



Exxon Valdez Oil Spill Trustee Council  
Long-Term Research and Monitoring Program  
Annual Program Status Summary

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*\*For Instructions for each section below, see Reporting Policy, II (C); the Reporting Policy can be found on the website, <https://evostc.state.ak.us/policies-procedures/reporting-procedures/>*

**Program Number:** 23120113

**Program Title:** EVOSTC Data Management Program

**Program Lead(s):** Carol Janzen, Alaska Ocean Observing System  
Rob Bochenek, Axiom Data Science

**Reporting Period:** Feb 1, 2023 – January 31, 2024

**Submission Date (Due March 1 immediately following the reporting period):** March 1, 2024

**Program Website:** AOOS Gulf of Alaska Data Portal <https://gulf-of-alaska.portal.aos.org/>

Please check all the boxes that apply to the current reporting period.

**Program progress is on schedule.**

The Data Management Program is proceeding as originally scheduled.

**Program progress is delayed**

n/a

**Budget reallocation request.**

n/a

**Personnel changes.**

n/a

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**1. Summary of Work Performed:**

The goal of the EVOSTC Data Management Program is to provide critical data management to support to the Gulf Watch of Alaska Long-term Research and Monitoring (GWA-LTRM) Program and the EVOSTC-funded Non-Program Projects (NPP) in order to assist study teams in efficiently meeting their objectives and ensuring data collected or consolidated through the effort are organized, documented, and available for their use and for future use by the larger scientific



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

---

community. We proposed in 2021 to be successful in meeting this goal with the budget provided by leveraging the extensive cyberinfrastructure and data management capacities of both the Alaska Ocean Observing System (AOOS) and Axiom Data Science (Axiom), and utilizing the existing, collaborative relationships with program PIs to ensure continuity in the data collected across efforts.

The workplan for Year 2 (Fiscal Year 2023 – FY23) of the 5-year (2022-2026) Data Management Program responds to the EVOSTC’s continued need for cost-effective data management that also maintains continuity and builds upon the efforts of the prior contract years (FY2012-2016 and FY2017-2021). The FY23 Data Management workplan and budget includes data management support for both the GWA-LTRM and multiple funded Non-Program projects (NPPs) approved by the EVOSTC. Changes to the originally proposed and approved Data Management workplan and corresponding budgets in FY22 and FY23 include:

- GWA-LTRM - Add Project 22120114-N Long-term Killer Whale Monitoring (FY22 and FY23).
  - Data Management Program costs were added to the original GWA-LTRM Data Management budget line for FY22 and FY23 for the addition of this project to the Data Management Program.
  - New costs were added to the original proposal budget to provide data management services for this project for both FY22 and FY23.
- NPPs – Remove Project 22220203 Walleye Pollock Pacific Herring Interactions (funded in FY22 only; no longer separately funded starting in FY23).
  - Ovivory work from this project will be conducted within existing GWA-LTRM projects starting in 2024 through 2025 - 111-E (Hershberger) for sample collection, and 111-F (Morella) for sample analysis.
  - No new costs were incurred for the corresponding changes made to the GWA-LTRM Program projects and the Data Management Program costs for this NPP were completely removed from the overall Data Management Program budget for FY23-FY31.

NPPs have their data management objectives embedded in the comprehensive Data Management Program and share the same goals and objectives as the GWA-LTRM Program projects. Three of the NPPs are continuing projects from the prior 5-year Data Management Program, and include projects:

1. 22200127 Gulf Watch Ocean Acidification Monitoring (ended FY22 – January 31, 2023)
2. 22110853 Pigeon Guillemot Restoration Project (ending FY24 – January 31, 2025), and
3. 22210128 Status and Trends of EVOS Injured Seabirds in the Kenai Peninsula Coast and Kachemak Bay (ending FY25 – January 31, 2026).

Funding to complete data management support for these ongoing NPPs was approved by the EVOSTC in January of 2022 as part of the current five-year funding period (2022-2026)



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

---

Attachment 1 provides a list of GWA-LTRM Program and continuing and new NPPs that are supported by the Data Management Program by approved fiscal year budgets in 2022 and 2023. This list may be subject to change relative to future Council funding decisions.

Data management goal(s) will be achieved with the following objectives:

**Objective 1.** Initiate data management services and oversight for the GWA-LTRM Program and Non-Program projects.

**Objective 2.** Standardize and provide access to data sets from the prior EVOSTC-funded efforts for continuity and integration.

**Objective 3.** Facilitate, monitor and evaluate regular data submissions and metadata generation in the Research Workspace.

**Objective 4.** Provide, maintain and modify technical infrastructure for user groups to access information produced or processed by the GWA-LTRM Program and Non-Program projects.

**Objective 5.** Publish and promote data collected by the GWA-LTRM Program and Non-Program projects, making them available for research, management and general audiences.

**Objective 6.** Execute management, user feedback and internal and external communications related to the GWA-LTRM Program and Non-Program project data and data products.

**Objective 7.** Ensure long-term preservation and dissemination into publicly accessible repositories at the term completion.

The following activities were accomplished during the FY23 period.

**OBJECTIVE 1.** *Initiate data management services and oversight for the GWA-LTRM Program and Non-Program projects.*

This objective was largely completed during Year 1 of the 2022-2026 program. Data management kick-off meetings were hosted by Axiom with the GWA-LTRM Program and NPPs to orient project investigators (PIs) to the EVOSTC data sharing policy and discuss the program-level data management strategy. During Year 2 follow-up orientations were provided on an as-needed basis as FY22 data submission activities increased during FY23. Axiom data management onboarding continued for the new Non-program projects (NPPs) and the Mariculture Research and Restoration Consortium (Mar ReCON) projects. The updated comprehensive data inventory for tracking of data sharing deliverables to the EVOSTC reflects both GWA-LTRM projects and NPPs (Attachment 2). New campaigns and projects were created in the Research Workspace for PIs to regularly submit data and metadata. Further, Axiom held meetings with new NPP and GWA-LTRM PIs to discuss data sharing plans specific to their individual projects.



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

---

Updated data management procedures efficiently guide project PIs through data documentation and curation throughout the lifetime of their projects and are available to all PIs through the Research Workspace, but also continue to be discussed in one-on-one meetings held with project PIs. The intent is to provide a data management framework with defined procedures for the collection, quality, storage, maintenance, and dissemination of project data that ultimately improves the accessibility and long-term usability of EVOSTC-funded data. Procedures may be followed by PIs at any time during the preparation of their data sets but are most useful when considered at the onset of project planning and implemented during data collection.

Using information generated during the first-year kick-off meeting with GWA-LTRM Program managers, an inventory of data expected to be generated by GWA-LTRM sampling efforts was adapted from the 2017-2021 efforts. This inventory describes the data sets, indicates the investigator responsible for the data, and notes the status of metadata for each data set (see Attachment 2). This inventory also provides a scaffold for which the data management team can track data and metadata progress throughout the life of the project. Continuing NPPs, new NPPs and Mar ReCON projects are included in this inventory under a separate categories.

**Objective 2.** *Standardize and provide access to data sets from the prior EVOSTC-funded efforts for continuity and integration.*

*Objective completed, Jan 2023.* To build upon data management services from the prior five-year effort, the folder structure in the Research Workspace for all continuing GWA-LTRM projects was updated to assist PIs in maintaining an organized approach for storing data and metadata for the 2017-2021 funding period. New data from the 2022-2026 program are to be stored in the Research Workplace alongside the data collected from the 2017-2021 and the 2012-2016 periods for easy access by the study teams. This organization is intended to facilitate the archive of timeseries data that is a continuum across five-year funding increments.

**OBJECTIVE 3.** *Facilitate, monitor, and evaluate regular data submissions and metadata generation in the Research Workspace.*

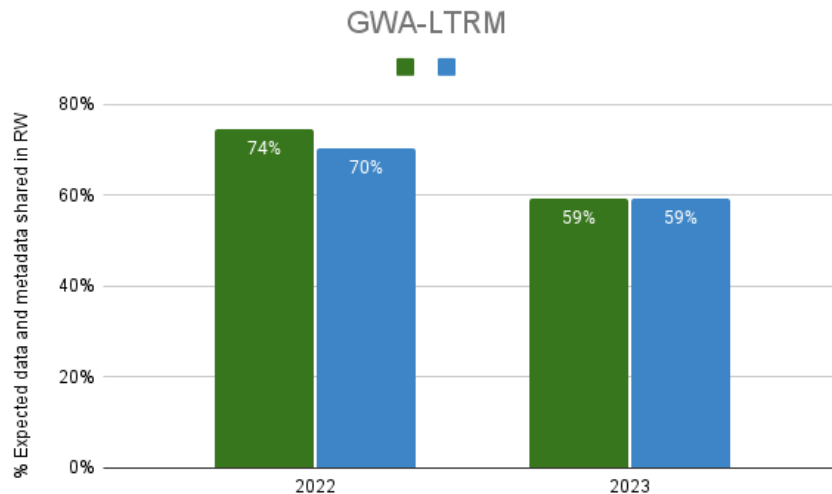
During FY23, the Data Management Program team has been actively guiding and monitoring data submissions for the Year 1 (FY22) and some Year 2 (FY23) GWA-LTRM and NPP data sets. Data from 2022 were due to the Research Workspace on December 1, 2023. Using information generated during the data management planning meetings with PIs, a comprehensive inventory of data expected to be generated by all funded GWA-LTRM, NPPS and Mar ReCON projects was created and is used to track annual data submissions (Attachments 2). This inventory describes the data sets, indicates the PI responsible for the data, and notes the status of data and metadata submission to the Research Workspace for each data set. The inventory serves as a tool to track the status of data and metadata submissions to the Research Workspace against data that are expected to be generated over the project term. A similar approach was used during the 2017-2021 Data Management Program, where the most current data submission inventory status was shared with the GWA and HRM Program leads throughout the year. The first year



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

GWA-LTRM Program data submission inventory was shared with Program leads on November 1, 2023 prior to the annual fall GWA-LTRM PI meeting.

A year-end FY23 data submission inventory (as of February 15, 2024) of expected and submitted data to the Research Workspace can be found in Attachment 2. Except for the three continuing NPPs from FY21, all FY22 and onward GWA-LTRM and NPP projects listed on this inventory were newly funded in FY22, and the first round of expected data were due to the Research Workspace on December 1, 2023. In many cases with the ongoing GWA-LTRM projects, the data sharing expectation is being met or exceeded (Figure 1). Some data sets are submitted through other data management platforms (e.g., federal data, regional program data sets), and are shared with the EVOSTC Research Workspace later. Further, some projects are typically delayed each year due to late-in-year sampling schedules, longer sample processing times, and data processing delays, but are still considered compliant, as long as the Data Management Program is aware of approved or negotiated delays. The Data Management Team is in contact with PIs who have yet to submit their FY22 data for unknown reasons, and will be establishing a data submission compliance plan where needed and documenting progress on meeting their respective data sharing requirements. GWA-LTRM Program Leads have also been notified for projects in their portfolio that have missing data.



*Figure 1. The percent of expected data (green) and metadata (blue) that have been shared in the Research Workspace for GWA-LTRM projects for FY22 and FY23. Note that some projects have delayed data submissions that are permissible due to known circumstances (field work or sample processing timing, staffing changes, etc).*

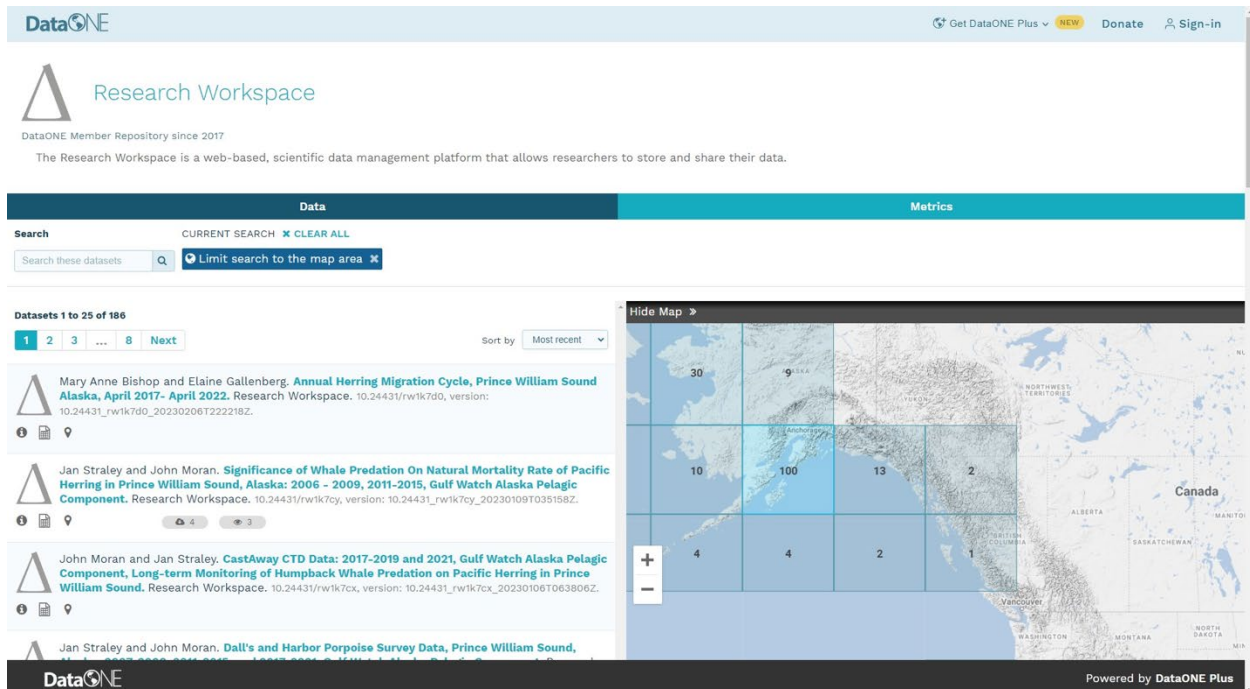
**OBJECTIVE 4.** *Provide, maintain and modify technical infrastructure for user groups to access information produced or processed by the GWA-LTRM Program and Non-Program projects.*



**Exxon Valdez Oil Spill Trustee Council  
Long-Term Research and Monitoring Program  
Annual Program Status Summary**

This objective is ongoing. In fall 2022, campaigns in the Research Workspace were established for each of the EVOSTC programs and projects, including GWA-LTRM Program, NPPs and Mar ReCON. The campaigns are organized by funded projects within the program and shared with the respective PIs. The Research Workspace serves as a web-based platform for PIs to upload, share and discover data sets and supporting documents, and to rapidly author metadata. The Research Workspace includes an integrated metadata editor to capture detailed documentation on data sets and produce ISO 19110 and 19115-2 metadata outputs while implementing important labor-saving steps for PIs to reduce the tedium of metadata creation.

The Research Workspace is connected to the DataONE Network for long-term preservation of data in the most contextually relevant environment (Figure 2). The intent of this capability is to ease the ingestion of data collections to national archives by simplifying the submission and upload of content and metadata.



*Figure 2. A screenshot of the Research Workspace Member Node in the DataONE Search catalog where EVOSTC-funded project data are archived for long-term preservation and made accessible by broader scientific audiences for re-use.*

**OBJECTIVE 5.** *Publish and promote data collected by the GWA-LTRM Program and Non-Program projects, making them available for research, management and general audiences.*



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

---

To maximize data use for analysis, synthesis, review, and application, and to support the restoration and management of Spill injured resources, data from EVOSTC-funded projects will be made widely available through multiple pathways. During the research phase of this funding cycle, data will be securely available for internal use through the Research Workspace. When data are ready to be published, they will be made available through the existing, public-facing AOOS hosted GOA Data Portal (<https://gulf-of-alaska.portal.aaos.org/>) for exploration and discovery. At the end of the fifth and 10th years (2026 and 2031), final data will be archived through DataONE for long-term preservation, noting that research or process studies data will likely be submitted at the 5-year or 10-year project term submission.

Three continuing NPPs were initially underway during the 2017-2021 Data Management Program and data submissions for each of these projects are on track. Project 22200127 Gulf Watch Ocean Acidification Monitoring was a three-year project starting in FY20 and ending FY22 (January 31, 2023). This project had final data expected and delivered at the end of the project term in December 2023, and no more data are expected from this project. Project 22110853 Pigeon Guillemot Restoration was also started during FY20, and included data management activities for the legacy data from 2012-2019 and five years of new data spanning FY2020-2024 (ending January 31, 2025). Data submissions through 2021 are complete. Delays in FY22 data were anticipated by the data management team due to staff changes within the project. Project 22210128 Status and Trends of EVOS Injured Seabirds in the Kenai Peninsula Coast and Kachemak Bay was initiated in FY21 and continues into the new FY22-31 Data Management Program through FY25 (January 31, 2026). This project had FY22 data expected and delivered in December 2023. Final data will be published to the GOA Data Portal and archived with DataONE at the close of each continuing NPP project.

All other NPPs were just being established in Years 1 and 2 (FY22 and FY23) of the 2022-2031 Data Management Program. The status of data submission for these new NPP, MAR ReCON and the ongoing GWA-LTRM projects can be found in Attachment 2.

Over the past two years with AOOS support, Axiom has worked with stakeholders at the Prince William Sound Regional Citizens' Advisory Council (PWSRCAC) and data stewards at the National Center for Environmental Analysis and Synthesis (NCEAS), to update a legacy data set partially funded by EVOSTC in prior years. The legacy data set spans 1993-2009 and is part of the ongoing PWSRCAC Long Term (oil) Monitoring Program that collects data from mussel tissues, intertidal and subtidal sediments from fixed monitoring sites in Prince William Sound, Outer Kenai Coast and Kodiak, Alaska. This monitoring program was designed to track the disappearance of *Exxon Valdez* spilled oil plus monitor discharges and spills from the Alyeska Terminal near Valdez, Alaska. The original data set was archived as part of an EVOSTC-funded data recovery project through NCEAS, and is described at the following reference and link:

Joe Banta, Marie L. Larsen, James R. Payne, William B. Driskell, Mark Swanson, et al.



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

---

2013. PWSRCAC Long-Term Environmental Monitoring Program, 1993-2009. Gulf of Alaska Data Portal. doi:10.5063/F1Z60KZS. (NOTE: This data set has been updated – see below)

In 2015, PWSRCAC changed labs and the entire data set dating back to 1993 was reformatted to match the newer lab's data stream while providing more information and higher quality metadata. Scientists and staff at PWSRCAC working on this program reached out to AOOS and Axiom in 2021 about updating this data set and making it available on the AOOS Data System in future years. With AOOS support, the updated Long Term (oil) Monitoring Program data set now spans 1993-2021. As before, the data set includes hydrocarbon chemistry data from sediments, intertidal mussels, and passive sampling devices from Prince William Sound and the ongoing sampling sites in the northern Gulf of Alaska aimed at documenting hydrocarbon levels, sources, and persistence. By transferring curatorial and stewardship responsibilities from NCEAS to Axiom, this effort can now also allow this continuing monitoring program data set to be more easily updated in future years. Though not 100% analogous, this sets a foundation for Axiom to begin accepting curatorial responsibility for some of the legacy EVOSTC data sets initially curated by NCEAS and archived in the Gulf of Alaska DataONE Member Node. The data reference and link to this updated data set is as follows:

Morgan Bender, William Driskell, James Payne, and Eric Litman. 2023. Prince William Sound Long-Term Environmental Hydrocarbon Monitoring Program. urn:node:GOA. doi:10.5063/F1CF9NK7.

**OBJECTIVE 6.** *Execute management, user feedback and internal and external communications related to the GWA-LTRM Program and Non-Program project data and data products.*

The Data Management Team participates in GWA-LTRM Program, Mar ReCON, and other project meetings, responds to user feedback, and maintains regular communication about project progress with the EVOSTC staff and will continue to do so throughout the life of this program. In addition to the kick-off meetings mentioned in Objective 1, the Data Management Team participated in other meetings to give a status update on the program and meet with individual project PIs, including presenting data submission reminders to GWA-LTRM Program PIs at the November 2023 PI meeting in Anchorage, AK, and attending the January 31, 2024 in-person GWA-LTRM Program PI meeting held during the 2024 Alaska Marine Science Symposium, Anchorage, AK.

To maintain an efficient data management process, regular and structured feedback is required from data management system users (e.g., the program leads and PIs). Given the maturity of how data are ingested and curated, the Data Management Team continue to gather feedback through group discussion, one-on-one meetings and email correspondence. In addition to gathering feedback throughout the year, the Data Management Team maintains regular contact with PIs





**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

---

over email to provide notification of approaching deadlines for data or metadata submission, ask questions related to these submissions, and/or respond to PIs' questions about data management procedures and responsibilities.

**Objective 7.** *Ensure long-term preservation and dissemination into publicly accessible repositories at the term completion.*

There was no activity under this objective to report during this reporting period. Work for this objective will begin in Year 4 (FY25) to ensure the completeness of all project data and metadata records prior to archive in the last year of the funding cycle.

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## **2. Products:**

A Draft Final Report for the EVOSTC Data Management Program (2017-2021) was submitted to EVOSTC on February 24, 2023 (due April 1, 2023), which included digital object identifiers (DOIs) and citations for 58 archived data sets. This adds to the collection of 53 data sets that were archived following the 2012-2016 Gulf Watch Alaska (GWA) and Herring Research Monitoring (HRM) Programs. The 2017-2021 final Data Management Program report was reviewed by the EVOSTC and approved with only minor revisions on April 26, 2023. The report has been released on the EVOSTC Website and is now considered final (see publications for link).

- Janzen, C. D., Bochenek R., Buckelew, S., Canino A., and C. Turner, 2023. *Exxon Valdez Oil Spill Data Management Program Final Report (Exxon Valdez Oil Spill Trustee Council Project 21120113)*, Exxon Valdez Oil Spill Trustee Council, Anchorage, Alaska. <https://evostc.state.ak.us/restoration-projects/project-search/data-management-program-21120113/>
- Data sets from 20 EVOSTC-funded monitoring programs resulted in 58 data collections that were made available publicly through the Gulf of Alaska Data Portal and archived with DataONE for long-term preservation: <https://search.dataone.org/portals/RW>

The Alaska Ocean Observing System and Axiom completed and submitted the Fiscal Year 2022 (Year 1) Annual Report to the EVOSTC for the EVOSTC Data Management Program (2022-2031) on 23 February 2023 (due March 1, 2023). This report was approved with only minor revisions by the EVOSTC on May 9, 2023.

- Janzen, Carol, and Rob Bochenek, 2023. 22120113 EVOSTC Data Management Program: <https://evostc.state.ak.us/media/7929/22120113-data-management-program-fy22-annual-report.pdf>



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

---

Over the past two years with AOOS support, Axiom worked with stakeholders at the Prince William Sound Regional Citizens' Advisory Council (PWSRCAC) and data stewards at the National Center for Environmental Analysis and Synthesis (NCEAS), to update a legacy data set partially funded by EVOSTC in prior years. The updated Long Term (oil) Monitoring Program data set now spans 1993-2021. As before, the data set includes hydrocarbon chemistry data from sediments, intertidal mussels, and passive sampling devices from Prince William Sound and the ongoing sampling sites in the northern Gulf of Alaska aimed at documenting hydrocarbon levels, sources, and persistence.

- Morgan Bender, William Driskell, James Payne, and Eric Litman. 2023. Prince William Sound Long-Term Environmental Hydrocarbon Monitoring Program. urn:node:GOA. doi:10.5063/F1CF9NK7.
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### **3. Coordination and Collaboration:**

#### *The Alaska SeaLife Center or Prince William Sound Science Center*

The subaward from Prince William Sound Science Center (PWSSC) to AOOS (PI Janzen) for overall coordination of the Data Management Program and oversight of the GWA-LTRM Program data management is being administered through the AOOS fiscal agent, the Alaska SeaLife Center (ASLC). A separate PWSSC subcontract is being administered directly with Axiom Data Science (PI Bochenek) for their technical role in the overall Data Management Program, and for direct oversight of the NPPs data management.

#### *EVOSTC Gulf Watch–Long-Term Research and Monitoring Program*

Building upon previous experiences, the Data Management Program continued to strengthen the existing collaborative relationship with the GWA-LTRM Program to by effectively meet their data management needs. The Research Workspace provides the necessary open-access across program teams for file sharing and transparency of data progress. Backing this infrastructure is a data management team that is well-coordinated with GWA-LTRM Program Managers and science teams to assist with timely data submissions and accuracy of metadata authoring, and to ensure data and products are available to general science and resource management communities.

The following coordination within the GWA-LTRM Program occurred during this reporting period:

- Coordination with GWA-LTRM Program: Coordination within the GWA-LTRM Program routinely occurred through email, phone communications, and regularly scheduled in-person meetings. The Data Management team attended the annual GWA-LTRM PI meeting in November 2023 and the quarterly PI meeting in January 2024 to



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

---

provide Data Management Program updates and to be responsive to data management and decision-support needs.

- Coordination with individual GWA-LTRM projects: Regular communication was maintained with individual PIs through regular email and/or phone conversations to finalize data from the prior funding term and complete data submission to DataONE.

*EVOSTC-funded Non-Program Projects*

In addition to maintaining regular communications with GWA-LTRM Program leads and project PIs, the Data Management team also maintained communications with NPP PIs through regular email correspondence.

*EVOSTC Mariculture Projects*

The Data Management team participated in the Mar ReCON in-person meeting in January 2024. Similar to other meetings, the EVOSTC data sharing procedures were reviewed, in addition to discussing expectations for the program data management strategy. During the meeting, a demonstration of the Research Workspace was given and a discussion about the logical organization of data sets in the Research Workspace relative to the various program components occurred. Additionally, one-on-one meetings between the PIs and the Data Management team were offered to develop individual data management plans for each of the Mar ReCON components to help inform the data submission inventory.

*Trustee or Management Agencies*

AOOS brings a significant level of leveraged resources, infrastructure, regional data management projects and partnerships to the EVOSTC Data Management Program. For one, AOOS maintains certification as a Regional Coastal Observing System (RCOS) under the authority of the Integrated Coastal and Ocean Observation System Act of 2009 (ICOOS Act). The ICOOS Act directs NOAA to certify and integrate RAs into the U.S. Integrated Ocean Observing System (IOOS). Such integration formally establishes the role of the RA within the U.S. IOOS and ensures that the data collected and distributed by the RA are managed according to the best practices, as identified by NOAA. To become certified, applicants must demonstrate they meet and maintain the requirements established by the U.S. IOOS's Regulations to Certify and Integrate Regional Information Coordination Entities. Certification documents are updated regularly and RCOS programs are recertified every 5 years. AOOS received its latest certification in 2022, which is valid through 2026.

As the AOOS data team, Axiom works to provide data management, visualization and preservation services, including providing access to and facilitating the use of the Research Workspace. The team offers similar services to a number of other programs that receive funding



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

from or are administered or overseen by representatives from the EVOSTC and associated agencies. EVOSTC agencies include: 1) National Oceanographic and Atmospheric Administration (NOAA); 2) US Department of Agriculture/US Forest Service; and 3) the US Department of the Interior (Bureau of Ocean Energy Management, US Fish and Wildlife Service, National Park Service and the US Geological Survey). Three state agencies are also represented by the EVOSTC including: 1) Alaska Department of Fish and Game (ADF&G); 2) Alaska Department of Environmental Conservation; and 3) Alaska Department of Law.

The EVOSTC-funded Data Management Program benefits trustee or management agencies on many levels. For one, all data and final data products produced by the GWA-LTRM Program and NPPs are (or will be) made accessible and publicly available through the AOOS hosted GOA Data Portal and the DataONE Member Node, both of which are no-cost services that can be accessed by any member of the public. Other programmatic and statewide data sets are also accessible via the AOOS data system of portals, and can be accessed by the same end-user accessing the historical GWA and HRM data sets and new GWA-LTRM data sets. DataONE provides access to data across multiple member repositories, supporting enhanced search and discovery of earth and environmental data. Other associated programs affiliated with EVOSTC and affiliated management agencies are given below (Table 1).

**Table 1.** Associated EVOS Trustee Council Programs and agencies for which AOOS and Axiom coordinate data management as well as other services.

Group Agency	Level and Type of Coordination and How the Project Assisted EVOSTC Trust or Agency Work	Representative
Regional Coastal Ocean Observing System: Alaska Ocean Observing System (AOOS)  Integrated Ocean Observing System (IOOS), National Ocean and Atmospheric Administration (NOAA)	<p>Develop the integration of ocean and coastal observing capabilities, in collaboration with Federal and non-Federal partners, to maximize access to data and generation of information products, inform decision making, and promote economic, environmental, and social benefits</p> <p>Through the IOOS grant, AOOS provides partial support on a few GWA-LTRM supported projects --Seward Line environmental drivers ship time support, Kachemak Bay environmental drivers project support, and the Ocean Tracking Network Herring acoustic tracking arrays in PWS. AOOS has invested a significant portion of their IOOS support to host the regions most sophisticated data acquisition system, which hosts the AOOS Ocean Data Explorer data visualization portal, the GWA Website, and the GOA Data Portal subsystem. This data system is highly leveraged by other large research and ecosystem-based programs (listed here). AOOS supports all the related EVOSTC and management agency projects by providing the backbone and base support to keep this data system</p>	Carl Gouldman, Director, IOOS  Dave Easter, Regions, Budget, and Policy Division Chief, IOOS



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

Group Agency	Level and Type of Coordination and How the Project Assisted EVOSTC Trust or Agency Work	Representative
	operational, and also by providing data management services to all these groups and their projects.	
Integrated Ocean Observing System (IOOS), National Ocean and Atmospheric Administration (NOAA)	<p>Develop community standards for sensor observations; make regional data nationally accessible.</p> <p>This supports all the data management activities for the prior GWA and HRM Programs and will for the LRTM-GWA Program, as well as other projects listed here, and provides data in the correct formats to meet national and international data preservation and archival requirements and standards.</p>	Derrick Snowden, Data Management and Coordination (DMAC) System Architect, IOOS
Alaska Ocean Observing System (AOOS) Data Management, (AOOS grants support funded through NOAA's IOOS Program)	<p>Provide data management; cyberinfrastructure support. Works directly with member and non-member organizations to ingest and document new data sets as well as historical data assets that might not be available elsewhere or in a consistent useful format; data visualizations and product development</p> <p>Support data collection, data sharing and acquisition for the entire region of Alaska, including the GOA. These data are provided to the public and all interested users free of charge via the AOOS Data System. The AOOS Data System leverages their own data portal system to support other programs listed in this table.</p>	Sheyna Wisdom, Executive Director, AOOS
Central and Northern California Ocean Observing System (CeNCOOS) Data Management, NOAA	<p>Provide data management; cyberinfrastructure. Works directly with member and non-member organizations to ingest and document new data sets; visualizations</p> <p>Tools developed for CeNCOOS can be leveraged for other projects listed on this table, as well as ingestion capability of new data types. Activities undertaken for CeNCOOS can be leveraged across the national IOOS Data System and other regions using the AOOS Data System platform.</p>	Henry Ruhl, Executive Director, CeNCOOS
Southeast Coastal Ocean Observing Regional Association (SECOORA) Data Management, NOAA	<p>Provide data management; cyberinfrastructure. Works directly with member and non-member organizations to ingest and document new data sets; visualizations</p> <p>Tools developed for SECOORA can be leveraged for other projects listed on this table. as well as ingestion capability of new data types. Activities undertaken for SECOORA can be leveraged across the national IOOS Data System and other regions using the AOOS Data System platform.</p>	Debra Hernandez, Executive Director, SECOORA



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

Group Agency	Level and Type of Coordination and How the Project Assisted EVOSTC Trust or Agency Work	Representative
Southern California Coastal Ocean Observing System (SCCOOS) Data Management, NOAA	<p>Provide data management; cyberinfrastructure. Works directly with member and non-member organizations to ingest and document new data sets; visualizations</p> <p>Tools developed for SCCOOS can be leveraged for other projects listed on this table. as well as ingestion capability of new data types. Activities undertaken for SCCOOS can be leveraged across the national IOOS Data System and other regions using the AOOS Data System platform.</p>	Clarissa Anderson, Executive Director, SCCOOS
Core Program, North Pacific Research Board (NPRB)	<p>Provide guidance given on data and metadata best practices; access to and facilitation of the Workspace; organization and archiving of historical projects; Now the data management team for NPRB.</p> <p>NPRB funds are administered through the EVOSTC. Data management from the NPRB Programs is being managed by Axiom Data Science, and is leveraging the Research Workspace and the data system developed by AOOS to make data public and available for sharing, and standardized for long-term, national archival.</p>	<p>Matthew Baker, Science Director, NPRB</p> <p>Jo-Ann Mellish, Program Manager, NPRB</p>
Arctic Integrated Ecological Research Program (AIERP), NPRB	Fully facilitate data and metadata management working directly with PIs, from initial sharing within the group to long-term archiving at NPRB	Danielle Dickson, Program Manager, NPRB
Arctic Marine Biological Observation Network (AMBON), Bureau of Ocean Management (BOEM)	Coordinate all data management activities for AMBON using the Workspace	Katrin Iken, Lead Principal Investigator, Professor, College of Fisheries and Ocean Sciences, University of Alaska, Fairbanks

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**4. Response to EVOSTC Review, Recommendations and Comments:**

n/a

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**5. Budget:**



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

The Budget Report for FY23 uses the most recent Data Management Program Budget approved in June 2023, and summarizes comprehensive AOOS/Axiom Data Science cumulative expenditures through FY23. Note, the 45% indirect is not charged on the AOOS subaward amounts in this budget, which included personnel and contractual costs during this reporting period. The Data Management Program is on track for FY23 spending.

Table 2. FY23 expenditures through January 31, 2024. This report shows expenses invoiced to PWSSC for the EVOSTC Data Management Program through December 2023 (AOOS) and January 2024 (Axiom).

	A	B	C	D	E	F	G	H	I	J
				FY 22	FY 23	FY 24	FY 25	FY 26	PROPOSED	CUMULATIVE
2										
3										
4	Personnel			\$237,237	\$238,005	\$248,099	\$241,872	\$226,192	\$1,191,404	\$403,962
5	Travel			\$0	\$600	\$0	\$600	\$0	\$1,200	\$0
6	Contractual			\$1,247	\$1,345	\$1,323	\$1,423	\$1,404	\$6,742	\$1,410
7	Commodities			\$0	\$0	\$0	\$0	\$0	\$0	
8	Equipment			\$0	\$0	\$0	\$0	\$0	\$0	
9	Indirect Costs	Rate =	45%	\$101,144	\$101,321	\$105,690	\$102,709	\$95,469	\$506,334	\$175,439
10										
11			<b>SUBTOTAL</b>	\$339,628	\$341,271	\$355,113	\$346,604	\$323,065	\$1,705,680	\$580,811
12										
13	General Administration (9% of certain projects)			\$30,567	\$30,714	\$31,960	\$31,194	\$29,076	\$153,511	N/A
14	PWSSC Fiscal Administration (10% of certain projects)			\$9,522	\$9,084	\$11,189	\$9,740	\$6,903	\$46,437	NA
15										
16			<b>PROJECT TOTAL</b>	\$379,716	\$381,069	\$398,262	\$387,538	\$359,043	\$1,905,629	
17										
18	Other Resources (In-Kind Funds)								\$0	
19										
20	<b>COMMENTS:</b>									
21	The Data Management Program budget represents Axiom Data Science, the Alaska Ocean Observing System, and the Alaska Sea Life Center and Prince									
22	William Sound Science Center as fiscal agents. Indirect rates and exemptions from indirect rates vary. This sheet summarizes all proposed project expenses by									
23	category. Please see individual project budgets for detail. There are three main categories for data management: GWA LTRM (Axiom and AOOS), Continuing									
24	Non-Programs projects, (Axiom) and New Non-Program project (Axiom). In June 2023, this budget was modified to remove NPP Project Number: 22220203									
25	Walleye Pollock/Herring Interactions from FY23-FY31. This budget only reflects expenditures for AOOS through Dec 29, 2023 and Axiom through Jan 29, 2024									
26	as invoiced to the PWSSC. As usual, much of annual expenses are incurred in January through March, and therefore are usually less than the total budget									
27	allowed.									
28										



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

**Attachment 1.** A list of actively funded projects by program and EVOSTC Project Number that will be supported by the Data Management Program in meeting the EVOSTC data sharing deliverables.

**Program: Gulf Watch Alaska Long-Term Research and Monitoring Program (GWA-LTRM)**

Project Number	Principal Investigator	Project Title	Years Funded
2222LTRM	Lindeberg & Hoffman	Gulf Watch Alaska Long-Term Research and Monitoring Program (GWA-LTRM)	FY22-31
22120111-C	Branch	Modeling and stock assessment of PWS herring	FY22-31
22120111-E	Hershberger	Herring disease program	FY22-31
22160111-F	Morella	Herring surveys and age, sex, and size collection and processing	FY22-31
22220111-I	Rand et al.	Ecological interactions between Pacific herring and Pacific salmon in Prince William Sound	FY22-28
22120114-C	Arimitsu & Piatt	Forage Fish Distribution, Abundance, and Body Condition	FY22-31
22120114-D	Ostle & Batten	Continuous Plankton Recorders	FY22-31
22120114-G	Campbell	Oceanographic Conditions in PWS	FY22-31
22120114-H	Coletti	Nearshore ecosystems the Gulf of AK	FY22-31
22120114-I	Danielson	GAK1 Monitoring	FY22-31
22120114-L	Hopcroft	Seward Line Monitoring	FY22-31
22120114-M	Kuletz & Kaler	PWS Marine Bird Surveys	FY22-31
22120114-N	Matkin	Long-term Killer Whale Monitoring (ENDED JANUARY 31, 2024)	FY22-23
22120114-O	Moran & Straley	Humpback Whale Predation on Herring	FY22-31
22200114-P	Esler & Lindeberg	Lingering Oil Component Project	FY25, FY30

**Program: Continuing EVOSTC-funded Non-Program Projects (NPPs)**

Project Number	Principal Investigator	Project Title	Years Funded
22200127 ENDED	Hetrick, Campbell, Baird, Evans	Ocean acidification sampling (ENDED JANUARY 31 2023)	FY22 (original: FY20-22)
22110853	Kuletz, Kaler, Irons	Pigeon guillemot restoration	FY22-24 (original: Legacy data 2012-2019 and new data FY20-24)
22210128	Hollmen, Labunski et al.	Status and trends of EVOS injured seabirds	FY22-25 (original: FY21-25)

**Program: New EVOSTC-funded Non-Program Projects (NPPs)**





**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

Project Number	Principal Investigator	Project Title	Years Funded
22220201	Branson & Hetrick-Price	Chugach Regional Ocean Monitoring Program	FY22-31
22220202	Hauri	Continuation and expansion of ocean acidification monitoring*	FY22-31
22220203 REMOVED	Rhea-Fournier et al.	Walleye pollock-Pacific herring interactions* (ENDED JANUARY 31, 2023)	FY22
22220300	Hetrick-Price	PWS kelp mariculture development for habitat restoration and local economy	FY22-26
22220301	Poe et al.	Social, cultural, and economic assessment of kelp mariculture opportunities for coastal villages within the EVOS spill zone	FY22-26
22220302	Hoffman et al.	Sustainable mariculture development for restoration and economic benefit in the EVOS spill area (Mar ReCON)	FY22-31
22220502	Lomax	Clean Water Act assessment of beaches with lingering oil	FY23-26
22220507	Moonin	Port Graham Corporation general restoration and habitat protection	FY22-26
22220508	Thielke	Geospatial wetlands and hydrography data across the EVOS region	FY22-25



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

**Attachment 2.** EVOSTC Data Management Program FY22 Data Submission Inventories for the GWA-LTRM Program, continuing NPPs, newly funded NPPs, and the Mar ReCON projects. Column entries are as follows:

- ‘2’: Obligation to publish data has been met.
- ‘1’: Obligation to share data or metadata to the Research Workspace (RW) has been met.
- ‘0.5’: Obligation to share data has been partially met.
- ‘0’: Data or metadata are expected for project year, but have not yet been submitted to the RW.
- ‘NA’: Data or metadata are not expected, based on the research and data workplan.
- ‘P’: Process study with data not expected until end of project.

Some entries are further coded to indicate more information related to data expectancies. Ultimately these data sets will be accompanied with fully curated metadata, published to the GOA Data Portal, and archived to DataONE at the end of the funding term.

GWA-LTRM Projects 23160111-F and 23120111-E will continue the ovivory work from the now cancelled NPP project 22220203 in FY24 and FY25 and will be added to the inventory for the FY24 reporting cycle.

**GWA-LTRM Data Submission Inventory as of February 15, 2024**

Program	EVOS Project #	Years Funded	Project	Data set	Primary PI	2022 data in RW	2022 Metadata in the RW
GWA-LTRM	22120111-C	FY22-FY26	Modeling and stock assessment of PWS herring	age composition	Branch	1	1
GWA-LTRM	22120111-C	FY22-FY26	Modeling and stock assessment of PWS herring	model codebase	Branch	1	1
GWA-LTRM	22120111-C	FY22-FY26	Modeling and stock assessment of PWS herring	output data	Branch	1	1
GWA-LTRM	22120111-E	FY22-FY26	Herring disease program	prevalence summary	Hershberger	1	1
GWA-LTRM	22160111-F	FY22-FY26	Herring surveys and age, sex, and size collection and processing	aerial biomass observation & routes data	Morella	1	1
GWA-LTRM	22160111-F	FY22-FY26	Herring surveys and age, sex, and size collection and processing	aerial survey marine bird & mammal observations data	Morella	1	1
GWA-LTRM	22160111-F	FY22-FY26	Herring surveys and age, sex, and size collection and processing	ASL data	Morella	1	0



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

GWA-LTRM	22220111-I	FY22-FY26	Ecological interactions between Pacific herring and Pacific salmon in Prince William Sound, Alaska		Rand	NA <sup>4</sup>	NA <sup>4</sup>
GWA-LTRM	22120114-C	FY22-FY26	Forage Fish Distribution, Abundance, and Body Condition	Forage fish count data	Arimitsu	1	1
GWA-LTRM	22120114-C	FY22-FY26	Forage Fish Distribution, Abundance, and Body Condition	Forage fish morph data	Arimitsu	1	1
GWA-LTRM	22120114-C	FY22-FY26	Forage Fish Distribution, Abundance, and Body Condition	Predator Surveys (no data Fy22-26; this will be removed from inventory in FY23)	Arimitsu	NA	NA
GWA-LTRM	22120114-C	FY22-FY26	Forage Fish Distribution, Abundance, and Body Condition	Seabird diet data	Arimitsu	1	1
GWA-LTRM	22120114-C	FY22-FY26	Forage Fish Distribution, Abundance, and Body Condition	Hydroacoustic data	Arimitsu	1	1
GWA-LTRM	22120114-C	FY22-FY26	Forage Fish Distribution, Abundance, and Body Condition	Water chemistry (CTD & nutrients) data	Arimitsu	1	1
GWA-LTRM	22120114-C	FY22-FY26	Forage Fish Distribution, Abundance, and Body Condition	Zooplankton data	Arimitsu	1	1
GWA-LTRM	22120114-D	FY22-FY26	Continuous Plankton Recorders	Plankton data	Ostle	1	1
GWA-LTRM	22120114-D	FY22-FY26	Continuous Plankton Recorders	Temperature data	Ostle	1	1
GWA-LTRM	23120114-E	FY24-FY26		Fall and winter seabird surveys		NA <sup>4</sup>	NA <sup>4</sup>
GWA-LTRM	22120114-G	FY22-FY26	Oceanographic Conditions in PWS	Chlorophyll data	Campbell	0	0
GWA-LTRM	22120114-G	FY22-FY26	Oceanographic Conditions in PWS	CTD data	Campbell	0	0
GWA-LTRM	22120114-G	FY22-FY26	Oceanographic Conditions in PWS	Zooplankton data	Campbell	0 <sup>1</sup>	0 <sup>1</sup>
GWA-LTRM	22120114-H	FY22-FY26	Nearshore ecosystems the Gulf of AK	Rocky intertidal community data	Iken	1	1
GWA-LTRM	22120114-H	FY22-FY26	Nearshore ecosystems the Gulf of AK	Mussel data	Iken	1	1



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

GWA-LTRM	22120114-H	FY22-FY26	Nearshore ecosystems the Gulf of AK	Rocky intertidal data	Iken	1	1
GWA-LTRM	22120114-H	FY22-FY26	Nearshore ecosystems the Gulf of AK	Substrate data	Iken	1	1
GWA-LTRM	22120114-H	FY22-FY26	Nearshore ecosystems the Gulf of AK	Seagrass data	Iken	1	1
GWA-LTRM	22120114-H	FY22-FY26	Nearshore ecosystems the Gulf of AK	Oystercatcher diet & nest density data	Coletti	1	1
GWA-LTRM	22120114-H	FY22-FY26	Nearshore ecosystems the Gulf of AK	Invertebrate and algae data (soft sediment)	Coletti	1	1
GWA-LTRM	22120114-H	FY22-FY26	Nearshore ecosystems the Gulf of AK	Marine birds and mammals data	Coletti	0 <sup>2</sup>	0 <sup>2</sup>
GWA-LTRM	22120114-H	FY22-FY26	Nearshore ecosystems the Gulf of AK	Water quality data	Coletti	1	1
GWA-LTRM	22120114-H	FY22-FY26	Nearshore ecosystems the Gulf of AK	Sea otter survey data	Coletti	0 <sup>2</sup>	0 <sup>2</sup>
GWA-LTRM	22120114-H	FY22-FY26	Nearshore ecosystems the Gulf of AK	Sea otter carcass age at death	Coletti	0 <sup>2</sup>	0 <sup>2</sup>
GWA-LTRM	22120114-H	FY22-FY26	Nearshore ecosystems the Gulf of AK	Sea otter foraging observations	Coletti	0 <sup>2</sup>	0 <sup>2</sup>
GWA-LTRM	22120114-H	FY22-FY26	Nearshore ecosystems the Gulf of AK	Sea otter scat data (Spraint)	Coletti	1	1
GWA-LTRM	22120114-I	FY22-FY26	GAK1 Monitoring	CTD data	Danielson	1	1
GWA-LTRM	22120114-I	FY22-FY26	GAK1 Monitoring	Mooring data	Danielson	0	0
GWA-LTRM	22120114-L	FY22-FY26	Seward Line Monitoring	Chlorophyll data	Hopcroft	1	1
GWA-LTRM	22120114-L	FY22-FY26	Seward Line Monitoring	CTD data	Danielson	1	1
GWA-LTRM	22120114-L	FY22-FY26	Seward Line Monitoring	Nutrient data	Hopcroft	1	1
GWA-LTRM	22120114-L	FY22-FY26	Seward Line Monitoring	Seabird data (Kuletz)	Kuletz	1	1
GWA-LTRM	22120114-L	FY22-FY26	Seward Line Monitoring	Zooplankton data	Hopcroft	0 <sup>1</sup>	0 <sup>1</sup>
GWA-LTRM	22120114-M	FY22-FY26	PWS Marine Bird Surveys	Summer bird survey data	Kaler	1	0
GWA-LTRM	22120114-N	FY22-FY23	Long-term Killer Whale Monitoring	Acoustic field recordings	Olsen	0 <sup>1</sup>	0 <sup>1</sup>
GWA-LTRM	22120114-N	FY22-FY23	Long-term Killer Whale Monitoring	Photo encounters	Olsen	0 <sup>1</sup>	0 <sup>1</sup>
GWA-LTRM	22120114-N	FY22-FY23	Long-term Killer Whale Monitoring	Biopsy data- genetics and contaminants	Olsen	NA <sup>4</sup>	NA <sup>4</sup>
GWA-LTRM	22120114-N	FY22-FY23	Long-term Killer Whale Monitoring	Prey genetic sampling	Olsen	0 <sup>1</sup>	0 <sup>1</sup>



**Exxon Valdez Oil Spill Trustee Council  
Long-Term Research and Monitoring Program  
Annual Program Status Summary**

GWA-LTRM	22120114-N	FY22-FY23	Humpback Whale Predation on Herring	Fluke id catalog	Moran	1	1
GWA-LTRM	22120114-N	FY22-FY23	Humpback Whale Predation on Herring	Energetic/stable isotope data	Moran	1	1
GWA-LTRM	22120114-N	FY22-FY23	Humpback Whale Predation on Herring	Whale survey data	Moran	1	1
GWA-LTRM	22120114-N	FY22-FY23	Humpback Whale Predation on Herring	Porpoise survey data	Moran	1	1
GWA-LTRM	22120114-N	FY22-FY23	Humpback Whale Predation on Herring	CTD data	Moran	1	1
GWA-LTRM	22200114-P	FY25, FY30	Lingering Oil Component Project	Hydrocarbon database	Lindeberg	NA	NA
GWA-LTRM	23120111-R	FY24-FY26		Forage fish aerial surveys		NA	NA

1 delayed due to processing times for samples (e.g., zooplankton, tissue samples)

2 delayed due to Federal reporting requirements

3 other delays that the Data Management Team was made aware of (e.g., staffing/personnel changes, field delays)

4 no data are expected this year (e.g., funding delays, contracting could not be completed, data destination changed, project not started yet, project discontinued, component of project discontinued)

Continuing NPP Data Submission Inventory as of February 15, 2024. These projects were initiated in prior award period 2017-2021, hence show funding periods prior to 2022.

Program	EVOS Project #	Years Funded	Project	Data set	Primary PI	2022 data in RW	2022 Metadata in RW
NPP	22200127	FY20-FY22	Ocean acidification sampling	GWA OA yearly sampling	Ramsay	1	1
NPP	22110853	FY20-FY24	Pigeon guillemot restoration	Annual PIGU Bird Surveys Naked Island Group and Control Group	Kaler Kulez & Irons (retired)	0 <sup>3</sup>	0 <sup>3</sup>
NPP	22110853	FY20-FY24	Pigeon guillemot restoration	BLKW productivity Survey	Kaler Kulez & Irons (retired)	0 <sup>3</sup>	0 <sup>3</sup>
NPP	22110853	FY20-FY24	Pigeon guillemot restoration	Transect Information start/stop from research vessel	Kaler Kulez & Irons (retired)	0 <sup>3</sup>	0 <sup>3</sup>
NPP	22210128	FY21-FY25	Pigeon guillemot restoration	Kenai Peninsula Component-Annual Bird Surveys	Hollman	1	1



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

NPP	22210128	FY21-FY25	Status and trends of EVOS injured seabirds in the Kenai Peninsula Coast and Kachemak Bay	Kachemak Bay Component-Annual Bird Surveys	Labunski	1	1
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1 delayed due to processing times for samples (e.g., zooplankton, tissue samples)

2 delayed due to Federal reporting requirements

3 other delays that the Data Management Team was made aware of (e.g., staffing/personnel changes, field delays)

4 no data are expected this year (e.g., funding delays, contracting could not be completed, data destination changed, project not started yet, project discontinued, component of project discontinued)

**New NPP Data Submission Inventory as of February 15, 2024.**

Program	EVOS Project #	Years Funded	Project	Data set	Primary PI	2022 data in RW	2022 Metadata in RW
NPP	22220201	FY22-FY31	Chugach Regional Ocean Monitoring Program	Time series environmental data	Maile Branson	1	1
NPP	22220201	FY22-FY31	Chugach Regional Ocean Monitoring Program	Time series chemical seawater analyses	Maile Branson	1	1
NPP	22220201	FY22-FY31	Chugach Regional Ocean Monitoring Program	Phytoplankton ID and species prevalence	Maile Branson	1	1
NPP	22220201	FY22-FY31	Chugach Regional Ocean Monitoring Program	Biotoxin levels	Maile Branson	1	1
NPP	22220300	FY22-FY26	PWS kelp mariculture development for habitat restoration and local economy	water sample data from test sites	Willow Hetrick-Price	0	0
NPP	22220300	FY22-FY26	PWS kelp mariculture development for habitat restoration and local economy	kelp bed marine life surveys	Willow Hetrick-Price	0	0
NPP	22220301	FY22-FY26	Social, cultural and economic assessment of kelp mariculture opportunities for coastal villages within the EVOS spill zone	geospatial database and/or mapped layers containing of local knowledge, uses, and values of kelp	Aaron Poe	0	0



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

NPP	22220301	FY22-FY26	Social, cultural and economic assessment of kelp mariculture opportunities for coastal villages within the EVOS spill zone	synthesized results from surveys and assessment of mariculture activity and interests	Aaron Poe	0	0
NPP	22220301	FY22-FY26	Social, cultural and economic assessment of kelp mariculture opportunities for coastal villages within the EVOS spill zone	outputs from economic experiment and analyses of mariculture activities	Aaron Poe	0	0
NPP	22220502	FY23-FY25	Clean Water Act assessment of beaches with lingering oil	beach characterization data	Terri Lomax	NA	NA
NPP	22220502	FY23-FY25	Clean Water Act assessment of beaches with lingering oil	hydrocarbon data	Terri Lomax	NA	NA
NPP	22220502	FY23-FY25	Clean Water Act assessment of beaches with lingering oil	Water chemistry (CTD & nutrients) data	Terri Lomax	NA	NA
NPP	22220502	FY23-FY25	Clean Water Act assessment of beaches with lingering oil	biotic sampling data	Terri Lomax	NA	NA
NPP	22220507	FY22-FY26	Port Graham Corporation general restoration and habitat protection	land information and geospatial database	Elmer Moonin	0	0
NPP	22220508	FY22-FY25	Geospatial wetlands and hydrography data across the EVOS region	High-resolution National Wetland Inventory (NWI) database for the entire EVOS region north of Shelikof Strait and Kodiak Watersheds	Sydney Thielke	0	0
NPP	22220508	FY22-FY25	Geospatial wetlands and hydrography data across the EVOS region	National Hydrography Data (NHD) for the unmapped portion of the Bering Glacier Watershed	Sydney Thielke	0	0



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

NPP	22220508	FY22-FY25	Geospatial wetlands and hydrography data across the EVOS region	QL 1 LiDAR data for Copper River Delta	Sydney Thielke	0	0
NPP	22220202	FY22-FY26	Continuation and expansion of ocean acidification monitoring	discrete water sample data	Hauri	0	0
NPP	22220202	FY22-FY26	Continuation and expansion of ocean acidification monitoring	inorganic carbon sampling	Hauri	0	0
NPP	22220202	FY22-FY26	Continuation and expansion of ocean acidification monitoring	CO32-, CO2, Ωarag and other inorganic carbon concentrations	Hauri	NA	NA
NPP	22220203	FY22	Walleye pollock-Pacific herring interactions	intermediary acoustic-trawl survey data from six cruises across the 10 project years	Rhea-Fournier	NA <sup>4</sup>	NA <sup>4</sup>
NPP	22220203	FY22	Walleye pollock-Pacific herring interactions	spawning-stock biomass estimates generated from acoustic-trawl survey data	Rhea-Fournier	NA <sup>4</sup>	NA <sup>4</sup>
NPP	22220203	FY22	Walleye pollock-Pacific herring interactions	annual bottom trawl survey data for all project years and associated pollock abundance estimates	Rhea-Fournier	NA <sup>4</sup>	NA <sup>4</sup>
NPP	22220203	FY24	Walleye pollock-Pacific herring interactions	Ichthyophonus transmission and prevalence study data from six cruises	Rhea-Fournier	NA <sup>4</sup>	NA <sup>4</sup>
NPP	22220203	FY22	Walleye pollock-Pacific herring interactions	age-structure predation study data using otolith reading data (beginning 2024)	Rhea-Fournier	NA <sup>4</sup>	NA <sup>4</sup>

1 delayed due to processing times for samples (e.g., zooplankton, tissue samples)

2 delayed due to Federal reporting requirements

3 other delays that the Data Management Team was made aware of (e.g., staffing/personnel changes, field delays)

4 no data are expected this year (e.g., funding delays, contracting could not be completed, data destination changed, project not started yet, project discontinued, component of project discontinued)





**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

Mar ReCON Data Submission Inventory as of February 15, 2024. Funding delays in FY22 delayed many of these projects. FY23 is the first year most of these new projects are expected to submit data.

Program	EVOS Project #	Years Funded	Project	Data set	Primary PI	2022 data in RW	2022 Metadata in RW
Mar ReCON	22220302	FY22-FY26	1	Carbonate chemistry measurements: hourly measures of pH, temperature, salinity, oxygen concentration and PAR, inside and outside of mariculture operation at 3 farms in three separate bioregions	Campbell	NA	NA
Mar ReCON	22220302	FY22-FY26	1	Physical measurements inside and outside of mariculture operations in Kachemak Bay, Kodiak Island, and Prince William Sound (three sites per region): temperature, salinity, dissolved oxygen, chlorophyll-a fluorescence, turbidity, PAR, nutrients.	Hollarsmith	NA	NA
Mar ReCON	22220302	FY22-FY26	2A	Zooplankton composition, abundance, and biomass	Campbell	NA	NA
Mar ReCON	22220302	FY22-FY26	2A	eDNA data	Eckert	NA	NA
Mar ReCON	22220302	FY22-FY26	2A	Size and growth rates of targeted epibenthic invertebrates and seaweeds	Campbell	NA	NA
Mar ReCON	22220302	FY22-FY26	2B	Benthic fish, epibenthic invertebrate, macroinfauna, and seaweed composition, abundance, and biomass at oyster and seaweed farms	Konar	NA	NA
Mar ReCON	22220302	FY22-FY26	2B	Fouling community structure associated with mariculture farm structures	Konar	NA	NA
Mar ReCON	22220302	FY22-FY26	2B	Static physical attributes associated with mariculture farms (substrate, depth, exposure, distance to freshwater)	Konar	NA	NA
Mar ReCON	22220302	FY22-FY26	2C	Pelagic fish abundance, species diversity, and behavior associated with mariculture farms.	Cypher	NA	NA
Mar ReCON	22220302	FY22-FY26	2C	Trophic flow estimates between species (a proxy for ecosystem dynamics) in PWS bays.	Cypher	NA	NA
Mar ReCON	22220302	FY22-FY26	2C	Farm carrying capacity estimates for PWS bays.	Cypher	NA	NA
Mar ReCON	22220302	FY22-FY26	2D	Seabird community response to mariculture sites in PWS	Schaefer	1	0



**Exxon Valdez Oil Spill Trustee Council**  
**Long-Term Research and Monitoring Program**  
**Annual Program Status Summary**

Mar ReCON	22220302	FY22-FY26	2E	Marine mammal interactions with farm gear, including species, location, gear type, photographs	Rehberg	NA	NA
Mar ReCON	22220302	FY22-FY26	2E	Marine mammal mitigation measures and success rates	Rehberg	NA	NA
Mar ReCON	22220302	FY22-FY26	3A	Morphometrics, carbon and nitrogen content, estimated yields, and photosynthetic parameters of sugar kelp and winged kelp as a function of density	Copeman	NA	NA
Mar ReCON	22220302	FY22-FY26	3A	Growth rate models of individual oyster lineages	Suryan	NA	NA
Mar ReCON	22220302	FY22-FY26	3B	Morphometric and compositional measurements of kelp and oysters grown in production arrays	Hollarsmith	NA	NA
Mar ReCON	22220302	FY22-FY26	3B	Multiple distinct oyster lineages, one lineage specifically optimized for Alaska's unique marine conditions (pedigrees)	Hollarsmith	NA	NA
Mar ReCON	22220302	FY22-FY26	3B	Survival and growth rates across sites and generations of individual oyster lineages	Hollarsmith	NA	NA
Mar ReCON	22220302	FY22-FY26	3B	Gene expression profiles-bioindicators of growth performance (SCPb, ATP synthase, peptidylprolyl isomerase) of individual oyster lineages	Hollarsmith	NA	NA
Mar ReCON	22220302	FY22-FY26	3B	Shell composition of individual oyster lineages	Hollarsmith	NA	NA
Mar ReCON	22220302	FY22-FY26	3C	Morphometric and compositional measurements of kelp and oysters grown in commercial polyculture and monoculture	Hollarsmith	1	1
Mar ReCON	22220302	FY22-FY26	3C	Morphometrics, carbon and nitrogen content, estimated yields, and photosynthetic parameters of sugar kelp and winged kelp as a function of trimming.	Umanzor	1	1

1 delayed due to processing times for samples (e.g., zooplankton, tissue samples)

2 delayed due to Federal reporting requirements

3 other delays that the Data Management Team was made aware of (e.g., staffing/personnel changes, field delays)

4 no data are expected this year (e.g., funding delays, contracting could not be completed, data destination changed, project not started yet, project discontinued, component of project discontinued)