



Greetings,

This issue launches year 7 of the Gulf Watch Alaska (GWA) monitoring program funded by the Exxon Valdez Oil Spill Trustee Council (EVOSTC). In this first quarter program researchers busily geared up for field work. Spring being a bit nippy this year, field teams wore extra layers. Here is a brief first quarter summary of our program activities and accomplishments.

Science Update:

- The Environmental Drivers component completed the first combined GWA and National Science Foundation Long-term Ecological Research (NSF-LTER) cruise occurred April 18 - May 5. The NSF-LTER portion of this cruise expanded routine GWA sampling to include additional oceanographic sampling lines off Kayak Island, Copper River Delta, and Middleton Island to the east and Kodiak Island to the west. North Pacific Research Board (NPRB), Alaska Ocean Observing System (AOOS), and University of Alaska Fairbanks (UAF) provided additional support. This cruise marked the 21st consecutive spring cruise for the Seward Line in the northern Gulf of Alaska (GOA), including Prince William Sound (PWS), and the 48th year of observations at the GAK1 mooring.
- The Pelagic component completed March humpback whale surveys in PWS.
- GWA principal investigators (PIs) gave science presentations the National Oceanic and Atmospheric Administration (NOAA) Alaska Fisheries Science Center Recruitment Processes Alliance and Integrated Ecosystem Assessment teams. GWA is unique in sampling across trophic levels annually and has much to contribute to ecosystem-based fisheries management in the GOA.

Meetings:

- Several GWA scientists and management team members attended the 2018 Ocean Sciences Conference in Portland, Oregon and presented at a GOA special session workshop. Good discussions were held on what we know about the GOA ecosystem, known information gaps, and potential resources for synthesis efforts.
- GWA scientists had a considerable presence at the 2018 Kachemak Bay Science Conference in Homer, Alaska, including talks, leading workshops and presenting posters. This conference offers an excellent opportunity to engage with the local community, discuss the latest science, and answer questions. Outreach portions of GWA's participation at the conference are detailed below.
- The GWA team held a spring teleconference on April 3, 2018, during which the program management team (PMT), PIs, and Science Review Panel discussed the status of final reports, the outcome of the Ocean Sciences conference, science synthesis, shared knowledge outreach to spill-affected communities, data management, upcoming plans for project field activities, and other topics.

Program Management Team:

- The PMT held a coordination teleconference on April 4, 2018 to recap FY17 and discuss plans for FY18. The group discussed accomplishments from FY17, outreach activities planned for FY18, website updates and maintenance, data management activities, goals for FY18, science synthesis, and plans beyond FY18.
- The PMT continued to coordinate with EVOSTC staff and GWA PIs on reviews to complete final

reports submitted in 2017 as the culmination of the first 5 years of the program.

Data Management:

- Building on many years of stakeholder feedback, AOOS updated its Ocean Data Explorer portal with new features and performance enhancements. The updated Ocean Data Explorer gives users access to new features, as well as a revamped design, to get more out of the AOOS data services. The new portal exists on a platform that is more responsive to long time-series observations and provides access to nearly 3,000 in situ stations and 15,000 sensors that report nearly 5 million observations weekly. The portal now includes more advanced discovery and sharing capabilities to discover and interact with over 887 layers representing coastal and ocean data from across the state. Some of the new features are:
 - Sophisticated charting abilities, including comparisons between data sources and binning by time
 - On-the-fly seasonal data summaries, including climatology and anomaly plots
 - Interactive comparison charting for sensor, model, and biological data
 - Availability of depth charts, interpolation via kriging, and 4D interactive charts for ocean profiling sensors, such as CTDs, mooring, gliders and more
 - User-created custom data views for data exploration, saving and sharing
 - Enhancements to the data catalog for searching, downloading, and mapping data

The Ocean Data Explorer portal is the most comprehensive interactive web-based source of ocean data for the Alaska region. With these many new features, the AOOS Ocean Data Explorer will serve as a more powerful tool for users of the GWA program to explore relationships and trends in the physical, chemical, and biological data collected from the waters surrounding the Alaska coast.

Building on these new capabilities, AOOS plans similar updates to the Gulf of Alaska data portal for the end of 2018.

Outreach:

- GWA participation in [Kachemak Bay Science Conference](#) included the following outreach activities:
 - **Chugachmiut conversations** - At the 2018 Kachemak Bay Science Conference, collaborating researchers and coordinators of the GWA program participated in two-way listening sessions with members from the Chugachmiut region. Chugachmiut is a non-profit organization that services the seven communities in the Chugach Region including Cordova, Tatitlek, Chenega Bay, Valdez, Seward, Nanwalek, and Port Graham. At the conference, GWA collaborators engaged with community members and educators from the spill-affected area in two work sessions where both scientists and native community members exchanged information about different ways of knowing, as well as changes they have observed in the ecosystem. In the first session, GWA collaborators assisted the Local Education Coordinators (LEC) from the Chugachmiut region in the developing their Heritage Kit curricula based around five themes: climate changes, watersheds, food from the sea, traditional places names, and cultural clothing. Heritage Kits are designed for kindergarten through twelfth grade, and align with Alaska Cultural and Content Standards addressed through hands-on activities. The content of

the draft kits were presented in a work session later that week with Elders from the Chugachmiut region. Elders from the seven Chugachmiut communities help make the preservation and revitalization of native heritage and language possible. The Elders are a great resource and shared additional information to be included in the curricula based on their traditional knowledge. Further, they engaged with GWA collaborators to ask questions about the ecosystem changes they have observed. These efforts were coordinated with the EVOSTC Herring and Research Monitoring program.

- **Keynote Presentation** - GWA Program Lead gave one of two keynote presentations, entitled *Science Without Borders, is it possible?*
- GWA public website – new information and materials have been ongoing to maintain current content. Visit gulfwatchalaska.org.

Relevant Media:

- GWA and Herring Research and Monitoring programs are highlighted in the latest issue of [Delta Sound Connections](#). This is a popular natural history and science news publication put out annually by the PWS Science Center dedicated to the ecosystems of PWS, the Copper River watershed, and northern GOA. In collaboration with the EVOSTC, ten thousand copies are distributed to visitors and residents of southcentral Alaska in addition to viewing online. A good read!
- GWA and [NGA-LTER](#) scientists in the news:
 - Seth Danielson (UAF) - [Motion of the Ocean](#)
 - Russ Hopcroft (UAF) - [48th year of ocean sampling in the GOA](#)

1st Quarter Products:

- FY17 GWA Annual Reports were submitted to the EVOSTC March 1st.

Important Upcoming Dates (2018):

- May 15, Port Graham information exchange event
- May 18, Seldovia outreach event
- June 13, Nanwalek outreach event
- July GWA PI quarterly teleconference
- FY19 Work Plans due to the EVOSTC August 17, 2018

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GWA quarterly photo:

Haiku

Sheer rock face dwarfs

Humans scale for conservation

Tiny seabirds flourish



PIGU where are you? Pigeon Guillemot, *Cephus columba*, nest check on Naked Island, PWS (photo by Kathy Kuletz).