/	Kirby Offshore	1,206.00	52.00
4/20	Bob Franco	120	0825/	Olympic tug	506.00	52.00
4/21	Bob Franco	120	/2015	Olympic tug	506.00	
4/23	Pacific Wolf & DBL55	395	0001/	Kirby Offshore	1206.00	52.00
4/24	Pacific Wolf & DBL55	395	/1630	Kirby Offshore	1,206.00	
5/2	Endeavor	181	1000/1230	Cispri	506.00	52.00
5/7	Pacific Wolf & DBL 55	395	0345/1635	Kirby Offshore	1,206.00	52.00
5/18	Pacific Wolf & DBL 55	395	0800/1400	Kirby Offshore	1,206.00	52.00
5/29	Pacific Wolf & DBL 55	395	0745/1825	Kirby Offshore	1,206.00	52.00
6/17	Pacific Wolf & DBL 55	395	0740/1540	Kirby Offshore	1,206.00	52.00
7/10	Pacific Wolf & DBL 55	395	0615/1740	Kirby Offshore	1,206.00	52.00
7/30	Pacific Wolf & DBL 55	395	1200/1700	Kirby Offshore	1,206.00	52.00
8/4	Titan	160	2345/	Ocean Marine	506.00	52.00
8/5	Spar	225	2025/2130	USCG Kodiak	788.00	52.00
8/20	Pacific Wolf &DBL 55	395	1500/1630	Kirby Offshore	1,206.00	52.00
8/28	Perseverance	207	0740/1930	Cispri	788.00	52.00
8/29	Pacific Wolf &DBL 55	395	1230/1600	Kirby Offshore	1,206.00	52.00
9/4	Endeavor	181	0800/?	Cispri	506.00	52.00
9/16	Pacific Wolf & DBL55	395	0615/1500	Kirby Offshore	1,206.00	52.00
9/22	Bob Franco	120	1300/1640	Olympic	506.00	52.00
10/20/20				**Year to Date Totals:**	**$35,220.00**	**$1,560.00**

Ferry Landings 2020

	Pioneer Dock	Deep Water Dock
January	6	0
February	0	0
March	0	0
April	0	0
May	1	0
June	2	0
July	23	0
August	22	0
September	18	
October		
November		
December		

Pioneer Dock - 2020 Water Usage

Date	Vessel	Beg. Read	End Read	Gal.	Charged	Conx Fee
1/4	Pacific Wolf	943,040	945,973	2,933	$ 194.05	$ 102.00
1/5	Tustumena	3,881,060	3,897,210	16,150	$ 626.78	$ 102.00
1/9	Tustumena	3897210	3907222	10,012	$ 388.57	$ 102.00
1/12	Tustumena	3907222	3950900	43,678	$ 1,695.14	$ 102.00
1/15	Endeavor	3950900	4014400	63,500	$ 2,464.44	$ 102.00
1/29	Perseverance	945976	952668	6,692	$ 259.72	$ 102.00
2/18	Pacific Wolf	952668	955900	3,232	$ 194.05	$ 102.00
3/29	Pacific Wolf	4014385	4016850	2,465	$ 194.05	$ 102.00
4/11	Pacific Wolf	4016850	4020900	4,050	$ 194.05	$ 102.00
4/23	Pacific Wolf	4020940	4023000	2,060	$ 194.05	$ 102.00
6/9	Tustumena	4059200	4073300	14,100	$ 547.22	$ 102.00
6/17	Pacific Wolf	1023480	1035485	12,005	$ 165.91	$ 102.00
7/5	Tustumena	4088545	4140700	52,155	$ 2,024.14	$ 102.00
7/20	Steadfast	4156142	4158118	1,976	$ 194.05	$ 102.00
9/4	Endeavor	4259475	4315661	56,186	$ 2,180.58	$ 102.00
9/6	Tustumena	4318848	4321335	2,487	$ 194.05	$ 102.00
9/21	Tustumena	4342300	4350600	8,300	$ 322.12	$ 102.00
9/24	Tustumena	4350700	4357290	6,590	$ 255.76	$ 102.00
				-		
Year to Date Totals:				**308,571**	**$ 12,288.73**	**$ 1,836.00**

Notes:

Washing down dock results in missing begin/end reads

$194.05 Min Charge

$102.00 CONX

Deep Water Dock - 2020 Water Usage

Date	Vessel	Beg. Read	End Read	Gal.	Charged	Conx Fee
1/4	Endeavor	11,308,450	11,314,000	5,550	$ 215.40	$ 102.00
1/7	Bob Franco	11,314,000	11,316,000	2,000	$ 194.05	$ 102.00
1/27	Perseverance	11,316,050	11,323,270	7,220	$ 280.21	$ 102.00
1/30	Bob Franco	11,323,270	11,327,000	3,730	$ 194.05	$ 102.00
2/23	Bob Franco	11,327,000	11,332,000	5,000	$ 194.05	$ 102.00
2/24	Perseverance	11,332,000	11,351,600	19,600	$ 760.68	$ 102.00
3/19	Bob Franco	11,351,610	11,359,640	8,030	$311.64	$ 102.00
4/3	Endeavor	11,359,000	11,408,100	49,100	$1,905.57	$ 102.00
4/18	Bob Franco	11,408,090	11,413,740	5,650	$219.28	$ 102.00
4/30	Endeavor	11,413,000	11,464,000	51,000	$1,979.31	$ 102.00
5/4	Bob Franco	11,464,100	11,468,220	4,120	$194.05	$ 102.00
5/16	wash down	11,468,200	11,469,900	1,700	nc	
5/17	Bob Franco	11,469,900	11,472,900	3,000	$194.05	$ 102.00
5/23	wash down	11,473,900	11,474,400	500	nc	
6/4	Bob Franco	11,474,000	11,477,700	3,700	$194.05	$ 102.00
6/5	Endeavor	11,477,700	11,490,000	12,300	$477.36	$ 102.00
6/17	Tustumena	11,490,050	11,510,000	19,950	$774.26	$ 102.00
6/27	Bob Franco	11,510,000	11,514,250	4,250	$194.05	$ 102.00
7/15	Emery Zidel	11,514,000	11,516,200	2,200	$194.05	$ [illegible]00
7/30	Bob Franco	11,516,200	11,523,440	7,240	$280.98	$ [illegible]00
8/2	Bob Franco	11,523,440	11,524,350	910	$194.05	$ [illegible]00
8/19	Endeavor	11,524,350	11,535,000	10,650	$413.33	$ 102.00
9/4	Bob Franco	11,535,000	11,541,300	6,300	$244.50	$ 102.00
9/22	Bob Franco	11,541,000	11,543,000	2,000	$194.05	$ 102.00
9/23	Endeavor	11,543,520	11,551,830	8,310	$322.12	$ 102.00
9/30	Bob Franco	11,552,820	11,553,200	380	$194.05	$ 102.00
				-		
Year to Date Totals:				**225,890**	**$ 10,319.19**	**$ 2,448.00**

Notes:

Washing down dock results in missing begin/end reads

$194.05 Min Charge

$102.00 CONX

Port & Harbor Advisory Commission
2020 Meeting Calendar

	MEETING	AGENDA DEADLINE	ANNUAL TOPICS/EVENTS
JANUARY	5:00 p.m. Wednesday, January 22	5:00 p.m. Wednesday, January 15	Appointment/Reappointment Applications Due
FEBRUARY	5:00 p.m. Wednesday, February 26	5:00 p.m. Wednesday, February 19	Terms Expire February 1st Election of Chair & Vice Chair
MARCH	5:00 p.m. Wednesday, March 25	5:00 p.m. Wednesday, March 18	
APRIL	5:00 p.m. Wednesday, April 22	5:00 p.m. Wednesday, April 15	Review of Strategic Plan/Goals & Commission's Policies
MAY	6:00 p.m. Wednesday, May 27	5:00 p.m. Wednesday, May 20	
JUNE	6:00 p.m. Wednesday, June 24	5:00 p.m. Wednesday, June 17	City Budget Review/Develop Requests
JULY	6:00 p.m. Wednesday, July 22	5:00 p.m. Wednesday, July 15	
AUGUST	6:00 p.m. Wednesday, August 26	5:00 p.m. Wednesday, August 19	Capital Improvement Plan Review
SEPTEMBER	5:00 p.m. Wednesday, September 23	5:00 p.m. Wednesday, September 16	
OCTOBER	5:00 p.m. Wednesday, October 28	5:00 p.m. Wednesday, October 21	Land Allocation Plan Review AAHPA Conference
NOVEMBER	No Meeting		Seattle Fish Expo
DECEMBER	5:00 p.m. Wednesday, December 9	5:00 p.m. Wednesday, December 2	

2020 HOMER CITY COUNCIL MEETINGS
ADVISORY COMMISSION/ BOARD ATTENDANCE

Commissions are invited to report to the City Council at the Council's regular meetings under Item 8 – Announcements/Presentations/Borough Report/Commission Reports. This is the Commission's opportunity to give Council a brief update on their work. Generally the Commissioner who will be reporting will attend one of the two meetings for the month they are scheduled to attend.

The 2020 meeting dates for City Council is as follows:

January 13, 27	Donich
February 10, 24	Stockburger
March 9, 23*	Zimmerman
April 13, 27	Zimmerman
May 11, 26*	Donich
June 8, 22	Ulmer
July 27**	Ulmer
August 10, 24	Carroll
September 14, 28	Zeiset
October 12, 26	Stockburger
November 23**	
December 14, 21****	Carroll

City Council's Regular Committee of the Whole Meeting at 5:00 pm to no later than 5:50 pm prior to every Regular Meeting which are held the second and fourth Monday of each month at 6:00 pm.
*Tuesday meeting due to Memorial Day/Seward's Day.
** There will be no first regular meeting in July or November.
***Council traditionally reschedules regular meetings that fall on holidays or high school graduation days, for the following Tuesday.
****Council traditionally cancels the last regular meeting in December and holds the first regular meeting and one to two special meetings as needed. Generally the second special meeting the third week of December will not be held.