

Ocean Alaska Science and Learning Center Annual Report and Accomplishments

October 1, 2014 – September 30, 2015

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



This photo, taken by 2014 media intern Katie Thoreson, was chosen to be featured in a mural on the side of the Kenai Fjords National Park headquarters building as part of the NPS Centennial. It is being painted by Alaskan artist Byron Birdsall and members of the community of Seward.



"It was an excellent, content-rich experience for teachers from all over Southeast. The model of how they set [the teacher workshop] up would be a great template for future professional development in our district." –Jennifer Thompson, Juneau Elementary School Teacher
NPS Photo/ Jim Pfeiffenberger

Summary

The Ocean Alaska Science and Learning Center (OASLC) promotes stewardship of Alaska's eleven¹ coastal national park units through education and research of the marine and marine-influenced natural and cultural resources. This annual report provides summaries of our efforts and a synopsis of our expenditures during the 2015 fiscal year. This report is intended to inform our stakeholders, increase our levels of transparency, and provide a brief record for future staff.

Drafting a five year strategic plan, as mandated by the 2012 Management Review, demanded a large amount of time and energy in 2015. An internal survey was conducted with National Park Service staff throughout the region, followed by four meetings with the parks; one with the southeast Alaska parks, two with the southwest Alaska parks, and one the western Arctic parks, respectively. An external partner survey was

also conducted, and the Board of Directors and Technical Committee met multiple times. At the conclusion of fiscal year 2015, a near final draft was written to guide our efforts through fiscal year 2020.

¹ Aniakchak National Monument & Preserve
Bering Land Bridge National Preserve
Cape Krusenstern National Monument
Glacier Bay National Park & Preserve
Katmai National Park & Preserve
Kenai Fjords National Park
Klondike Gold Rush National Historical Park
Lake Clark National Park & Preserve
Noatak National Preserve
Sitka National Historical Park
Wrangell-St. Elias National Park & Preserve
Collectively these comprise more than 3600 miles of Alaska's coastline, and more than 32% of the coastline in the entire National Park Service.

Here are some highlights of our work over the past year. In addition to our annual teacher workshop held in Seward, we conducted a second, more ambitious teacher workshop in Juneau with the Alaska SeaLife Center (inset photo). This workshop, intended for fourth, fifth and sixth grade science teachers in southeast Alaska, focused on the [Ocean Literacy Principles](#) and ocean acidification. Our funding brought teachers from bush communities to the workshop in Juneau. By all accounts this workshop was a great success.

The Changing Tides project, funded by the Coastal Marine Grants from 2014, examines the ecological links between brown bears, marine invertebrates as food, and people. Benjamin Pister assisted in field work focused on the marine invertebrate sampling. Jim Pfeiffenberger serves as the principle lead for the outreach side of the project. Working closely with Jim, the OASLC media intern Kaiti Chritz documented the project and produced two [online videos](#), [one](#) of which recently won first place for adult educational videos in the Alaska Ocean Observing System (AOOS) [2015 film contest](#). Web pages describing the project were developed for both Katmai and Lake Clark National Parks, and social media outreach included several blog entries and Facebook posts during the field season.

Erin Kunisch, our Science Communication Specialist, joined the OASLC just before the start of the fiscal year and immediately invigorated our science communication efforts. Erin developed resource briefs, web content, and presented NPS science at the Alaska Marine Science Symposium in January. She consolidated recent NPS projects and published literature from around the region and presented this information during the poster sessions at the symposium.

OASLC staff and budget remained relatively stable this year. The fiscal year 2015 budget was \$638,550, of which we spent \$636,520.51, a difference of \$2,029 or 0.3%. The three regular staff positions remained unchanged. On the OASLC Board of Directors Jeanette Koelsch, Superintendent of Bering Land Bridge National Preserve, replaced Frank Hays to represent the Western Arctic Areas (WEAR) and Nancy Holman, Chief of Interpretation at Denali, replaced Rebecca Talbott as the regional Interpretation and Education representative. Philip Hooge was chosen to serve as Chair of the Board.

FY15 Top Priorities

These priorities were identified in the annual work plan. Final updates are provided here.

- Complete 5-year OASLC Strategic Plan - The 5-year strategic plan remains in draft form, though it is almost complete. After extensive input from internal and external stakeholders, and multiple meetings with the Technical Committee and the Board of Directors, there are a few comments from stakeholders that need to be addressed before the plan is completed.
- Continue to manage and coordinate the Coastal Marine Grants and Coastal Settlement Fund spend down, and participate in funded projects as planned. The Coastal Marine Grant projects are all underway, and the Detailed Implementation Plan for the final project is in review. The OASLC staff participated in field work for the Changing Tides project and the Marine Debris

*Proposed as part of the Call for Ideas

project. An attempt to document the archeology project in KEFJ was thwarted by mechanical issues on the contracted plane.

- Determine future relationship with Kachemak Bay Research Reserve, and explore additional external partnerships driven by park needs. The KBRR has successfully switched parent agencies from ADF&G to UAA, and we executed a new CESU Task Agreement (P15AC010000) to fund a new round of Discovery Labs for the 2015-2016 school year.
- Develop stronger relationships with coastal parks and programs, particularly with those who don't have strong existing ties to OASLC. In FY15, Benjamin and Erin were able to travel to Yakutat to meet WRST park staff and several community partners, and learned about the park's coastal and marine resources. Benjamin also spent several days working on the Changing Tides project in LACL, where he developed a strong sense of coastal and marine resources in that park. OALSC staff provided seasonal training for four of Alaska's coastal parks.

External Partnerships/CESU Agreements

We used CESU Task Agreements to fund the following projects with the Alaska SeaLife Center and Kachemak Bay Research Reserve.

- ASLC Research:
 - Seabird Research Project: FY15 was the fourth year of a five year time frame for this project. (Budget Line Item 10)
- ASLC Education:
 - Annual Teacher Workshop:
 - FY14 funds were used to conduct a workshop focused on Ocean Literacy Principles in October, 2014.
 - FY15 funds were obligated to fund a workshop in October of 2015 (2015 – 2016 school year) on Ocean Acidification and Ocean Literacy Principles. (Budget Line Item 14)
 - Ocean Acidification/Ocean Literacy Workshop: The workshop was funded with FY14 funds and conducted in March of 2015. Follow-up evaluations with teachers in their classrooms are still being conducted in the 2015-2016 school year. Funding in FY15 was used to pay for travel of NPS staff. (Budget Line Item 21 and 48 respectively).
 - Marine Science Interpretation Internship: Three interns were funded with FY15 funds to provide interpretive services on a Major Marine tour boat during the summer. (Budget Line Item 12)
 - Village Outreach: FY14 funds supported outreach trips by ASLC staff during the 2014-2015 school year. The ASLC visited 17 villages associated with BELA, WEAR, KATM, GLBA and KEFJ, and provided 112 lessons. Three NPS educators were able to participate in these trips. FY15 funds were obligated to visit schools near BELA, WRST, LACL and one additional park during the 2015-2016 school year. (Budget Line Item 13 and 28)

*Proposed as part of the Call for Ideas

- Kachemak Bay Research Reserve (KBRR): KBRR conducts Discovery Labs focused on multiple topics throughout the year (see photo on page 5). FY14 funds supported a Discovery Lab on estuaries during the 2014-2015 school year, including village outreach trips to Nondalton, Newhalen, Port Graham and Nanwalek, each with NPS participation. This lab was presented in



One of eight stations, each with demonstrations of scientific concepts, set up during a public Discover Lab conducted by Kachemak Bay Research Reserve.

NPS Photo/ Rebekah Jones

schools 12 times (496 students served) and at the Alaska Islands and Ocean Visitor Center in Homer 7 times (435 public visitors served). A new CESU Task Agreement was executed with KBRR/UAA using FY15 money to fund a new Discovery Lab during the 2015-2016 school year. (Budget Line Item 16)

OASLC Education/Outreach Efforts

The OASLC used staff time and money to conduct and support a variety of education and outreach activities throughout the region.

- Alaska Marine Science Symposium (AMSS): The OASLC sponsored AMSS, and Erin Kunisch and Benjamin Pister attended to communicate NPS science to the scientific community. This included staffing a table with results from over a dozen NPS marine related research projects. (Budget Line Items 24, 25 and 59)
- Tsunami Bowl: OASLC staff coordinated NPS volunteers to serve as judges for the annual competition and as a coach for the local high school team. The OASLC also sponsored the event. (Budget Line Item 60)
- SCA Academy: OASLC staff participated in the Career Round Table and service projects.

*Proposed as part of the Call for Ideas



"The songs meet our curriculum standards perfectly about habitats and animals of our local environment. Jim does an awesome job of taking time at the end of each song to talk about different parts of the lyrics to allow the kids to process what they are singing." –Seward Kindergarten Teacher NPS Photo/ Darin Trobaugh

- As part of our Village Outreach collaboration with the Alaska SeaLife Center Jim Pfeiffenberger travelled to Nanwalek (3 programs, 48 contacts grades K-5) and Port Graham (2 programs, 32 contacts grades K-4) to present education programs to elementary school students.

- Ranger-in-Residence at ASLC: Jim developed two interpretive presentations: a traditional presentation on Black Oystercatchers, and one which incorporated facilitated dialogue techniques on marine debris. Jim trained KEFJ rangers to deliver the presentations, which were conducted throughout the summer at the ASLC. The ASLC venue was in a much more open space than in previous years and was treated as a trial run for future presentations. (Budget Line Item 4)

- World Ocean Day, June 8th: Erin coordinated posts highlighting World Ocean Day through the regional social media committee.
- Engaging the Next Generation (left): Jim provided musical programs introducing marine resources and parks to kindergarten students at Seward Elementary School (6 programs, 433 contacts).
- Reconnecting to Homeland and Sharing Yakutat Tlingit Traditional Knowledge about Coastal and Marine Resources*: This project connects Tlingit elders with youth to document TEK. Funding was obligated through a Cooperative Agreement with the Yakutat Tlingit Tribe for work to be conducted in 2016 (Budget Line Item 105)
- Interpreting WEAR Coastal Science in the Digital Age*: OASLC funding was used to purchase iPads for the Visitor Center in Kotzebue and to provide staff time to develop interpretive content. (Budget Line Item 106)
- Adding Coastal Subsistence Lifestyle to Junior Ranger Activity Center*: OASLC funding was leveraged with other fund sources to carve a traditional Tlingit canoe for the Junior Ranger Activities Center at KLGO. (Budget Line Item 107)
- Share Interpretive Park Ranger Position with OASLC*: OASLC funds were used to pay for half of an Interpretation Ranger position in Homer. This position delivered 83 programs to 2,168 people on behalf of the OASLC and coastal parks. (Budget Line Item 109)

*Proposed as part of the Call for Ideas

- Arctic Impressions*: OASLC funds were used to transport the Arctic Impressions exhibit to Kotzebue. A story map was completed by the Alaska Region GIS team and is [featured](#) on the OASLC website. (Budget Line Item 108)

The following items were identified in our annual work plan, but were not completed for various reasons. For the sake of transparency and future reference, we have included them below.

- LACL Sockeye Outreach*: Originally, Jim Pfeiffenberger was asked to gather footage to be given to contracted film makers who could not make all the trips necessary to gather needed footage. However, other funding was found to pay for additional work by the contractors, and Jim's services were not needed.
- Beringia Days Conference in Kotzebue: This event has been postponed until FY17.
- Scientific outreach on ocean acidification research at GLBA: We will continue to explore methods to communicate outreach possibilities in FY16.
- Pacific Ocean Education Team (POET): POET as a group is currently on hiatus.
- The Alaska COSEE (Centers for Ocean science Education Excellence) Ocean Science Fair: We did not participate in this due to time constraints and personal schedules.
- Virtual Classroom on Harbor Seals*: Could not be completed due to limited travel funds.

Research Efforts

- Understanding the Primary Production Foundation of Glacier Bay's Marine Food Web: OASLC funding was used to purchase 30 thermistors to be coupled with other instruments used to detect the passage of internal waves. (Budget Line Item 111)
- GLBA Collaboration with University of Alaska Southeast and ESRI to Increase Humpback Whale Data Accessibility*: OASLC funding was used to contract ESRI to begin linking two humpback whale databases held by GLBA and University of Alaska, Southeast. Linking the databases facilitates collaboration, increases online outreach opportunities, and results in more accurate scientific data. (Budget Line Item 112)
- Breeding and Foraging Ecology of Coastal Raptors in Alaska*: OASLC funding covered M/V *Serac* time to gather one more year of data on a pelagic Peregrine Falcon study along the coast in KEFJ. Pelagic peregrine falcons are thought to be obligate predators on seabirds, and thus



A researcher scribes observations of sea otters diving and feeding in KEFJ in order to determine diet and energy intake, and ultimately estimate population size.
NPS Photo/Jim Pfeiffenberger

*Proposed as part of the Call for Ideas

obtain all of their prey from the ocean. (Budget Line Item 113)

- Determining Genetic Relatedness among KEFJ Coho Salmon*: OASLC funding was used to test genetic samples already collected from a previous project to determine whether coho salmon in the Resurrection River are wild or hatchery salmon. (Budget Line Item (114)
- WRST Coastal Atlas Project*: Funding was used to digitize 58 coastal photographs from 1994, and to pay a GIS technician to process the digital images in GIS. (Budget Line Item 115)

Coastal Marine Grants

- Jim Pfeiffenberger continues to serve as the principle lead on the education and outreach efforts for the Changing Tides project. Media Intern Kaiti Chritz, along with Jim, produced two videos (one of which won an AOOS film award in the Best Adult Education category). Erin Kunisch wrote a resource brief and assisted with Facebook posts. And Kaiti wrote multiple blog posts while contributing high quality photos to other outreach media. Three additional resource briefs were written by staff at other parks. (Budget Line 6)
- Benjamin Pister lead a field team to LACL to survey and collect razor clams and mussels as part of the Changing Tide project in July. (*Budget Line 44*)



A graduate student observes bears on the KATM coast as part of the Changing Tides project. NPS Photo/ Kaiti Chritz



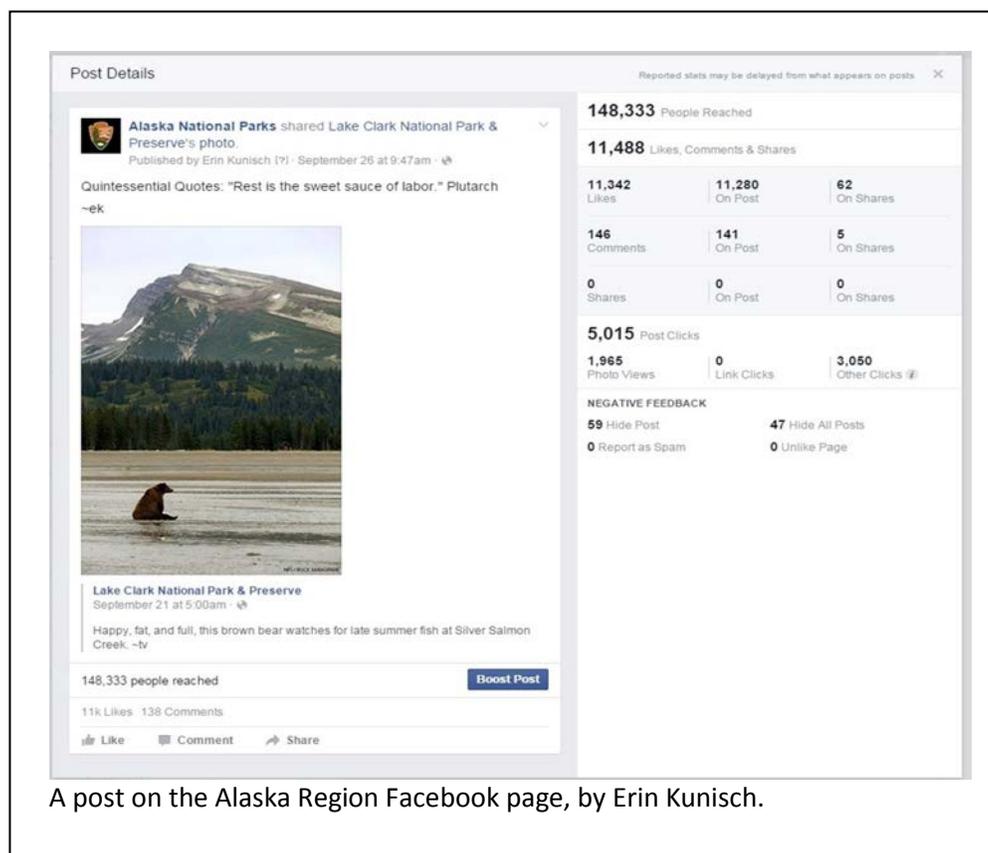
This jar with a note inside was found on the outer coast of KEFJ during the marine debris cleanup project. The note was written by a young student on Pender Island, B.C., Canada. NPS Photo/Benjamin Pister

- Benjamin Pister served as co-principle investigator on Remove Marine Debris from Five Parks and Involve Schools and Local Communities with Sharon Kim (KEFJ). This involved coordinating several partners and field work on the KEFJ coast during the first half of June. The OASLC also contributed \$639 for super sacks to haul debris on a landing craft in KATM, and \$2,973 to purchase super sacks to short haul debris from the beaches to a barge. An article for Alaska Park Science and a manuscript for a peer reviewed science journal were written, and they are currently in review. (*Budget Lines 41, 84, 89*)
 - Erin Kunisch travelled to WEAR to help document marine debris and oil spill incident preparedness projects for later outreach. WRST paid for her travel.
 - Erin Kunisch has begun editing an issue of Alaska Park Science focused on the Coastal Marine Grants, to be published in FY16.

Social Media

This year OASLC staff made a concerted effort to reach out to coastal parks and support their social media needs. The result was a diverse set of posts on a variety of social media platforms, including Facebook, Tumblr and Twitter.

- Jim Pfeiffenberger and our media intern Kaiti Chritz created a series of ten short videos called Fjord Minutes for the KEFJ Facebook page. They can be viewed on the park's [YouTube Channel](#). All received “views” in the thousands when posted on Facebook.
- Erin Kunisch is part of the Alaska Region social media team and posts on the regional Facebook page. These posts are typically derived from previous posts on individual park Facebook pages.
 - 57 Facebook posts in two different themes: Science Friday and Quintessential Quotes.
 - 2 of these have been highlighted on the NPS Facebook page and another 5 posts have been highlighted on the US Interior Instagram feed.
 - One post had 11,488 likes.
 - Total Post Reach is over 1.2 million.
 - Total Post Likes are over 76,000.
- Erin Kunisch is the main contributor to the Alaska Region Tumblr feed, which engages a different audience than Facebook. She made 32 Tumblr posts with high posts reaching 76 and 70 notes.
- Erin Kunisch made 16 posts to the Alaska Region Twitter account.



A post on the Alaska Region Facebook page, by Erin Kunisch.

*Proposed as part of the Call for Ideas

- Jim Pfeiffenberger provided 75 posts to the KEFJ Facebook page, mostly over the winter.
- Rebekah Jones, an Interpretation Ranger in Homer supported by the OASLC, provided Facebook posts for LACL.
- Thirteen Facebook posts were provided and used by SITK.
- Several posts were provided to BELA, WRST, and KATM and were used to varying degrees at their discretion.

Websites

- Erin Kunisch dedicated a substantial amount of work to update the OASLC website (<http://www.nps.gov/rlc/oceanalaska/index.htm>) with current content on our activities, including all [resource](#) and [research briefs](#) (under the Marine Science News section). There is also a section on our site that highlights our interns and their work.
- Each resource brief is [available on the website](#) in pdf format, a total of six so far, and are also developed into 508-compliant shared content articles for [park web pages](#).
- Eight research briefs were created and shared at AMSS, some of which are highlighted on the OASLC website.
- Videos and blog posts in support of the Changing Tides project were posted on NPS.gov.

Other Media

Videos

- Jim Pfeiffenberger completed a video on [lagoon monitoring](#) in BELA.
- Jim Pfeiffenberger and Kaiti Chritz completed a video on the Gulf Watch/I&M Nearshore Monitoring project.



- Kaiti Chritz and Jim Pfeifferberger completed two videos ([here](#) and [here](#)) on the Changing Tides project, one of which won an award for Best Adult Educational film in the [AOOS 2015 Film Contest](#).
- Jim Pfeifferberger and Kaiti Chritz completed a series of ten minute-long videos for the KEFJ Facebook page called [Fjord Minutes](#).
- Shannon Millard, a media intern funded by the OASLC and stationed at KLGO, produced a fantastic [welcome video](#) for that park.
- A video on the salmon research in the Resurrection River by Dan Young is pending final results of recent work.
- We were unable to gather footage on the Coastal Marine Grant project Rescue & Protect Irreplaceable Archeological Sites on Eroding Coasts at Two Parks as described in the annual work plan due to mechanical issues with the contracted plane.

Press Releases

- Erin Kunisch completed a press release for the Resurrection River salmon research project in October.
- Erin assisted in editing a marine debris press release for KEFJ.

Resource Briefs/Research Briefs

Erin Kunisch is the primary author of resource briefs for OASLC. In January she wrote summaries of NPS research for presentation at the Alaska Marine Science Symposium. They had the look and feel of what many NPS staff call resource briefs, but were written for a technical audience. Several were later converted to a less technical version and rebranded as resource briefs. Many resource briefs are available on the [OASLC website](#) and are 508 compliant.

- [Sea Star Wasting Disease](#) – this resource brief was created and is being used by multiple agencies through Gulf Watch.
- [Coastal Settlement Patterns in the Chukchi Sea](#) - CAKR
- [Freshwater Quality Monitoring](#) – SEAN
- Kittlitz's Murrelets - SEAN
- Whale Research--GLBA
- [Harbor Seal Research](#) - GLBA
- Black Oystercatcher Research - KEFJ
- Cruise Ship/Wildlife Interactions at GLBA
- Ground Nesting Seabird Research – GLBA
- Ocean Acidification Research – GLBA (written by Benjamin Pister)

*Proposed as part of the Call for Ideas

Other Written Media

Erin Kunisch contributed to the [Spring 2015 issue of DOI Newswave](#) newsletter highlighting sea star wasting disease in the Gulf of Alaska, Kittlitz's Murrelet research in southeast Alaska, and harbor seal research in southeast Alaska.

Seasonal Training

- Jim Pfeiffenberger gave training presentations on Interpretive Questioning Strategies to LACL Interpretation Rangers (10 participants) and SITK Interpretation Rangers (8 participants), on marine debris for WEAR Interpretation Rangers (8 participants) and provided training to KEFJ Interpretation Rangers on the Black Oystercatcher and marine debris talks for delivery the Alaska SeaLife Center.
- Benjamin Pister gave a presentation on climate change and ocean acidification to KLGO Interpretation Rangers, and another presentation on coastal invertebrates to LACL s Interpretation Rangers.
- Erin Kunisch gave presentations on Oceanography in the Northern Gulf of Alaska to KEFJ Interpretation Rangers (30 participants) and Oceanography/Ocean Literacy Principle #1, and Overview of Seabirds of the Northern Gulf of Alaska to LACL Interpretation Rangers (10 participants.)
- Jim Pfeiffenberger provided MOCC training to three KEFJ employees, and MOCC refresher training to 2 KEFJ and 1 AKRO employee.
- Jim Pfeiffenberger co-presented a session with Laurie Morrow, Education Director at the Alaska SeaLife Center, on delivering effective teacher workshops at the National Association for Interpretation.

Other Park Support

- Jim Pfeiffenberger provided six formal coaching sessions to interpretive rangers during the visitor season.
- Jim Pfeiffenberger assisted with an online training on teacher workshops in conjunction with Mather Training Center
- Erin Kunisch provided technical review for two Beringia proposals.
- An OASLC photo, taken by summer intern Kaitlin Thoreson (fiscal year 2014) was chosen for a mural painted by Byron Birdsall, to be installed on the KEFJ headquarters building. The mural is part of an NPS Centennial project.
- A media intern stationed at KLGO, Shannon Millard, was paid for by OASLC. She contributed many useful photos to the park archives, developed a wonderful welcome video, and received high praise from park staff.

Staffing

Staffing of the OASLC remained stable over the course of fiscal year 2015. During the last pay period of fiscal year 14 Erin Kunisch became the first Science Communication Specialist for the OASLC, fulfilling a recommendation from the 2012 OASLC Management Review. In addition to a media intern assigned primarily to the Changing Tides project, and supervised by Jim Pfeiffenberger, the OASLC funded a media intern stationed at KLGO.

Our Board of Directors provides oversight, and our Technical Committee provides technical guidance for OASLC plans and projects.

OASLC Staff

Director/Research Coordinator – Benjamin Pister

Education Coordinator – Jim Pfeiffenberger

Science Communication Specialist – Erin Kunisch

Summer Media Intern (Changing Tides) – Kaiti Chritz

Summer Media Intern (KLGO) – Shannon Millard

Board of Directors

Philip Hooge (Chair)

Tahzay Jones (Vice-Chair)

Diane Chung

Jeanette Koelsch (replaced Frank Hays)

Nancy Holman (replaced Rebecca Talbott)

Bekki Lasell

Benjamin Pister

Technical Committee

Jim Pfeiffenberger

Erin Kunisch

Sharon Kim

Kristy Sholly

Heather Coletti

Carissa Turner

Linda Chisholm

Chris Gabriele

Scott Gende

Rachel Mason

Bud Rice

Jennifer Thelen

Peter Neitlich

Mike Holt



National Park Service and USGS scientists conduct a seabird survey in KEFJ. NPS Photo/ Jim Pfeiffenberger

*Proposed as part of the Call for Ideas