



National Park Service, Alaska Region Ocean Alaska Science and Learning Center Strategic Plan Fiscal Years 2016-2020

Mission--The Ocean Alaska Science and Learning Center promotes stewardship of the marine influenced ecosystems of Alaska's coastal national parks through education and research.



Introduction

The Ocean Alaska Science and Learning Center (OASLC) is one of 18 Research Learning Centers established by the National Park Service (NPS) around the country to increase the communication, use, and effectiveness of scientific research being conducted in the national parks. Co-located with Kenai Fjords National Park (KEFJ) in Seward, the OASLC was established in 2001 as a distinct NPS program that works with and supports the 11 NPS coastal park units in Alaska.

The Mission of the OASLC is to promote stewardship of the marine influenced ecosystems of Alaska's coastal national parks through education and research. Nationally, the NPS has established a focus on marine science, including the strategic focus articulated in the 2008 NPS Pacific Ocean Parks Strategic Plan (POPS). Along with other NPS Alaska units and programs, the OASLC has an essential role in implementing the POPS strategic direction.

The OASLC collaborates with Alaska's coastal parks, Inventory & Monitoring (I&M) networks, regional programs, and external partners to further marine stewardship related to natural and cultural resources through outreach and education, science-informed decision-making, and scientific research. The OASLC strategically uses its staff and financial resources to augment, strengthen and support the work being done by these other NPS entities, to achieve its mission in support of Alaska's coastal parks.



This OASLC Strategic Plan for FY2016-2020 specifies goals, objectives and five-year targets for accountability. The plan lists the types of actions that may be included in the OASLC's annual programs of work over the next five years to achieve the goals and objectives. Finally, the strategic plan communicates the OASLC's goals, objectives and potential actions to NPS parks and networks, external partners, and the general public.

This strategic plan was developed by the OASLC Board in consultation with the OASLC Technical Advisory Committee (TAC), parks, I&M networks, regional office and external partners, and in consideration of the Pacific Ocean Parks Strategic Plan and other relevant guidance.

Marine-influenced ecosystems have a direct relationship with the ocean. They include habitats such as bays, fjords, saltwater estuaries, intertidal areas, coastal lagoons, brackish areas, and the marine-terrestrial interface. They also include physical and chemical processes directly involving marine waters, and biological population and community processes involving marine birds, mammals, invertebrates, marine and anadromous fish, algae, and terrestrial organisms interacting directly with the ocean. The cultural and socioeconomic connection between humans and the ocean is also included within the OASLC Mission.

OASLC Guiding Principles

- Be guided by park priorities, through consideration of the Board
- Prioritize projects that build collaborative partnerships
- Focus the majority of OASLC's efforts on outreach and education, while also recognizing the important role that research plays in the OASLC Mission
- Prioritize OASLC work on cross-cutting issues that benefit multiple coastal parks
- Leverage existing research and education resources to facilitate work in Alaska's coastal parks
- Use measurable targets to guide and improve OASLC programs in accomplishment of objectives
- Provide OASLC services to all Alaska coastal parks
- Use the Pacific Ocean Parks Strategic Plan at all levels of OASLC operations
- Increase the overall capacity and inter-connectedness of coastal parks

Coastal Parks Served by the OASLC

- Aniakchak National Monument and Preserve
- Bering Land Bridge National Preserve
- Cape Krusenstern National Monument and Preserve
- Glacier Bay National Park and Preserve
- Katmai National Park and Preserve
- Kenai Fjords National Park
- Klondike Goldrush National Historical Park
- Lake Clark National Park and Preserve
- Noatak National Preserve
- Sitka National Historical Park
- Wrangell-St. Elias National Park and Preserve

Collectively, these parks comprise more than 3,600 miles of Alaska's coastline and more than 32% of the coastline in the entire National Park System.



Cross-Cutting Issues

It is a guiding principle that OASLC will focus its work on cross-cutting issues that benefit multiple coastal parks. Cross-cutting issues identified during the strategic planning process include the following (not prioritized):

- Ocean acidification
- Climate change – including (but not limited to) sea level rise, coastal erosion, tidewater glacier change, marine environment changes, and other natural, cultural, and subsistence resource impacts.
- Marine debris
- Increased marine vessels / shipping – including oil spill preparedness and response.
- Documenting and using Traditional Ecological Knowledge (TEK) – including (but not limited to) the loss of knowledge through the passing of native elders, place names, tides and currents, and the merging of TEK and western science.
- Human connections to the marine environment – including (but not limited to) subsistence activity, traditional knowledge, historical connections, pre-historic connections, present day socio-economic connections.
- Invasive species
- Tides, currents, sea level and other physical dynamics of the near shore environment.



OASLC Strategic Goals

- Goal 1** – Increase marine science literacy of NPS personnel and partners in order to communicate marine science to the public.
- Goal 2** – Support and increase the use of marine science in park management decisions.
- Goal 3** – Promote and facilitate marine scientific research in Alaska’s coastal parks.
- Goal 4** – Assess and evaluate OASLC activities and adapt as necessary to achieve the Mission.

OASLC Strategic Framework – Goals, Objectives, and Targets for FY 2016-2020

Goal 1 Increase marine science literacy of NPS personnel and partners in order to communicate marine science to the public.

Objective 1-1

Support NPS and partner capacity to educate the public about marine science.

5-year Target: All Alaska coastal parks recognize OASLC as a major source of marine science information.

Actions could include:

- *Disseminate simple quarterly research summaries (e.g., bullet points and links to more information) on cross-cutting issues for all NPS personnel. Include research conducted by NPS and other entities.*
- *Train interpretation and education (I&E) seasonal personnel in Ocean Literacy Principles (see <http://oceanliteracy.wp2.coexploration.org>) and cross-cutting issues, including how to communicate science and scientific results to their audiences.*
- *Distribute resource briefs and web articles regarding current research projects in coastal parks and results to all NPS personnel.*
- *Work with internal and external partners, and leverage existing efforts whenever possible, to sponsor technical workshops, symposia, and training to enhance local knowledge of ocean issues. (POPS)*

Objective 1-2

Develop I&E products about marine science, with focus on effective products relevant to multiple coastal parks.

5-year Target: All Alaska coastal parks are using marine science material provided by OASLC in I&E materials, products and programs.

Actions could include:

- *Document resource management and research projects and aid Resource Management staff in distributing cogent research results, especially to lay audiences.*
- *Provide training on the use of cameras and other media equipment to park staff in order to document and communicate research projects. Such training could be provided in-house or contracted.*
- *Consult with parks and researchers on effective outreach/education components of research projects and in development of communication products associated with research in the parks.*

- *Support I&E staff with the inclusion of quality scientific content in interpretation and outreach efforts. This includes developing resource briefs, shared content web articles, other written media, posters, social media, and videos targeting external audiences. Use contracts to augment these activities when necessary.*
- *Expand media intern opportunities where parks can provide necessary support (e.g., supervision and housing). Recruit from other programs beyond Central Michigan University and include internships in writing to communicate science in addition to photography and video.*
- *Leverage other government agency science communication efforts to communicate science and scientific results relating to cross-cutting issues. Examples of agencies include: National Oceanic and Atmospheric Administration (NOAA), the Landscape Conservation Cooperatives (LCC), Alaska Ocean Observing System (AOOS), and US Geological Survey (USGS).*
- *Support and enhance scientific communication between coastal parks and local communities with strong ties to park units or park resources, and with other local audiences, such as through workshops, meetings, symposia (e.g., Beringia Days, Alaska Forum for the Environment, etc.)*
- *Support park research dissemination to scientific audiences through talks, posters and exhibit spaces at scientific conferences, such as the Alaska Marine Science Symposium, Alaska Forum for the Environment, Marine Mammal Conference, etc. (POPS)*
- *Highlight park research results in strategic publications, both technical and non-technical, such as Alaska Park Science, Park Science and scientific journals.*
- *Convene a meeting with ocean park I&E and Resource staff to assess effective outreach and education actions and develop a communication strategy that will identify key ocean stewardship messages at the region and park level, identify core audience interests, and suggest preferred media approaches. (POPS)*

Objective 1-3

Provide information and support park education specialists in educating school students about marine science.

5-year Target: Transition from OASLC providing direct instruction to students in classrooms, to providing marine science literacy and techniques to park education specialists to implement instruction.

Actions could include:

- *Conduct teacher workshops focused on science relevant to park coastal and marine resources. Integrate park educational staff into the workshops. Develop partnerships with other agencies and non-government organizations (NGOs) to increase and enhance these opportunities. (POPS)*
- *Leverage park efforts working with rural schools to provide education about coastal and marine resources (e.g., through village outreach, distance learning, etc.)*



- *Assist in the integration of NPS research and long term monitoring data into NPS and other agency education programs. (POPS)*
- *Develop an annotated list of sources of ocean stewardship interpretive and educational information (from both NPS and non-NPS sources) and a list of potential partners involved with ocean literacy. (POPS)*
- *Increase NPS presence at regional National Ocean Science Bowl competitions, a venue where high school students compete for college scholarships and marine science-based field trips/cruises. (POPS)*
- *Assist parks in connecting with capable partners for science communication and outreach. Let current and future needs, and capabilities drive the partnerships.*

Goal 2 Support and increase the use of marine science in park management decisions

Objective 2-1

Provide parks with, or facilitate access to, marine science information to support management and policy decisions.

5-year Target: Every substantial decision in Alaska coastal parks regarding marine management has the best science available.

Actions could include:

- *Work with the I&M program and other regional programs to identify how science is and could be used to inform management decisions.*
- *Partner with other agencies to convene workshops to identify common stewardship responsibilities, marine resource threats, research and inventory and monitoring needs, and environmentally sensitive marine and coastal resources. (POPS)*
- *Collaboratively work with other agencies and the research community to identify and initiate targeted studies to enhance understanding of mitigation measures humans can take to respond to specific threats to natural and cultural resources, as well as responses to global climate change variables (e.g., sea level rise, increasing ocean temperature, and changing storm frequencies and intensity). (POPS)*
- *Working with the Ocean and Coastal Programs Coordinator, I&M and other NPS programs and staff, use existing knowledge (e.g. data sets, watershed condition assessments, technical reports, etc.) to identify gaps in resource knowledge. Identify commonalities spanning multiple parks. (POPS)*
- *In advance of upcoming general planning processes and the development of other key documents, contract research synthesis papers to summarize and interpret available literature and data. Synthesis papers as described can be used as references for planning teams, as well as to inform the public of key issues. (POPS)*

Objective 2-2

Increase the marine science literacy of Alaska coastal park managers, to support park management.

5-year Target: The OASLC is recognized as a source of marine science information and training to support park management decisions.

Actions could include:

Work with internal and external partners to plan and support research symposia, workshops and trainings to increase our understanding of cross-cutting issues, our capability to educate others on these topics, and our ability respond to these issues. (POPS)

Develop, maintain, and annually update a coastal and marine primer for NPS staff summarizing the cross-cutting issues and current research, threats and relevancy to park resources.

Contract for the development of synthesis papers and literature reviews regarding cross-cutting science issues as they relate to the region, in order to fill knowledge gaps and inform management actions, including the human relationship with the ocean. (POPS)

Distribute resource briefs and web articles regarding current coastal and marine research projects and results to NPS staff.

Support the OASLC Board in raising awareness and facilitating discussion of coastal and marine issues with the Alaska Leadership Council (ALC).



Goal 3 Promote and facilitate marine scientific research in Alaska's coastal parks.¹

Objective 3-1:

Support marine scientific research in coastal parks, with priority given to projects that leverage park capacity²

5-year Target: All Alaska coastal parks recognize the OASLC as a source of support for marine science projects.

5-year Target: Science that is supported by OASLC is used for park management.

Actions could include:

- *Through the TAC, work with coastal parks and I&M networks to identify and maintain a collective list of coastal and marine research questions related to park coastal and marine resources in the Alaska Region. Emphasize research questions that would assist in park management, and cross-cutting issues affecting multiple parks. Focus the OASLC funding call (for research support) on these issues.*
 - *Use the list of priority research needs to attract researchers to conduct research in parks.*
 - *Use the list of priority research needs to help college and graduate students develop successful proposals for research projects in parks.*
- *Conduct an inventory of existing NPS resources (e.g., personnel, equipment, facilities, cooperative partnerships, other) capable of engaging in ocean- or coastal-related natural and cultural research. Prepare a directory of resources that could be shared within and among ocean park units, including sharing of personnel, boats, and technical facilities and equipment (e.g., laboratories, field sampling equipment). (POPS)*
- *Implement an annual OASLC funding call to fund research, inventory and monitoring projects.*
- *Inform parks/networks of non-OASLC funding opportunities to support research, inventory and monitoring.*
- *Assist parks by providing or helping to connect them with technical support for research, inventory and monitoring.*
- *Assist parks by collaborating in writing grant proposals that cover multiple parks.*
- *Engage the public in marine citizen science programs to fill in gaps in resource knowledge and research gaps (e.g., the Coastal Observation and Seabird Survey Team program, marine debris and marine invasive species programs, coastal bioblitz). (POPS)*
- *Explore the capacity of using existing NPS marine vessels such as ranger boats, or concessionaire vessels such as tour vessels, as continuous passive recorders of basic ocean metrics such as temperature, salinity, and pH, as they undergo normal operations. This action would include addressing how to store and analyze data. (POPS)*

¹ OASLC role will be to serve as a facilitator/coordinator in promoting research in Alaska's coastal parks, not to conduct research itself.

² Park capacity could include funding, in-kind services, logistics, transportation, equipment, facilitating permit coordination, and/or other types of support.

Objective 3-2

Through beneficial partnerships with academia and other research entities, increase marine science research important to parks.

5-year Target: All Alaska coastal parks will utilize assistance by the OASLC to increase capacity and partnerships as a means to conduct marine scientific research to address park needs.

Actions could include:

- *Facilitate and enhance communication between NPS and the broader research community, including academia and other research agencies (e.g., USGS, NOAA, AOOB, North Pacific Research Board) on marine science to better understand and manage park resources. One example is jointly presenting sea star wasting disease monitoring results with other agencies at the Alaska Marine Science Symposium.*
- *Engage external partners (e.g., other government agencies and NGOs) to plan workshops or symposia to increase our understanding and abilities to educate and respond to cross-cutting issues.*
- *Assist parks in connecting with capable partners for communication, outreach and research (e.g., the Alaska SeaLife Center or other entities). Let current and future needs and capabilities drive the partnerships.*
- *Coordinate with USGS and other agencies to emphasize marine-related research focused on ecosystem responses to impacts and management actions under the Ocean Research Priorities Plan and other national plans and policies. (POPS)*
- *With the Ocean and Coastal Program Coordinator, explore the capacity of NOAA to map habitat, establish tidal datums, and monitor basic physical and chemical variables in and around Alaska's coastal parks. (POPS)*
- *Working with the Ocean and Coastal Programs Coordinator, assist the NPS Water Resources Division, Ocean and Coastal Resources Branch, to develop the NPS Service-wide Marine Benthic (including intertidal) Habitat Mapping Program and support pilot studies at Alaska coastal parks. (POPS)*
- *Coordinate with existing partnerships, such as the North Slope Science Initiative (NSSI), tribal governments, and the Alaska Landscape Conservation Cooperatives to address the research, inventory, and monitoring needs related to development activities in the Arctic. There are numerous unknown impacts anticipated with the loss of sea ice in the Arctic Ocean and the increase of energy, shipping, tourism, and fishing activities in the area. (POPS)*



- *Explore and facilitate partnership opportunities with AOOS, existing coastal monitoring programs and concurrent efforts by other organizations to collect data in order to understand marine ecosystem response to climate change, ocean acidification and human activities at relevant scales to Alaska’s coastal parks. (POPS)*
- *Work with universities to promote career development programs for Alaska’s coastal parks such as the Research Experiences for Undergraduates (REU) Program (National Science Foundation), NOAAs Sea Grant Program, and the Alaska Native Science and Engineering Program (ANSEP). (POPS)*

Goal 4 Assess and evaluate OASLC activities and adapt as necessary to achieve the Mission

Objective 4-1:

Implement an annual process to evaluate if OASLC is meeting targets

5-year Target: Annual evaluation has occurred each year.

Actions could include:

- *Organize a panel consisting of at least one Board member, one TAC member, and one person from outside these two bodies, to evaluate the effectiveness of OASLC activities in implementing objectives and meeting targets. Use the annual work plans and reports as primary tools.*
- *Annually evaluate cross-cutting issues and activities to include new emergent issues affecting most or all coastal parks.*

Objective 4-2:

Implement a process to evaluate the effectiveness and nimbleness of OASLC activities to reach objectives under each goal. (“Are we taking the right actions and adapting as needed?”)

5-year Target: All OASLC activities are evaluated (at an appropriate level of detail) and adapted as necessary to achieve the objective.

Actions could include:

- *Evaluate the effectiveness of education and outreach approaches in advancing the ocean stewardship message, and capitalize on the evaluation strategy in the Interpretation and Education Renaissance Action Plan. (POPS)*
- *By FY2019, form a review team, either internally or externally, to objectively evaluate the effectiveness of OASLC research activities to meet associated objectives in this plan.*
- *By FY2019, form a review team, either internally or externally, to objectively evaluate the effectiveness of OASLC education and outreach activities to meet associated objectives in this plan.*

Objective 4-3:

The OASLC Board operates as a forum, in consultation with the coastal park superintendents and the TAC, to evaluate emerging marine resource threats and develop shared solutions.

5-year Target: Board meets annually to address this objective and provides a report on emerging threats to the ALC and to park staff.

Actions could include:

- *Facilitate meetings between the OASLC Board and TAC, with coastal park superintendents invited to attend, at the Alaska Marine Science Symposium or associated with an in-person ALC meeting in Anchorage. A primary agenda topic will be discussion of threats to the shared marine resources of Alaska's coastal parks, along with potential responses and solutions.*



Strategic Plan Implementation

Governance and Coordination

The OASLC is governed by a seven-member Board of Directors, chartered in 2013 and led by an elected Chair. Voting members of the Board include three superintendents representing coastal parks within the Western Arctic parklands, Southwest Alaska I&M Network, and Southeast Alaska I&M Network³; the region's Ocean and Coastal Programs Coordinator; and a regional-level expert in Interpretation. Non-voting Board members include the KEFJ Superintendent and the OASLC Director. The Board meets at least once annually, provides program guidance for strategic planning, and promotes accountability and effectiveness for OASLC operations and programs. The OASLC Director serves as staff to the Board.

A Technical Advisory Committee provides technical assistance and advice to the OASLC Board and Director. The TAC includes representatives of natural resource managers, cultural resource managers, and interpretive rangers, and is chaired by the OASLC Director. The TAC works with the Director to advise on how the OASLC mission can be achieved and for monitoring and measuring progress toward established goals and objectives. The Board and TAC will hold one joint meeting per year.

The OASLC will routinely communicate and coordinate with the region's Oceans and Coastal Program Coordinator, Regional Science Communication Specialist and other NPS personnel to facilitate achievement of its Mission and goals, and to ensure efficiency and effectiveness. The Oceans and Coastal Program Coordinator is a member of the OASLC Board, which will facilitate this coordination. The OASLC will also participate in Natural Resource Advisory Council (NRAC), Cultural Resources Advisory Council (CRAC), and the Educational Advisory Group (EAG) meetings from time to time in order to develop and coordinate opportunities to meet its goals across the region.

Budget and Capacity

The OASLC budget for FY2015 is approximately \$638,000. The five-year Strategic Plan was developed assuming a fairly stable budget projection for FY2016-2020, with minor annual decreases due to expected federal budget sequestration.

In FY 2015, the OASLC has three full-time staff, including a director/research coordinator, education coordinator, and science communication specialist. About 47% of OASLC's budget pays for its staff. The Board has recommended not hiring additional permanent staff; however, seasonal or other non-permanent staff may be appropriate in the future. Approximately 3-4% of the budget is used for equipment, supplies, services, travel, etc. Base funding provided to KEFJ covers the center's overhead and administrative costs. Approximately 50% of the OASLC budget is available annually to support activities that accomplish the Mission.

Partnerships

It is a guiding principle of the OASLC to prioritize projects that build collaborative partnerships. OASLC will seek beneficial and effective partnerships that help accomplish its strategic goals and objectives – and will also assist coastal parks in developing such partnerships. Its practice will be to first determine the required services and outcomes, and then work with the best partner(s) to accomplish those requirements.

³ For the purposes of OASLC activities and operations, Wrangell-St. Elias National Park and Preserve is considered to be part of the Southeast Alaska Network



The OASLC recognizes its long-standing and effective partner relationship with the Alaska SeaLife Center (ASLC), and that the ASLC is a leader in both marine research and scientific education throughout the state of Alaska. The OASLC will continue to explore opportunities for partnership with the ASLC, within the guiding principles outlined in this plan.

Annual Work Plan

The OASLC Director will work with the TAC and others to develop an Annual Work Plan that identifies specific accomplishments and products, responsible parties, schedule/deadlines, an OASLC program budget, and additional funding sources. The Work Plan will also include more specific annual targets, to meet the general five-year targets provided under each goal/objective above. The draft work plan will be presented to the Board of Directors for discussion, modification, and approval no later than November 30th each year.

Annual Funding Call

As part of its Work Plan, the OASLC will hold an annual call for proposals. The amount of funding allocated to this call will be determined as the budget is constructed each year, to best achieve objectives for each fiscal year. The success of the funding call will be evaluated each year and adapted as necessary.

The annual funding call will be targeted to one or more priority cross-cutting coastal issue(s) that a majority or all coastal parks face. An emphasis will be placed on funding fewer, larger projects that address these issues in multiple parks. The Board will consult with coastal park superintendents about the order in which to address the cross-cutting issues in the annual funding calls.

Projects will be selected for funding based on merit, using clearly defined criteria. The annual funding call will not pre-identify an allocation between I&E and research projects. The relative balance of funding provided for I&E and research projects will be evaluated within the context of the entire OASLC work plan, and adjusted as necessary over time.

Funding provided through the annual call must be used within a single fiscal year. However, the Board recognizes that it may be necessary for some projects to be conducted in multi-year phases, which would require committing future fiscal year funding to successful multi-year proposals.

Annual Report and Other Communications

The OASLC Director will work with the TAC and others to develop an Annual Report that details specific accomplishments and products, lessons learned, coordination with others, and a budget summary. A detailed accounting of all OASLC expenditures will be appended. The proposed Annual Report will be presented to the Board of Directors for discussion, modification, and approval. The OASLC will distribute the approved Annual Report to all Alaska coastal parks and post it on the OASLC website by November 30 of each year. Board members have been chosen to represent the coastal parks, and park superintendents and staff are encouraged to communicate with them regarding OASLC operations. NPS staff and partners are encouraged to communicate directly with the OASLC Director and staff on an informal basis throughout the year.

Program Review

Beginning at the end of FY2017 and every four years following, the Board will direct a comprehensive program review to evaluate OASLC accomplishments and products, data management, fiscal management, and staffing. The review will be the responsibility of the Board, who will consider inviting assistance from an evaluator external to the organization. The Program Review will provide the primary basis for any significant changes in program direction and will identify issues to address in developing the next five-year strategic plan. The Board will also evaluate its structure and function at that time.

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