

*Exxon Valdez* Oil Spill  
Long-Term Monitoring Program (Gulf Watch Alaska) Final Report  
Long-Term Herring Research and Monitoring Program Final Report

Supplemental Data Management Support for EVOSTC Long-Term Monitoring Programs

*Exxon Valdez* Oil Spill Trustee Council Project 16150114 –T  
Final Report

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May 2018

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## Supplemental Data Management Support for EVOSTC Long-Term Monitoring Programs

### *Exxon Valdez* Oil Spill Trustee Council Project 16120114-T Final Report

**Study History:** This project increased the data management support for both the *Exxon Valdez* Oil Spill Trustee Council's Gulf Watch Alaska Program and Herring Research and Monitoring Program by establishing a data coordinator position to improve metadata quality and best practices, and preparing program data into preservation-ready formats to ensure long term preservation of the data resources. These activities were conducted over a two year period from Feb 2015- Jan 2017 (project numbers 15120114-T and 16120114-T).

**Abstract:** Based on feedback acquired from the *Exxon Valdez* Oil Spill Trustee Council, a supplemental data management effort was funded in 2015 and 2016 to address major tasks deemed of high importance but not addressed by existing data management projects (projects 1412011-D and 1412011-C). This project increased the data management support for both the Gulf Watch Alaska and Herring Research and Monitoring programs by establishing a data coordinator position to improve metadata quality and best practices; and developed mechanisms to transfer and integrate program data collections into the DataONE network of repositories (e.g. Member Nodes). In June 2015, Axiom Data Science hired a data coordinator to fulfill these additional data management responsibilities. As such, the coordinator led the program PIs in organizing their project information, loading datasets to the shared Workspace, and generating metadata records to ensure that the research and monitoring efforts were well-documented to facilitate their future data discovery and usability. Ultimately, the datasets generated by the programs are being archived for long-term preservation in the new DataONE Member Node maintained by Axiom, from which they will be replicated throughout the DataONE Network to provide geographically distributed redundancy for all datasets and from which they will be discoverable across the DataONE network.

**Keywords:** data archive, data management, DataONE, data portal, Gulf of Alaska data portal, metadata, Ocean Workspace

Project Data: n/a

#### **Citation:**

Bochenek, R., S. Buckelew, C. Turner, W. Koeppen. 2018. Supplemental data management support for EVOSTC monitoring programs. Long-Term Monitoring Program (Gulf Watch Alaska) Final Report; Long-Term Herring Research and Monitoring Program Final Report (*Exxon Valdez* Oil Spill Trustee Council Project 16120114-T). *Exxon Valdez* Oil Spill Trustee Council, Anchorage, Alaska.



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## **EXECUTIVE SUMMARY**

In this project, the Alaska Ocean Observing System (AOOS), through its technical partner Axiom Data Science, provided supplemental data management support and services to Gulf Watch Alaska (GWA) and the Herring Research and Monitoring (HRM) Program in response to feedback from *Exxon Valdez* Oil Spill Trustee Council (EVOSTC) and staff. The specific objectives of this project were to

1. provide additional, needed data management support for the GWA and HRM programs, and
2. implement technical mechanisms to seamlessly transfer GWA and HRM program data from the AOOS data system to systems maintained by the DataONE Network.

The first of these objectives was accomplished by recruiting and hiring a data coordinator to work directly with the HRM program managers and scientists to provide active assistance with data organization and the generation of standards based metadata. With guidance and assistance from the data coordinator, the data from the HRM program has been reorganized into distinct datasets, described with robust standards compliant metadata, and is being ingested into the DataONE Network. To accomplish the second objective, software engineers at Axiom stood up a new DataONE Member Node connected to the Ocean Workspace, into which *Exxon Valdez* Oil Spill Trustee Council-funded datasets and metadata can be ingested directly from the Workspace.

## **INTRODUCTION**

Prior to the funding of this supplemental data management effort, three other data management-related projects had been previously funded by the *Exxon Valdez* Oil Spill Trustee Council (EVOSTC). The first two projects, led by the Alaska Ocean Observing System (AOOS), are titled "Data Management Support for the EVOSTC Long Term Monitoring Program" (project 14120114-D) and "Data Management Support for the EVOSTC Prince William Sound Herring Research and Monitoring Program" (project 1412011-C). Together, they provided data management support for EVOSTC's Gulf Watch Alaska (GWA) and Prince William Sound Herring Research and Monitoring (HRM) programs and had the following objectives:

- (1) Provide data management oversight and services using the AOOS Ocean Workspace as a tool for sharing data within these research programs prior to publication,
- (2) Consolidate, standardize, and provide access to study area datasets,
- (3) Develop tools to help user groups access, analyze and visualize information produced by the GWA effort, and
- (4) Integrate GWA and HRM data, metadata and information products into the AOOS data management system for long term storage and public distribution and use.

A third project, titled "Collaborative Data Management and Holistic Synthesis of Impacts and Recovery Status Associated with the Exxon Valdez Oil Spill" (project 114120120), was led by the National Center for Ecological Analysis and Synthesis (NCEAS). That project's funded objectives include the following:

- (1) Provide data management oversight and services,
- (2) Consolidate, standardize and provide access to study area data sets, focusing on retrospective analyses, synthesis and model development,
- (3) Develop user tools to access, analyze and visualize GWA and HRM data,
- (4) Organize, analyze and model historical datasets,
- (5) Integrate data into the AOS data management system,
- (6) Augment AOS preservation and interoperability system with other data systems through integration of DataONE services, and
- (7) Conduct additional broad synthesis activities on spill impacts and recovery as part of whole-ecosystem analysis through NCEAS working groups.

After the NCEAS-led project was initiated, it became clear that integrating DataONE services into the AOS (a regional association of the national Integrated Ocean Observing System (IOOS)) interoperability services (project 114120120 Objective 6) would require significant time and effort on the part of AOS, which was serving as an unfunded partner. The funding-to-work disparity was noted in the EVOSTC Long Term Programs Data Management Meeting on January 29-30, 2014 (*EVOSTC Long-Term Programs' Data Management Meeting: Jan. 29-30, 2014*, Pg 2). Notes from that meeting describe EVOSTC staff encouraging AOS to become a DataONE Member Node, a process that could be facilitated by NCEAS but for which the bulk of the technical work would need to be done by AOS/Axiom staff. Becoming a DataONE Member Node was important for providing EVOSTC with replication beyond the redundancy provided through data center maintained by Axiom Data Science (AOS's technical partner). Within the DataONE network, all of the content (data and metadata) from any single member node is replicated in full at each of the three geographically distributed Replication Nodes, and may be partially replicated at other Member Nodes. For EVOSTC, this means that a copy of all of the EVOSTC-funded GWA and HRM data in the AOS data system will be replicated across and discoverable through other nodes in the DataONE network, which includes the National Center for Environmental Information data archive (NCEI).

In addition to EVOSTC data distribution and archiving needs, both ongoing data management projects observed the need for a dedicated data coordinator position. In AOS's initial data management proposals, program researchers were thought of as being enabled to organize their own files, author their own metadata, and meet data input and processing milestones with minor supervision and oversight; in short, AOS proposed to provide the tools and guidance necessary for researchers to manage their own data. However, the depth and breadth of the EVOSTC programs along with the myriad of data formats, conventions and personalities required full-time attention, for which the GWA



program hired a full-time program coordinator. The leadership of that program coordinator in the program greatly improved the quality, organization, and metadata throughout the program. However, notes from EVOS Data Meeting Summary suggest that more metadata detail was still needed and having a position similar to the GWA program coordinator position should be identified for the HRM program. For these reasons, it was determined as critical to the success of both EVOSTC programs that resources be dedicated to support data coordination.

## **OBJECTIVES**

The specific objectives of this project were to:

- 1) Provide additional, needed data management support for GWA and HRM programs.
- 2) Implement technical mechanisms to transfer GWA and HRM program data from the AOS data system to national archives and systems maintained by the DataONE Network.

## **METHODS**

The methods for this project focused on: 1) providing additional staff time with data management personnel to help EVOSTC-funded principal investigators (PIs) in the GWA and HRM programs (projects 16120114-D and 16120111-C) format, organize, and document their project data so that it could be transferred efficiently to long-term data archive and storage centers to facilitate future use by researchers and other user groups; and 2) augmenting the end-to-end data management system used for data management support by the GWA and HRM programs to store, organize, document, and share their data. The specific components of the project, as they were proposed, are as follows.

### **Objective 1. Provide additional, needed data management support for the GWA and HRM programs.**

*Task 1: Establish data coordinator position to lead the HRM program and assist the GWA program.*

AOS, through its technical arm at Axiom, will hire a data coordinator to lead the PWS Herring program data ingestion effort. The position will be modeled after the GWA data coordinator position that met with great success. Their job description will entail following the conventions laid out by the GWA data coordinator to create a cohesive organizational scheme between the two programs, assist PIs to meet data and metadata submission benchmarks, and quality control metadata from PIs to ensure it is both understandable and meets requirements. The data coordinator will be available to the GWA program and GWA data coordinator as well.

*Task 2: Help the HRM program PIs generate metadata for existing data, and add standards-compliant metadata to preservation-ready GWA and HRM data.*

Generating standardized metadata is critical to ensure that the research investment is capitalized in future research efforts in addition to reducing duplication of effort and increasing data discovery and usability. The data coordinator from this project will lead PWS Herring program PIs in generating complete metadata for their information, akin to the data coordinator employed by the GWA program.

**Objective 2. Implement technical mechanisms to seamlessly transfer the GWA and HRM program data from the AOOS data system to systems maintained by national archives and Trustee Council agencies.**

*Task 1: Extend the AOOS data system to participate in the DataONE network as a DataOne Member Node.*

Becoming a DataONE member node is non-trivial and involves both structural and technological enhancements of the GWA data portal. AOOS already ensures long term availability of data and hosts metadata documents alongside data products. But AOOS will have to create a specific, preservation-oriented repository that uses persistent IDs (i.e. DOIs) and "resource maps" to document the relationship between data products and metadata documents in a data package. (<http://mule1.dataone.org/ArchitectureDocs-current/design/DataPackage.html>). In addition, mechanisms to make individual content update and archiving activities transparent to end users must be implemented.

**RESULTS**

**Objective 1. Provide additional, needed data management support for the GWA and HRM programs.**

*Task 1: Establish data coordinator position to lead the HRM program and assist the GWA program.*

AOOS, through its technical arm at Axiom, hired Ms. Stacey Buckelew in June 2015 as the data coordinator to lead the HRM program data ingestion effort. After joining the data management team in July 2015, Ms. Buckelew met with the GWA program coordinator, the HRM program coordinator, and the Program Management team in Homer to better understand each program and its needs. During these meetings, conventions were laid out to help establish a cohesive organizational scheme between the two programs. Ms. Buckelew then scheduled and convened one-on-one meetings, both in-person and remote when necessary, with all GWA and HRM program PIs to understand their project data and to communicate data management expectations and obligations. She has also participated in the annual PI meetings in November 2015 and October 2016, as well as the PI meetings

in January 2016 and 2017 at the Alaska Marine Science Symposium where she reported on data management progress and procedures for both programs.

Throughout this funded effort, the data coordinator has worked to fulfill the responsibilities described in Task 2, below.

*Task 2: Help the HRM program PIs generate metadata for existing data, and add standards-compliant metadata to preservation-ready GWA and HRM data.*

Generating standardized metadata is critical to ensure that the research investment is capitalized in future research efforts in addition to reducing duplication of effort and increasing data discovery and usability. Properly describing and documenting the EVOSTC-collected datasets with metadata allows potential re-users to understand important details about the research and monitoring effort design, the resulting datasets, the quality of and appropriateness for use of those datasets, and the persons and organizations associated with those datasets. Additionally, metadata facilitates the search, retrieval, and ultimate re-use of the data by a broader scientific community.

For this task, the data coordinator leveraged their data management expertise and their personal rapport with HRM scientists to provide technical assistance to the HRM PIs in a comprehensive reorganization of the Herring Program Workspace group; in the identification of expected data files and supplemental materials that hadn't been uploaded to the Workspace; and with authoring complete metadata documentation for their project information and datasets. Further, beginning in late 2015, the data coordinator also provided similar assistance to the GWA PIs, as the GWA program coordinator migrated attention away from data responsibilities to focus more completely on cross-program synthesis activities. The Herring Program Workspace group was reorganized in Fall 2015, using the organizational scheme discussed with program managers and similar that used in the GWA Workspace group. Several meetings were held with the HRM program lead, Scott Pegau, to come to agreement on the specific implementation details of the new structure on how best to make it easier for all program members to find what they needed in the Workspace group, while remaining obvious to HRM PIs that their data and products remained in a space that was theirs, over which they had control. Workspace folders and their contents were then reorganized and retitled according to individual projects in order to clearly establish the association of PIs to project and further enhance their sense of 'ownership'. Additionally, data sets were reorganized by projects and tags were added to allow filtering projects by current status, herring age class, and survey type. These organizational improvements were designed to ease Workspace access by all members of the HRM group. Though we do not have metrics to specify precisely how effectively this reorganization improved discovery and access for HRM Workspace members, anecdotal results from conversations with program scientists at program meetings in 2016 and 2017 have convinced those of us on the data management team that this was a success.

In concert with the Workspace restructure, a data file and metadata inventory by project was completed. The inventory was cross-referenced with project proposals and progress reports to determine which data files were expected but had not been submitted to the Workspace. This inventory, and the subsequent communication of expected data files to PIs, resulted in the total number of files in the HRM Workspace group tripling between Fall 2015 and the end of 2016 (Fig. 1), with the total volume of files in gigabytes (GB) doubling during the same period (Fig. 2).

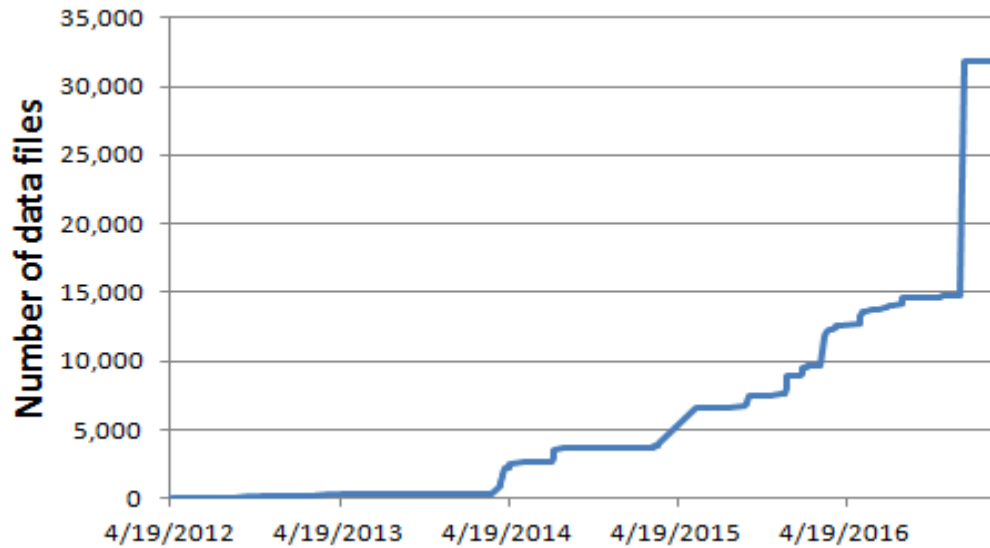


Figure 1. The total number of data files uploaded by PIs and Program Managers to the Herring Program Workspace group from 2012 to 2016.

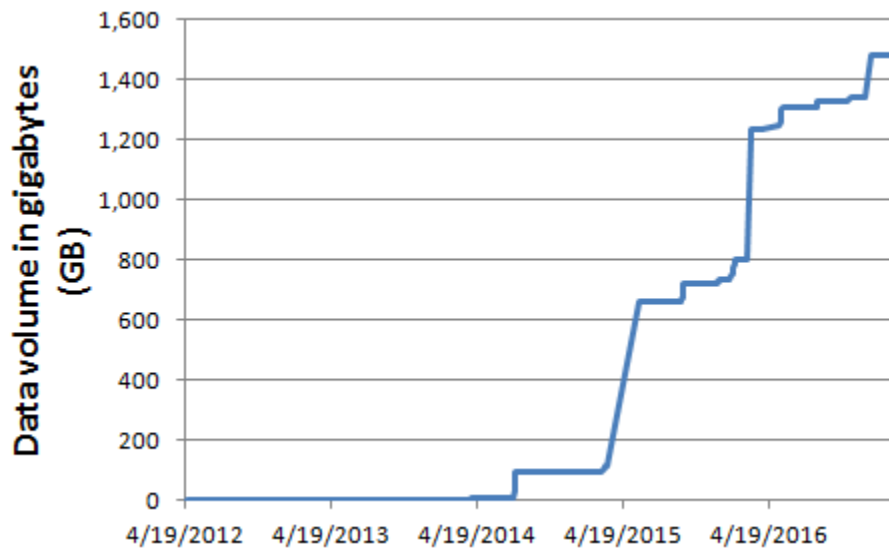


Figure 2. The total volume of data uploaded from 2012 to 2016 by PIs and Program Managers to the Herring Program Workspace group.

At the Herring Program PI meeting in November 2015, the data coordinator presented the inventory and proposed a process for meeting the submission benchmarks with the PIs. The process agreed-to by all PIs present at the meeting was for PIs to collect metadata content in an ad-hoc, text format for the time being, followed by one-on-one meetings to provide guidance and support on data submission and authoring standards compliant metadata records.

From December 2015 to February 2016, the data management team scheduled 24 meetings with over 30 program PIs or researchers to further discuss data submissions and metadata authoring. Additionally, PIs received written instructional materials about the Workspace metadata editor and hands-on instruction in the Workspace (refer to Appendix 1), its metadata editor, and linkage to the Gulf of Alaska data portal, including exploration of available data sets. The process of and responsibilities for generating metadata were further specified to eliminate ambiguities, make the authoring process easier for PIs, and to help standardize the metadata formats across programs. In this new process, each PI completed a narrative questionnaire document, before the one-on-one meeting, that included a set of questions about the project research that prompted for much of the content that would go into a complete metadata record. The questionnaire was adapted from the USGS best management practices to adhere to ISO metadata standards. When a reasonably complete project metadata record already existed, the data management team instead utilized the metadata questionnaire as a completeness check. Prior to the meeting, the data management team reviewed the questionnaires and then used the meeting to

assist the PIs in walking through creation of the content need to complete or revise the metadata record.

The outcome of these one-on-one meetings was to organize PIs to start writing or make significant progress towards completing a metadata record. In cases, this involved making a plan for how project data files should be structured to assist in describing large data sets or data collections. Information that was already developed for projects, including existing or legacy metadata records, funding proposals, and reports, were evaluated by the data coordinator utilized to the extent possible. Project titles were adjusted to ensure they were descriptive and included key information for data exploration, including what the data is and where it was located. Additional metadata content was requested from the PIs to provide details on dataset content and quality to allow potential re-users to better understand the data before exploring it further.

In the last phase of the metadata process, the data management team focused on quality control of the data and metadata, including data file formatting and documentation to ensure authoring meets best practices and accurately reflects data captured within individual data files. The quality control used the following steps: 1) primary completeness check for required metadata fields and content, and subsequent correction by PI; 2) a secondary quality control check resulting in a list of any issues in the metadata that need corrected the PI; and iii) a final check for ISO-format validation after metadata quality issues have been addressed and before submitting the dataset(s) to a national archive.

## **Objective 2. Implement technical mechanisms to seamlessly transfer the GWA and HRM program data from the AOOS data system to systems maintained by national archives and Trustee Council agencies.**

*Task 1: Extend the AOOS data system to participate in the DataONE network as a DataOne Member Node.*

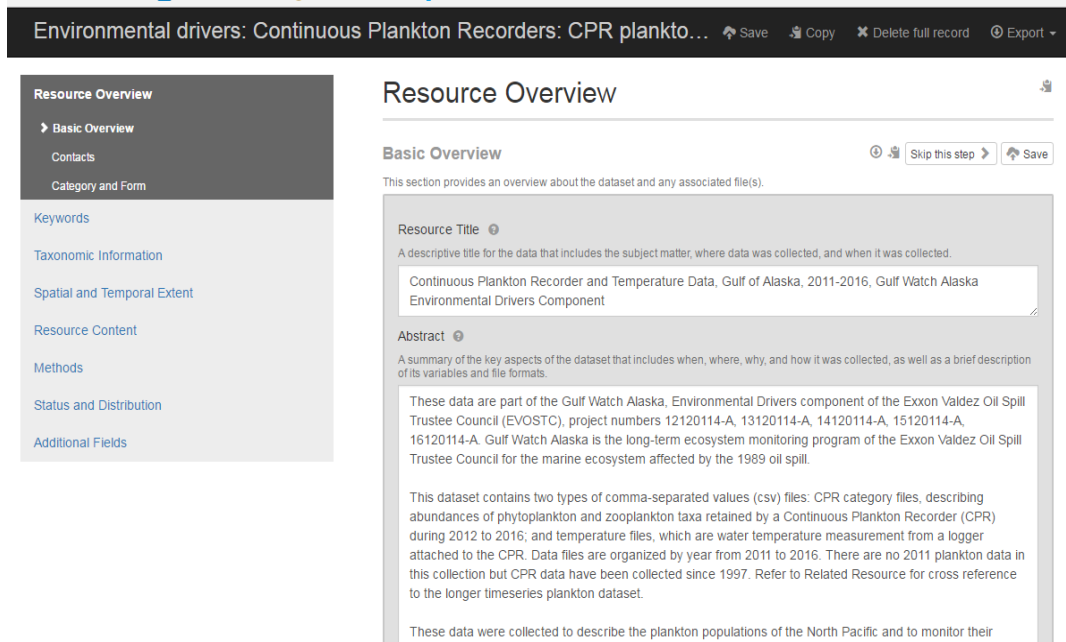
Becoming a DataONE Member Node is non-trivial and involves commitments of structural and technological infrastructure, and of dedicated staff with the necessary skills and expertise to maintain the node and to help users prepare data for ingestion. In late 2015, Axiom software architects began planning to become a DataONE Member Node. The planning phase included: i) identifying the infrastructure and policies necessary to implement the Member Node, ii) connecting the node to Axiom's data infrastructure, and iii) integrating and releasing the node for use by Workspace members. Some of these node requirements demanded additional data storage and server hardware, as well as software to acquire and maintain the node to store all of the data and metadata content. Further, becoming a Member Node involved necessary updates to Axiom's internal metadata schema, mapping the expanded schema into ISO 19139 xml metadata records, and updating the interface of the metadata editor in the Workspace.

The implementation and integration as a DataONE Member Node took place over a five-month period beginning in Fall 2016. This development phase involved consulting with DataONE technical staff to upgrade systems, fix bugs that were discovered over the course of integration, and set-up separate test and production environments to ensure a smooth launch. In addition to installing the DataONE Member Node software and hardware stack, custom software was written to provide a user interface for selecting, approving, and tracking the submission of data archives. The completed system utilizes Axiom's highly-available, fault-tolerant Gluster storage cluster, a robust PostgreSQL database cluster, and multiple redundant application services written in Java to ensure that the data submission process can recover from potential hardware failures.

Concurrent with the metadata effort described above in Objective 1 Task 2, and the DataONE Member Node work for this objective, Axiom staff developed a new, more descriptive, and easier-to-use web-based metadata editor that is integrated with the Workspace. Developing and launching this new editor required a redesign and expansion of the underlying, internal metadata schema used in the Axiom/AOOS data system; mapping of the new internal schema into the ISO metadata standards; designing a new user interface (Figs. 3 & 4); and back-end changes to accommodate the updated metadata data-model and assure the lossless migration of metadata content from the old schema to the new. The new editor allows PIs to author standards-compliant metadata for any effort (program or project) and any arbitrary collection of files that may constitute a dataset. Because the Workspace is a cloud-based service, researchers can move between computers during the metadata generation process in addition to allowing team members and administrators to simultaneously review and edit metadata in real time. In December 2016, the new metadata editor was released into the GWA Workspace. This editor was designed to be more flexible and to completely describe various dataset and project types. The editor also generates the ISO 19115-2/19139 compliant xml metadata records necessary for preservation and publication in a DataONE Member Node (Fig. 5). Historically, the metadata editor in the Ocean Workspace had allowed users to write metadata in a form attached to individual files and projects. This had created some confusion when the dataset to be shared, described, and archived was larger than a single or collection of data files, but smaller than the entire project dataset. The new editor addresses this problem by also enabling metadata creation for arbitrary collections of files. This provided a simple way to describe a group of content as a single dataset (as opposed to having multiple redundant copies of metadata at the individual file level), and streamlined the archive of long-term monitoring datasets within DataONE.

Coupled with the launch of the new editor, all existing GWA metadata records were migrated into the new, expanded, standards-compliant format and augmented with additional contextual information to populate the new fields and improve the quality of metadata in existing fields.

The 2012-2016 GWA and HRM programs generated 82 unique data collections, each of which are accompanied with robust metadata documentation to help ensure these datasets are understandable, discoverable, and reusable into the future. A list of these metadata records and the location where they can be found in the Workspace and DataONE archive are in Appendices 1 and 2. Further these datasets are discoverable through DataONE Search (<https://search.dataone.org>), which is the default software for search and discovery of data and metadata within DataONE. At the time of writing, DataONE provides access to nearly 1 million Earth observation dataset and 300,000 metadata files totaling nearly 30TB of data.



*Figure 3. The metadata editor interface within the Workspace. The editor assists Workspace users in authoring robust, ISO standard-compliant metadata record alongside data objects. Individual fields are accompanied with help text and examples to guide users in creating metadata following best practice.*





## **CONCLUSIONS**

This project increased the data management support for both the EVOSTC's GWA and HRM programs by establishing a data coordinator position to improve metadata quality and best practices, and by preparing program data into preservation-ready formats to ensure long term preservation of the data resources. By establishing a data coordinator position, the data and metadata objectives by program PIs were met according to the EVOSTC data sharing policies, and the overall quality of metadata documentation for the HRM program was improved to meet or exceed the GWA standard. Specifically, this project supported data submission and organization, metadata generation, and data transfer among study teams through the GWA and HRM Workspace instances. Axiom data managers, analysts, and domain experts reviewed metadata and data structure formats for quality, and advised PIs in best practices for short-term and long-term data formats as well as metadata authoring. Through data and metadata submission tracking and engagement with PIs, Axiom helped to ensure that the GWA and HRM projects met their data sharing deliverables. Furthermore, this project developed a semi-automated mechanism to transfer and integrate the GWA and HRM program data products from the Workspace into the DataONE archive. Long-term preservation of the GWA and HRM program final datasets and products were archived in the DataONE data repository through the Axiom DataONE Member Node where they can be discovered, accessed, and re-used for retrospective analyses of the recovery of the spill-affected ecosystem. As such, the data management tools and services provided to both the EVOSTC GWA and HRM programs were coordinated and collaborative to provide a comprehensive, holistic portrait of the conditions monitored in the Gulf of Alaska.

## **ACKNOWLEDGEMENTS**

The findings and conclusions presented by the authors are their own and do not necessarily reflect the views or position of the *Exxon Valdez* Oil Spill Trustee Council.

## LITERATURE CITED

- Bochenek, R., S. Buckelew, C. Turner, W. Koeppen. 2018. Data management support for the EVOSTC Long-Term Monitoring Program. *Exxon Valdez Oil Spill Long-Term Monitoring Program (Gulf Watch Alaska) Final Report (Exxon Valdez Oil Spill Trustee Council Project 16120114-D)*. Exxon Valdez Oil Spill Trustee Council, Anchorage, Alaska.
- Bochenek, R., S. Buckelew, C. Turner, W. Koeppen. 2018. Data management support, *Exxon Valdez Oil Spill Trustee Council Long-Term Herring Research and Monitoring Program Final Report (Exxon Valdez Oil Spill Trustee Council Project 16120111-C)*. Exxon Valdez Oil Spill Trustee Council, Anchorage, Alaska.
- Exxon Valdez Oil Spill Trustee Council Staff*. 2014, February 18. EVOSTC Long-Term Programs data management meeting: Jan. 29-30, 2014. Anchorage, AK. Circulated via email.
- Jones M. B., R. Blake, J. Couture, and C. Ward. *In Review*. Collaborative data management and holistic synthesis of impacts and recovery status associated with the *Exxon Valdez* oil spill. Long-Term Monitoring Program (Gulf Watch Alaska) Final Report (*Exxon Valdez Oil Spill Trustee Council Project 16120120*). Exxon Valdez Oil Spill Trustee Council, Anchorage, Alaska.

Appendix 1. Datasets generated by EVOSTC Gulf Watch Alaska programs from 2012 to 2016 that are stored in the AOOS Workspace, and made publicly available in the Gulf of Alaska data portal and replicated in the DataONE archive for long-term preservation.

| Project  | PI                                 | EVOSTC Project #   | Resource Information |   |
|--|------------------------------------|--|----------------------|---|
|  |                                    |  | Metadata title:      | Dataset content:  |
| EVOSTC Gulf Watch Alaska, 2012-2016                  | Kris Holderied, Molly McCammon     | 12140114, 13140114, 14140114, 15140114, & 16140114           | Metadata title:      | Gulf Watch Alaska: Long-term Monitoring of Marine Conditions and Injured Resources in the Gulf of Alaska Exxon Valdez Oil Spill Affected Area                             |
|  |                                    |  | Dataset content:     | n/a   |
|  |                                    |  | Years:               | 2012-2016   |
|  |                                    |  | AOOS metadata ID:    | 58bdbb152ab79c00077c0577  |
|  |                                    |  | Workspace storage:   | n/a   |
|  |                                    |  | DataONE archive:     | <a href="https://doi.org/10.24431/axds/83479591-af7c-4f64-974f-febb843035b8">https://doi.org/10.24431/axds/83479591-af7c-4f64-974f-febb843035b8</a>                       |
| Environmental drivers: Continuous Plankton Recorders | Sonia Batten                       | 12120114-A, 13120114-A, 14120114-A, 15120114-A, 16120114-A   | Metadata title:      | Continuous Plankton Recorder and Temperature Data, Gulf of Alaska, 2011-2016, Gulf Watch Alaska Environmental Drivers Component   |
|  |                                    |  | Dataset content:     | CPR Plankton category; temperature data   |
|  |                                    |  | Years:               | 2012-2016 (plankton); 2011-2016 (temperature)   |
|  |                                    |  | AOOS metadata ID:    | 5893cbfd30c49e00075392a9  |
|  |                                    |  | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4655/files">https://workspace.aaos.org/group/4601/project/4655/files</a>   |
|  |                                    |  | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k112">https://doi.org/10.24431/rw1k112</a>   |
| Environmental drivers: Gulf of Alaska Mooring (GAK1) | Seth Danielson, Thomas Weingartner | 12120114-P, 13120114-P, 14120114-P, 15120114-P, & 16120114-P | Metadata title:      | GAK1 Mooring Timeseries data, Seward, AK, from the GAK1 project, 2012-2016, Gulf Watch Alaska Environmental Drivers Component   |
|  |                                    |  | Dataset content:     | Mooring data  |
|  |                                    |  | Years:               | 1970-2016   |
|  |                                    |  | AOOS metadata ID:    | 58b6126a2ab79c0008dd33f7  |
|  |                                    |  | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/23194/folder/23936/mooring-data">https://workspace.aaos.org/group/4601/project/23194/folder/23936/mooring-data</a> |
|  |                                    |  | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k18">https://doi.org/10.24431/rw1k18</a>   |
| Environmental drivers: Gulf of Alaska Mooring (GAK1) | Seth Danielson, Thomas Weingartner | 12120114-P, 13120114-P, 14120114-P, 15120114-P, & 16120114-P | Metadata title:      | CTD profile time series data from the GAK1 project, 2012-2016, Gulf Watch Alaska Environmental Drivers Component  |
|  |                                    |  | Dataset content:     | CTD data  |
|  |                                    |  | Years:               | 2012-2016   |
|  |                                    |  | AOOS metadata ID:    | 58d968f82ab79c00077c05b2  |
|  |                                    |  | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/23194/folder/24090/ctd-data">https://workspace.aaos.org/group/4601/project/23194/folder/24090/ctd-data</a>         |

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|--|------------------------------------|--|----------------------|---|
|  |                                    |  | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k1b">https://doi.org/10.24431/rw1k1b</a>   |
| Environmental drivers: Gulf of Alaska Mooring (GAK1)                           | Seth Danielson, Thomas Weingartner | 12120114-P, 13120114-P, 14120114-P, 15120114-P, & 16120114-P | Metadata title:      | Toward Long-Term Monitoring of the Gulf of Alaska Ecosystem, Calculation of Freshwater Discharge, 1970-2014   |
|  |                                    |  | Dataset content:     | Modeled freshwater discharge data   |
|  |                                    |  | Years:               | 1931-2013   |
|  |                                    |  | AOOS metadata ID:    | 590781cf2ab79c00077c05ea  |
|  |                                    |  | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/23194/folder/24091/discharge-data">https://workspace.aaos.org/group/4601/project/23194/folder/24091/discharge-data</a>   |
|  |                                    |  | DataONE archive:     | n/a   |
| Environmental Drivers: Oceanographic Conditions in Prince William Sound        | Rob Campbell                       | 12120114-E, 13120114-E, 14120114-E, & 16120114-E             | Metadata title:      | Oceanographic Conditions in Prince William Sound, CTD, Chlorophyll-a, and Zooplankton Data: 2013-2016, Gulf Watch Alaska Environmental Drivers Component  |
|  |                                    |  | Dataset content:     | Chl-a, CTD, zooplankton data  |
|  |                                    |  | Years:               | 2013-2016   |
|  |                                    |  | AOOS metadata ID:    | 58ae28ea2ab79c0008f5c87b  |
|  |                                    |  | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/23640/folder/31816/chl-a">https://workspace.aaos.org/group/4601/project/23640/folder/31816/chl-a</a>   |
|  |                                    |  | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k19">https://doi.org/10.24431/rw1k19</a>   |
| Environmental Drivers: Oceanographic monitoring in Cook Inlet and Kachemak Bay | Kris Holderied, Angela Doroff      | 12120114-G, 13120114-G, 14120114-G, 15120114-G, & 16120114-G | Metadata title:      | Oceanographic Monitoring in Cook Inlet and Kachemak Bay, Water Quality, Meteorological, and Nutrient Data collected by the National Estuarine Research Reserve System's System-wide Monitoring Program (NERRS SWMP), 2012-2016, Gulf Watch Alaska Environmental Drivers Component |
|  |                                    |  | Dataset content:     | KBNER meteorological, nutrient, and water quality data  |
|  |                                    |  | Years:               | 2012-2016   |
|  |                                    |  | AOOS metadata ID:    | 589baeadb3cb1f0008806b4e  |
|  |                                    |  | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4673/folder/263792/kbnerr-meteorological-data">https://workspace.aaos.org/group/4601/project/4673/folder/263792/kbnerr-meteorological-data</a>   |
|  |                                    |  | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k1c">https://doi.org/10.24431/rw1k1c</a>   |
| Environmental Drivers: Oceanographic monitoring in Cook Inlet and Kachemak Bay | Kris Holderied, Angela Doroff      | 12120114-G, 13120114-G, 14120114-G, 15120114-G, & 16120114-G | Metadata title:      | Oceanographic Monitoring in Cook Inlet and Kachemak Bay, CTD Data, 2012-2016, Gulf Watch Alaska Environmental Drivers Component   |
|  |                                    |  | Dataset content:     | CTD data  |
|  |                                    |  | Years:               | 2012-2016   |
|  |                                    |  | AOOS metadata ID:    | 5893c78730c49e00075392a7  |
|  |                                    |  | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4673/folder/30407/published-ctd-data">https://workspace.aaos.org/group/4601/project/4673/folder/30407/published-ctd-data</a>   |
|  |                                    |  | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k1d">https://doi.org/10.24431/rw1k1d</a>   |

| Project  | PI   | EVOSTC Project #   | Resource Information |   |
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| Environmental Drivers: Oceanographic monitoring in Cook Inlet and Kachemak Bay | Kris Holderied, Angela Doroff                        | 12120114-G, 13120114-G, 14120114-G, 15120114-G, & 16120114-G | Metadata title:      | Oceanographic Monitoring in Cook Inlet and Kachemak Bay, Zooplankton Data, 2012-2015, Gulf Watch Alaska Environmental Drivers Component   |
|  |  |  | Dataset content:     | Zooplankton category data   |
|  |  |  | Years:               | 2012-2016   |
|  |  |  | AOS metadata ID:     | 589b86efb3cb1f000824db4a  |
|  |  |  | Workspace storage:   | <a href="https://workspace.aos.org/group/4601/project/4673/folder/223680/zooplankton_final">https://workspace.aos.org/group/4601/project/4673/folder/223680/zooplankton_final</a> |
|  |  |  | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k12">https://doi.org/10.24431/rw1k12</a>   |
| Environmental Drivers: Seward Line   | Russell Hopcroft                                     | 12120114-J, 13120114-J, 14120114-J, 15120114-J, & 16120114-J | Metadata title:      | Seward Line Conductivity, Temperature, and Depth (CTD) Data, 2012 to 2016, Gulf Watch Alaska Environmental Drivers Component  |
|  |  |  | Dataset content:     | CTD data  |
|  |  |  | Years:               | 2012-2016   |
|  |  |  | AOS metadata ID:     | 58c712ce2ab79c00077c0587  |
|  |  |  | Workspace storage:   | <a href="https://workspace.aos.org/group/4601/project/4663/folder/24099/ctd-data">https://workspace.aos.org/group/4601/project/4663/folder/24099/ctd-data</a>                     |
|  |  |  | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k11">https://doi.org/10.24431/rw1k11</a>   |
| Environmental Drivers: Seward Line   | Kathy Kuletz   | 12120114-J, 13120114-J, 14120114-J, 15120114-J, & 16120114-J | Metadata title:      | Seward Line and Lower Cook Inlet Marine Bird Survey Data, 2006-2016, Gulf Watch Alaska Nearshore Component  |
|  |  |  | Dataset content:     | Seabird observation and processed density data  |
|  |  |  | Years:               | 2012-2016   |
|  |  |  | AOS metadata ID:     | 58b87da42ab79c0008dd33fc  |
|  |  |  | Workspace storage:   | <a href="https://workspace.aos.org/group/4601/project/4663/folder/223356/seabird-data">https://workspace.aos.org/group/4601/project/4663/folder/223356/seabird-data</a>           |
|  |  |  | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k1m">https://doi.org/10.24431/rw1k1m</a>   |
| Environmental Drivers: Seward Line   | Russell Hopcroft                                     | 12120114-J, 13120114-J, 14120114-J, 15120114-J, & 16120114-J | Metadata title:      | Prince William Sound Zooplankton Data, 1997 to 2016, Gulf Watch Alaska Environmental Drivers Component  |
|  |  |  | Dataset content:     | Zooplankton data: multinet and calvet   |
|  |  |  | Years:               | 1997-2016   |
|  |  |  | AOS metadata ID:     | 58c711f52ab79c00077c0586  |
|  |  |  | Workspace storage:   | <a href="https://workspace.aos.org/group/4601/project/4663/folder/30595/zooplankton-data">https://workspace.aos.org/group/4601/project/4663/folder/30595/zooplankton-data</a>     |
|  |  |  | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k1k">https://doi.org/10.24431/rw1k1k</a>   |
| Environmental Drivers: Seward Line   | Russell Hopcroft, Thomas Weingartner, Seth Danielson | 12120114-J, 13120114-J, 14120114-J, 15120114-J, & 16120114-J | Metadata title:      | Prince William Sound Chlorophyll-A and Nutrient Data, 2012 to 2016, Gulf Watch Alaska Environmental Drivers Component   |
|  |  |  | Dataset content:     | Chlorophyll and nutrient final data merged with CTD   |
|  |  |  | Years:               | 2012-2016   |
|  |  |  | AOS                  | 58f6679c2ab79c00077c05da  |

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|  |                             |  | metadata ID:         |   |
|  |                             |  | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4663/folder/1912372/chlorophyll-nutrient-final-data-merged-with-ctd">https://workspace.aaos.org/group/4601/project/4663/folder/1912372/chlorophyll-nutrient-final-data-merged-with-ctd</a> |
|  |                             |  | DataONE archive:     | <a href="https://doi.org/10.24431/rw1klj">https://doi.org/10.24431/rw1klj</a>   |
| Lingering Oil: Harlequin Ducks and Sea Otters        | Dan Esler, Brenda Ballachy  | 12120114-Q, 13120114-Q, 14120114-Q, 15120114-Q, & 16120114-Q | Metadata title:      | Harlequin duck capture and EROD activity data from Prince William Sound, Alaska, 2011, 2013, and 2014, Gulf Watch Alaska Lingering Oil Component  |
|  |                             |  | Dataset content:     | Oil spill response data   |
|  |                             |  | Years:               | 2011, 2013-2014   |
|  |                             |  | AOS metadata ID:     | 590242f82ab79c00077c05e9  |
|  |                             |  | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/28460/folder/2419672/lingering-oil-data-with-doi-numbers">https://workspace.aaos.org/group/4601/project/28460/folder/2419672/lingering-oil-data-with-doi-numbers</a>                       |
|  |                             |  | USGS archive:        | <a href="http://dx.doi.org/10.5066/F7KD1W1M">http://dx.doi.org/10.5066/F7KD1W1M</a>   |
| Lingering Oil: Harlequin Ducks and Sea Otters        | Dan Esler, Brenda Ballachy  | 12120114-Q, 13120114-Q, 14120114-Q, 15120114-Q, & 16120114-Q | Metadata title:      | Sea otter gene expression data from Kodiak, the Alaska Peninsula and Prince William Sound, Alaska, 2005-2012  |
|  |                             |  | Dataset content:     | Sea otter gene expression data  |
|  |                             |  | Years:               | 2005-2012   |
|  |                             |  | AOS metadata ID:     | 592f1cdb30c49e0008b17c36  |
|  |                             |  | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/28460/folder/2425906/for-review-before-publishing">https://workspace.aaos.org/group/4601/project/28460/folder/2425906/for-review-before-publishing</a>                                     |
|  |                             |  | DataONE archive:     | <a href="http://dx.doi.org/10.5066/F789141P">http://dx.doi.org/10.5066/F789141P</a>   |
| Lingering Oil: Tracking of Oil Levels and Weathering | Mandy Lindeberg, Mark Carls | 12120114-S, 13120114-S, 14120114-S, 15120114-S, & 16120114-S | Metadata title:      | Lingering Oil Measurements, Site, Sample, and Photographic Data from Prince William Sound, 2015, Gulf Watch Alaska Lingering Oil Component  |
|  |                             |  | Dataset content:     | Hydrocarbon database; Site, survey, gravimetric, oil composition, and sample chain of custody data; lingering oil survey photos   |
|  |                             |  | Years:               | 2015  |
|  |                             |  | AOS metadata ID:     | 591dd09d30c49e0008b17c30  |
|  |                             |  | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4667/folder/1761690/lingering-oil-survey-data_final-2015">https://workspace.aaos.org/group/4601/project/4667/folder/1761690/lingering-oil-survey-data_final-2015</a>                       |
|  |                             |  | DataONE archive:     | <a href="https://doi.org/10.24431/rw1klh">https://doi.org/10.24431/rw1klh</a>   |
| Nearshore: Ecological Trends in Kachemak Bay         | Katrin Iken, Brenda Konar   | 12120114-L, 13120114-L, 14120114-L, 15120114-L, & 16120114-L | Metadata title:      | Long-term Monitoring of Ecological Communities in Kachemak Bay, 2012-2016, Gulf Watch Alaska Nearshore Component  |
|  |                             |  | Dataset content:     | Lottia, mussel, clam, community composition, substrate, swath, seagrass, and temperature logger data  |
|  |                             |  | Years:               | 2012-2016   |
|  |                             |  | AOS metadata ID:     | 58992600b3cb1f000824db43  |
|  |                             |  | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4653/files">https://workspace.aaos.org/group/4601/project/4653/files</a>   |

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|   |   |   | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k1o">https://doi.org/10.24431/rw1k1o</a>   |
| Nearshore: Ecological Trends in Kachemak Bay    | Angela Doroff   | 12120114-L,<br>13120114-L,<br>14120114-L,<br>15120114-L,<br>&<br>16120114-L | Metadata title:      | Sea Otter Diet Data, Long-term Monitoring of Ecological Communities in Kachemak Bay, 2008-2015: Gulf Watch Alaska, Nearshore Component  |
|   |   |   | Dataset content:     | Sea otter diet data   |
|   |   |   | Years:               | 2008-2015   |
|   |   |   | AOOS metadata ID:    | 589b6fdcb3cb1f000824db49  |
|   |   |   | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4653/folder/230530/sea-otters">https://workspace.aaos.org/group/4601/project/4653/folder/230530/sea-otters</a>   |
|   |   |   | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k1e">https://doi.org/10.24431/rw1k1e</a>   |
| Nearshore: Intertidal Systems in Gulf of Alaska | Heather Coletti, Jim Bodkin, Brenda Ballachy, Dan Monson, Dan Esler, Mandy Lindeberg, Tom Dean, Ben Weitzman, Kim Kloeker, George Esslinger | 16120114-F (birds)/<br>16120114-R (nearshore)                               | Metadata title:      | Gulf Watch Alaska Nearshore Component: Black oystercatcher nest density and chick diets from Prince William Sound, Katmai National Park and Preserve, and Kenai Fjords National Park, 2006-2016 Data  |
|   |   |   | Dataset content:     | black oystercatcher nest density and chick diets  |
|   |   |   | Years:               | 2006-2016   |
|   |   |   | AOOS metadata ID:    | n/a   |
|   |   |   | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4650/folder/26495/black-oystercatchers">https://workspace.aaos.org/group/4601/project/4650/folder/26495/black-oystercatchers</a>   |
|   |   |   | USGS archive:        | <a href="http://dx.doi.org/10.5066/F7WH2N5Q">http://dx.doi.org/10.5066/F7WH2N5Q</a><br><a href="http://alaska.usgs.gov/portal/project.php?project_id=99">http://alaska.usgs.gov/portal/project.php?project_id=99</a><br><a href="http://science.nature.nps.gov/im/units/swan/monitor/nearshore.cfm">http://science.nature.nps.gov/im/units/swan/monitor/nearshore.cfm</a> |
| Nearshore: Intertidal Systems in Gulf of Alaska | See above   | 16120114-F (birds)/<br>16120114-R (nearshore)                               | Metadata title:      | Gulf Watch Alaska Nearshore Component: Monitoring Site Locations from Prince William Sound, Katmai National Park and Preserve, and Kenai Fjords National Park   |
|   |   |   | Dataset content:     | rocky intertidal, mussel sampling, and soft sediment site location information, and eelgrass bed locations  |
|   |   |   | Years:               | 2003-2015   |
|   |   |   | AOOS metadata ID:    | n/a   |
|   |   |   | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4650/folder/26427/slope">https://workspace.aaos.org/group/4601/project/4650/folder/26427/slope</a>   |
|   |   |   | USGS archive::       | <a href="https://doi.org/10.5066/F78S4N3R">https://doi.org/10.5066/F78S4N3R</a>   |
| Nearshore: Intertidal Systems in Gulf of Alaska | See above   | 16120114-F (birds)/<br>16120114-R (nearshore)                               | Metadata title:      | Gulf Watch Alaska Benthic Component: Intertidal Soft-Sediment Invertebrates from Prince William Sound, Katmai National Park & Preserve, and Kenai Fjords National Park, 2007-2015   |
|   |   |   | Dataset content:     | species identification, counts, and size measurements from intertidal soft-sediment sampling sites  |
|   |   |   | Years:               | 2007-2016   |
|   |   |   | AOOS metadata ID:    | n/a   |
|   |   |   | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4650/folder/26411/invertebrates-on-sand-and-gravel-beaches">https://workspace.aaos.org/group/4601/project/4650/folder/26411/invertebrates-on-sand-and-gravel-beaches</a>   |
|   |   |   | USGS archive::       | These data are still being error-checked and will be published soon through the USGS data portal. Data are available publicly through the GOA data portal.  |



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| Nearshore: Intertidal Systems in Gulf of Alaska | See above | 16120114-F (birds)/ 16120114-R (nearshore) | Metadata title:      | Gulf Watch Alaska Nearshore Component: Intertidal Mussel Site Data from Prince William Sound, Katmai National Park and Preserve, and Kenai Fjords National Park, 2008-2015  |
|   |           |  | Dataset content:     | 1. mussel sampling site layout information, 2. mussel count and 3. size measurements for mussels greater than 20 millimeters, 4. mussel count and 5. size measurements for all mussels collected from core samples              |
|   |           |  | Years:               | 2008-2015   |
|   |           |  | AOOS metadata ID:    | n/a   |
|   |           |  | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4650/folder/1836122/mussel--data-with-doi-numbers:-publish">https://workspace.aaos.org/group/4601/project/4650/folder/1836122/mussel--data-with-doi-numbers:-publish</a> |
|   |           |  | USGS archive:        | <a href="https://doi.org/10.5066/F7FN1498">https://doi.org/10.5066/F7FN1498</a>   |
| Nearshore: Intertidal Systems in Gulf of Alaska | See above | 16120114-F (birds)/ 16120114-R (nearshore) | Metadata title:      | Gulf Watch Alaska Nearshore Component: Intertidal Mussel Site Data from Prince William Sound, Katmai National Park and Preserve, and Kenai Fjords National Park, 2016   |
|   |           |  | Dataset content:     | 1. Mussel sampling site layout information, 2. Mussel count and 3. Size measurements for mussels greater than 20 millimeters, 4. Mussel count and 5. Size measurements for all mussels collected from core samples              |
|   |           |  | Years:               | 2016  |
|   |           |  | AOOS metadata ID:    | n/a   |
|   |           |  | Workspace storage:   | n/a   |
|   |           |  | USGS archive:        | <a href="https://workspace.aaos.org/group/4601/project/4650/folder/1836122/mussel--data-with-doi-numbers:-publish">https://workspace.aaos.org/group/4601/project/4650/folder/1836122/mussel--data-with-doi-numbers:-publish</a> |
| Nearshore: Intertidal Systems in Gulf of Alaska | See above | 16120114-F (birds)/ 16120114-R (nearshore) | Metadata title:      | Gulf Watch Alaska Benthic Component: Intertidal Rocky Shore Limpet Size Data from Prince William Sound, Katmai National Park and Preserve, and Kenai Fjords National Park, 2006-2014  |
|   |           |  | Dataset content:     | sizes of the limpet, Lottia persona, from intertidal rocky substrate sampling sites   |
|   |           |  | Years:               | 2006-2014   |
|   |           |  | AOOS metadata ID:    | n/a   |
|   |           |  | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4650/folder/26433/size">https://workspace.aaos.org/group/4601/project/4650/folder/26433/size</a>   |
|   |           |  | USGS archive:        | <a href="http://dx.doi.org/10.5066/F7513WCB">http://dx.doi.org/10.5066/F7513WCB</a>   |
| Nearshore: Intertidal Systems in Gulf of Alaska | See above | 16120114-F (birds)/ 16120114-R (nearshore) | Metadata title:      | Gulf Watch Alaska Benthic Component: Intertidal Rocky Shore Nucella and Katharina counts from Prince William Sound, Katmai National Park and Preserve, and Kenai Fjords National Park, 2006-2014                                |
|   |           |  | Dataset content:     | counts of Nucella sp., Lirabuccinum dirum, and Katharina tunicata from intertidal rocky substrate sampling sites  |
|   |           |  | Years:               | 2006-2014   |
|   |           |  | AOOS metadata ID:    | n/a   |
|   |           |  | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4650/folder/26431/nucella-and-katharina">https://workspace.aaos.org/group/4601/project/4650/folder/26431/nucella-and-katharina</a>                                       |
|   |           |  | USGS archive:        | <a href="http://dx.doi.org/10.5066/F7513WCB">http://dx.doi.org/10.5066/F7513WCB</a>   |
| Nearshore: Intertidal Systems in Gulf           | See above | 16120114-F (birds)/ 16120114-R             | Metadata title:      | Gulf Watch Alaska Benthic Component: Intertidal Rocky Shore Invertebrate and Algae from Prince William Sound, Katmai National Park and Preserve, and Kenai Fjords National Park, 2006-2014                                      |

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| of Alaska                                       |   | (nearshore)                                | Dataset content:     | species identification, counts, and size measurements from intertidal rocky substrate sampling sites  |
|   |   |  | Years:               | 2006-2016   |
|   |   |  | AOOS metadata ID:    | n/a   |
|   |   |  | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4650/folder/26429/percent-cover-algae-and-inverts">https://workspace.aaos.org/group/4601/project/4650/folder/26429/percent-cover-algae-and-inverts</a> |
|   |   |  | USGS archive:        | <a href="http://dx.doi.org/10.5066/F7513WCB">http://dx.doi.org/10.5066/F7513WCB</a>   |
| Nearshore: Intertidal Systems in Gulf of Alaska | See above   | 16120114-F (birds)/ 16120114-R (nearshore) | Metadata title:      | Gulf Watch Alaska Benthic Component: Intertidal Rocky Shore Seastar counts from Prince William Sound, Katmai National Park and Preserve, and Kenai Fjords National Park, 2006-2014                            |
|   |   |  | Dataset content:     | counts of seastars from intertidal rocky substrate sampling sites   |
|   |   |  | Years:               | 2006-2014   |
|   |   |  | AOOS metadata ID:    | n/a   |
|   |   |  | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4650/folder/26430/sea-stars">https://workspace.aaos.org/group/4601/project/4650/folder/26430/sea-stars</a>   |
| USGS archive:                                   | <a href="http://dx.doi.org/10.5066/F7513WCB">http://dx.doi.org/10.5066/F7513WCB</a>   |  |                      |   |
| Nearshore: Intertidal Systems in Gulf of Alaska | See above   | 16120114-F (birds)/ 16120114-R (nearshore) | Metadata title:      | NearshoreBenthicSystemsInGOA_SOP4_Rocky_2014QuadratSubstrateData_FINAL  |
|   |   |  | Dataset content:     | substrate classifications from intertidal rocky sampling sites  |
|   |   |  | Years:               | 2014  |
|   |   |  | AOOS metadata ID:    | n/a   |
|   |   |  | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4650/folder/26428/substrate-composition">https://workspace.aaos.org/group/4601/project/4650/folder/26428/substrate-composition</a>                     |
| USGS archive:                                   | These data are still being error-checked and will be published soon through the USGS data portal. Data are available publicly through the GOA data portal |  |                      |   |
| Nearshore: Intertidal Systems in Gulf of Alaska | See above   | 16120114-F (birds)/ 16120114-R (nearshore) | Metadata title:      | Gulf Watch Alaska Benthic Component: Marine Bird and Mammal Survey Data from Katmai National Park and Preserve and Kenai Fjords National Park, 2006-2015  |
|   |   |  | Dataset content:     | date, time, latitude, longitude, species abbreviation, count, and behavior  |
|   |   |  | Years:               | 2006-2015   |
|   |   |  | AOOS metadata ID:    | n/a   |
|   |   |  | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4650/folder/2421027/survey-data">https://workspace.aaos.org/group/4601/project/4650/folder/2421027/survey-data</a>                                     |
| DataONE archive:                                | <a href="https://dx.doi.org/10.5066/F7416V6H">https://dx.doi.org/10.5066/F7416V6H</a>   |  |                      |   |
| Nearshore: Intertidal Systems in Gulf of Alaska | See above   | 16120114-F (birds)/ 16120114-R (nearshore) | Metadata title:      | Gulf Watch Alaska Benthic Component: Marine Water Quality, Water Temperature from Prince William Sound, Katmai National Park & Preserve, and Kenai Fjords National Park, 2006-2014                            |
|   |   |  | Dataset content:     | date, time, site name, and temperature measurements from intertidal rocky sampling sites  |
|   |   |  | Years:               | 2006-2014   |
|   |   |  | AOOS metadata ID:    | n/a   |

| Project   | PI        | EVOSTC Project #                           | Resource Information |   |
|---|-----------|--|----------------------|---|
|   |           |  | metadata ID:         |   |
|   |           |  | Workspace storage:   | <a href="https://workspace.aos.org/group/4601/project/4650/folder/1761229/archive-data-without-doi-numbers:-rocky-site-temperature">https://workspace.aos.org/group/4601/project/4650/folder/1761229/archive-data-without-doi-numbers:-rocky-site-temperature</a> |
|   |           |  | USGS archive:        | <a href="http://dx.doi.org/10.5066/F7WH2N3T">http://dx.doi.org/10.5066/F7WH2N3T</a>   |
| Nearshore: Intertidal Systems in Gulf of Alaska | See above | 16120114-F (birds)/ 16120114-R (nearshore) | Metadata title:      | Gulf Watch Alaska, Benthic Monitoring Component: Sea otter Carcass Collection from Prince William Sound, Katmai National Park & Preserve, and Kenai Fjords National Park  |
|   |           |  | Dataset content:     | information related to collection of sea otter carcasses  |
|   |           |  | Years:               | 2006-2012   |
|   |           |  | AOS metadata ID:     | n/a   |
|   |           |  | Workspace storage:   | <a href="https://workspace.aos.org/group/4601/project/4650/folder/26455/carcass">https://workspace.aos.org/group/4601/project/4650/folder/26455/carcass</a>   |
|   |           |  | USGS archive:        | <a href="http://dx.doi.org/10.5066/F7WH2N3T">http://dx.doi.org/10.5066/F7WH2N3T</a>   |
| Nearshore: Intertidal Systems in Gulf of Alaska | See above | 16120114-F (birds)/ 16120114-R (nearshore) | Metadata title:      | Gulf Watch Alaska, Benthic Monitoring Component: Sea otter foraging observations from Prince William Sound, Katmai National Park and Preserve, and Kenai Fjords National Park, 2013   |
|   |           |  | Dataset content:     | observations made of foraging sea otters  |
|   |           |  | Years:               | 2013  |
|   |           |  | AOS metadata ID:     | n/a   |
|   |           |  | Workspace storage:   | <a href="https://workspace.aos.org/group/4601/project/4650/folder/26452/forage">https://workspace.aos.org/group/4601/project/4650/folder/26452/forage</a>   |
|   |           |  | USGS archive:        | <a href="http://dx.doi.org/10.5066/F7H993CZ">http://dx.doi.org/10.5066/F7H993CZ</a>   |
| Nearshore: Intertidal Systems in Gulf of Alaska | See above | 16120114-F (birds)/ 16120114-R (nearshore) | Metadata title:      | Sea Otter Aerial Surveys in Katmai National Park and Preserve 2008 and Kenai Fjords National Park 2007  |
|   |           |  | Dataset content:     | sea otter counts along survey transects and additional information to allow calculation of a correction factor for animals missed due to incomplete detection   |
|   |           |  | Years:               | 2007-2008   |
|   |           |  | AOS metadata ID:     | n/a   |
|   |           |  | Workspace storage:   | <a href="https://workspace.aos.org/group/4601/project/4650/folder/26459/population-estimates">https://workspace.aos.org/group/4601/project/4650/folder/26459/population-estimates</a>   |
|   |           |  | USGS archive:        | <a href="http://dx.doi.org/10.5066/F7CJ8BN7">http://dx.doi.org/10.5066/F7CJ8BN7</a>   |
| Nearshore: Intertidal Systems in Gulf of Alaska | See above | 16120114-F (birds)/ 16120114-R (nearshore) | Metadata title:      | Sea Otter Aerial Surveys in Katmai National Park and Preserve 2008 and Kenai Fjords National Park 2007  |
|   |           |  | Dataset content:     | sea otter counts along survey transects and additional information to allow calculation of a correction factor for animals missed due to incomplete detection   |
|   |           |  | Years:               | 2007-2008   |
|   |           |  | AOS metadata ID:     | n/a   |
|   |           |  | Workspace storage:   | <a href="https://workspace.aos.org/group/4601/project/4650/folder/26459/population-estimates">https://workspace.aos.org/group/4601/project/4650/folder/26459/population-estimates</a>   |
|   |           |  | USGS archive:        | <a href="http://dx.doi.org/10.5066/F7CJ8BN7">http://dx.doi.org/10.5066/F7CJ8BN7</a>   |

| Project  | PI                          | EVOSTC Project #  | Resource Information |   |
|--|-----------------------------|---|----------------------|---|
| Nearshore: Intertidal Systems in Gulf of Alaska                  | See above                   | 16120114-F (birds)/ 16120114-R (nearshore)                                      | Metadata title:      | Sea Otter Aerial Surveys in Katmai National Park and Preserve 2008 and Kenai Fjords National Park 2007  |
|  |                             |   | Dataset content:     | sea otter counts along survey transects and additional information to allow calculation of a correction factor for animals missed due to incomplete detection                                   |
|  |                             |   | Years:               | 2007-2008   |
|  |                             |   | AOOS metadata ID:    | n/a   |
|  |                             |   | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4650/folder/26459/population-estimates">https://workspace.aaos.org/group/4601/project/4650/folder/26459/population-estimates</a>         |
|  |                             |   | USGS archive:        | <a href="http://dx.doi.org/10.5066/F7CJ8BN7">http://dx.doi.org/10.5066/F7CJ8BN7</a>   |
| Pelagic: Fall and Winter Seabird Abundance                       | Mary Anne Bishop            | 090814, 12100132-H, 12120114-C, 13120114-C, 14120114-C, 15120114-C & 16120114-C | Metadata title:      | Fall and Winter Seabird Abundance Data, Prince William Sound, 2007-2016, Gulf Watch Alaska Pelagic Component  |
|  |                             |   | Dataset content:     | Seabird survey data from fall and winter  |
|  |                             |   | Years:               | 2007-2016   |
|  |                             |   | AOOS metadata ID:    | 588fd17530c49e0007539296  |
|  |                             |   | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/23643/folder/1766253/completed-survey-data">https://workspace.aaos.org/group/4601/project/23643/folder/1766253/completed-survey-data</a> |
|  |                             |   | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k1w">https://doi.org/10.24431/rw1k1w</a>   |
| Pelagic: Forage Fish Distribution, Abundance, and Body Condition | John Piatt, Mayumi Arimitsu | 12120114-O, 14120114-O, & 16120114-O  | Metadata title:      | Gulf Watch Alaska Forage Fish Component: Fish morph data in Prince William Sound, Alaska 2012-2015  |
|  |                             |   | Dataset content:     | Forage fish morphometric data   |
|  |                             |   | Years:               | 2012-2015   |
|  |                             |   | AOOS metadata ID:    | 58c776062ab79c00077c058e  |
|  |                             |   | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4688/folder/24048/forage-fish">https://workspace.aaos.org/group/4601/project/4688/folder/24048/forage-fish</a>                           |
|  |                             |   | USGS archive:        | <a href="http://dx.doi.org/10.5066/F74J0C9Z">http://dx.doi.org/10.5066/F74J0C9Z</a>   |
| Pelagic: Forage Fish Distribution, Abundance, and Body Condition | John Piatt, Mayumi Arimitsu | 12120114-O, 14120114-O, & 16120114-O  | Metadata title:      | Gulf Watch Alaska Forage Fish Component: Marine bird and mammal surveys in Prince William Sound, Alaska 2012-2013 and 2015  |
|  |                             |   | Dataset content:     | Marine predator (bird and mammal) survey data   |
|  |                             |   | Years:               | 2012-13; 2015   |
|  |                             |   | AOOS metadata ID:    | 58c777112ab79c00077c0590  |
|  |                             |   | Workspace storage:   | <a href="https://workspace.aaos.org/group/4601/project/4688/folder/24049/marine-predator-survey">https://workspace.aaos.org/group/4601/project/4688/folder/24049/marine-predator-survey</a>     |
|  |                             |   | DataONE archive:     | <a href="http://dx.doi.org/10.5066/F74J0C9Z">http://dx.doi.org/10.5066/F74J0C9Z</a>   |
| Pelagic: Forage Fish Distribution, Abundance, and Body Condition | John Piatt, Mayumi Arimitsu | 12120114-O, 14120114-O, & 16120114-O  | Metadata title:      | Gulf Watch Alaska Forage Fish Component: Oceanographic profile data from various regions in Prince William Sound, 2012-2015   |
|  |                             |   | Dataset content:     | CTD data  |
|  |                             |   | Years:               | 2012-2015   |
|  |                             |   | AOOS                 | 58c7754a2ab79c00077c058d  |

| Project  | PI                          | EVOSTC Project #                     | Resource Information |   |
|--|-----------------------------|--------------------------------------|----------------------|---|
|  |                             |                                      | metadata ID:         |   |
|  |                             |                                      | Workspace storage:   | <a href="https://workspace.aos.org/project/4688/folder/2532150/ctd-data.-2012-2015">https://workspace.aos.org/project/4688/folder/2532150/ctd-data.-2012-2015</a>                         |
|  |                             |                                      | DataONE archive:     | <a href="http://dx.doi.org/10.5066/F74J0C9Z">http://dx.doi.org/10.5066/F74J0C9Z</a>   |
| Pelagic: Forage Fish Distribution, Abundance, and Body Condition | John Piatt, Mayumi Arimitsu | 12120114-0, 14120114-0, & 16120114-0 | Metadata title:      | Gulf Watch Alaska Forage Fish Component: Zooplankton biomass data from 2012-2015 in Prince William Sound, Alaska  |
|  |                             |                                      | Dataset content:     | Zooplankton category data   |
|  |                             |                                      | Years:               | 2012-2015   |
|  |                             |                                      | AOS metadata ID:     | 58c777522ab79c00077c0591  |
|  |                             |                                      | Workspace storage:   | <a href="https://workspace.aos.org/group/4601/project/4688/folder/233522/zooplankton">https://workspace.aos.org/group/4601/project/4688/folder/233522/zooplankton</a>                     |
|  |                             |                                      | DataONE archive:     | <a href="http://dx.doi.org/10.5066/F74J0C9Z">http://dx.doi.org/10.5066/F74J0C9Z</a>   |
| Pelagic: Forage Fish Distribution, Abundance, and Body Condition | John Piatt, Mayumi Arimitsu | 12120114-0, 14120114-0, & 16120114-0 | Metadata title:      | Gulf Watch Alaska Forage Fish Component: Nutrients data from CTD sampling stations in Prince William Sound, Alaska 2012-2015  |
|  |                             |                                      | Dataset content:     | Water chemistry data  |
|  |                             |                                      | Years:               | 2012-2015   |
|  |                             |                                      | AOS metadata ID:     | 58c7777f2ab79c00077c0592  |
|  |                             |                                      | Workspace storage:   | <a href="https://workspace.aos.org/project/4688/folder/24108/water-chemistry-data.-2012-2015">https://workspace.aos.org/project/4688/folder/24108/water-chemistry-data.-2012-2015</a>     |
|  |                             |                                      | DataONE archive:     | <a href="http://dx.doi.org/10.5066/F74J0C9Z">http://dx.doi.org/10.5066/F74J0C9Z</a>   |
| Pelagic: Forage Fish Distribution, Abundance, and Body Condition | John Piatt, Mayumi Arimitsu | 12120114-0, 14120114-0, & 16120114-0 | Metadata title:      | Gulf Watch Alaska Forage Fish Component: Fish catch data in Prince William Sound, Alaska 2012-2015  |
|  |                             |                                      | Dataset content:     | Fish abundance data   |
|  |                             |                                      | Years:               | 2012-2015   |
|  |                             |                                      | AOS metadata ID:     | 58c7766c2ab79c00077c058f  |
|  |                             |                                      | Workspace storage:   | <a href="https://workspace.aos.org/project/4688/folder/24048/forage-fish-count-data.-2012-2015">https://workspace.aos.org/project/4688/folder/24048/forage-fish-count-data.-2012-2015</a> |
|  |                             |                                      | DataONE archive:     | <a href="http://dx.doi.org/10.5066/F74J0C9Z">http://dx.doi.org/10.5066/F74J0C9Z</a>   |
| Pelagic: Forage Fish Distribution, Abundance, and Body Condition | John Piatt, Mayumi Arimitsu | 12120114-0, 14120114-0, & 16120114-0 | Metadata title:      | Gulf Watch Alaska Forage Fish Component: Hydroacoustic surveys in Prince William Sound, Alaska 2014-2015  |
|  |                             |                                      | Dataset content:     | Processed hydroacoustic data  |
|  |                             |                                      | Years:               | 2013-2015   |
|  |                             |                                      | AOS metadata ID:     | 58c1b2cb2ab79c00077c057e  |
|  |                             |                                      | Workspace storage:   | <a href="https://workspace.aos.org/group/4601/project/4688/folder/1914140/hydroacoustic">https://workspace.aos.org/group/4601/project/4688/folder/1914140/hydroacoustic</a>               |
|  |                             |                                      | DataONE archive:     | <a href="http://dx.doi.org/10.5066/F74J0C9Z">http://dx.doi.org/10.5066/F74J0C9Z</a>   |

| Project                                      | PI                      | EVOSTC Project #   | Resource Information |   |
|--|-------------------------|--|----------------------|---|
| Pelagic: Humpback Whale Predation on Herring | John Moran, Jan Straley | 12120114-N, 13120114-N, 14120114-N, 15120114-N, & 16120114-N | Metadata title:      | Lipid Analyses for Pacific Herring, Invertebrates and Humpback Whales in the Gulf of Alaska, 2012-2015, Gulf Watch Alaska Pelagic Component   |
|  |                         |  | Dataset content:     | Marine mammal and prey lipid database   |
|  |                         |  | Years:               | 2012-2015   |
|  |                         |  | AOS metadata ID:     | 58af2e592ab79c0008dd33eb  |
|  |                         |  | Workspace storage:   | <a href="https://workspace.aos.org/project/4684/folder/2510153/whale-lipid-data.-2012-2015">https://workspace.aos.org/project/4684/folder/2510153/whale-lipid-data.-2012-2015</a>                                       |
|  |                         |  | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k1q">https://doi.org/10.24431/rw1k1q</a>   |
| Pelagic: Humpback Whale Predation on Herring | John Moran, Jan Straley | 12120114-N, 13120114-N, 14120114-N, 15120114-N, & 16120114-N | Metadata title:      | Significance of Whale Predation On Natural Mortality Rate of Pacific Herring in Prince William Sound, Alaska: 2006 - 2009, 2011-2015, Gulf Watch Alaska Pelagic Component   |
|  |                         |  | Dataset content:     | Whale survey database   |
|  |                         |  | Years:               | 2006 - 2009, 2011-2015  |
|  |                         |  | AOS metadata ID:     | 5893aa5a30c49e00075392a6  |
|  |                         |  | Workspace storage:   | <a href="https://workspace.aos.org/project/4684/folder/30756/whale-survey-and-prey-data.-2006-2009.-2011-2015">https://workspace.aos.org/project/4684/folder/30756/whale-survey-and-prey-data.-2006-2009.-2011-2015</a> |
|  |                         |  | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k1n">https://doi.org/10.24431/rw1k1n</a>   |
| Pelagic: Humpback Whale Predation on Herring | John Moran, Jan Straley | 12120114-N, 13120114-N, 14120114-N, 15120114-N, & 16120114-N | Metadata title:      | Dall's and Harbor Porpoise Survey Data, Prince William Sound, Alaska: 2007 - 2008, 2011-2015, Gulf Watch Alaska Pelagic Component   |
|  |                         |  | Dataset content:     | Porpoise observation data   |
|  |                         |  | Years:               | 2007-2008, 2011-2015  |
|  |                         |  | AOS metadata ID:     | 58991bc1b3cb1f000824db40  |
|  |                         |  | Workspace storage:   | <a href="https://workspace.aos.org/project/4684/folder/2514142/porpoise-survey-data.-2007-2008.-2011-2015">https://workspace.aos.org/project/4684/folder/2514142/porpoise-survey-data.-2007-2008.-2011-2015</a>         |
|  |                         |  | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k1p">https://doi.org/10.24431/rw1k1p</a>   |
| Pelagic: Long-term Killer Whale Monitoring   | Craig Matkin            | 12120114-M, 13120114-M, 14120114-M, 15120114-M, & 16120114-M | Metadata title:      | Acoustic Recordings of Killer Whales in Prince William Sound and Kenai Fjords, 2012 to 2016, Gulf Watch Alaska Pelagic Component  |
|  |                         |  | Dataset content:     | Acoustic data and catalog   |
|  |                         |  | Years:               | 2012-2016   |
|  |                         |  | AOS metadata ID:     | 58b0dffa2ab79c0008dd33ed  |
|  |                         |  | Workspace storage:   | <a href="https://workspace.aos.org/group/4601/project/4682/folder/1933794/acoustic-recordings">https://workspace.aos.org/group/4601/project/4682/folder/1933794/acoustic-recordings</a>                                 |
|  |                         |  | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k1f">https://doi.org/10.24431/rw1k1f</a>   |
| Pelagic: Long-term Killer Whale Monitoring   | Craig Matkin            | 12120114-M, 13120114-M, 14120114-                            | Metadata title:      | Kenai Fjords and Prince William Sound Long-Term Photographic Monitoring of Killer Whales, 2012-2016, Gulf Watch Alaska Pelagic Component  |
|  |                         |  | Dataset content:     | Photo summary and catalog   |
|  |                         |  | Years:               | 2012-2016   |

| Project                                    | PI                            | EVOSTC Project #  | Resource Information |   |
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|  |                               | M,<br>15120114-M, &<br>16120114-M                                       | AOS metadata ID:     | 58b477ce2ab79c0008dd33ef  |
|  |                               |   | Workspace storage:   | <a href="https://workspace.aos.org/group/4601/project/4682/folder/1933798/photographic-encounters">https://workspace.aos.org/group/4601/project/4682/folder/1933798/photographic-encounters</a>                   |
|  |                               |   | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k1s">https://doi.org/10.24431/rw1k1s</a>   |
| Pelagic: Long-term Killer Whale Monitoring | Craig Matkin                  | 12120114-M,<br>13120114-M<br>14120114-M,<br>15120114-M, &<br>16120114-M | Metadata title:      | Prince William Sound Killer Whale Satellite Telemetry Data, 2004 to 2016, Gulf Watch Alaska Pelagic Component   |
|  |                               |   | Dataset content:     | Satellite tagging data  |
|  |                               |   | Years:               | 2004-2014   |
|  |                               |   | AOS metadata ID:     | 58bf2f022ab79c00077c0579  |
|  |                               |   | Workspace storage:   | <a href="https://workspace.aos.org/group/4601/project/4682/folder/1847084/satellite-tagging-data">https://workspace.aos.org/group/4601/project/4682/folder/1847084/satellite-tagging-data</a>                     |
|  |                               |   | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k1g">https://doi.org/10.24431/rw1k1g</a>   |
| Pelagic: Long-term Killer Whale Monitoring | Craig Matkin                  | 12120114-M,<br>13120114-M<br>14120114-M,<br>15120114-M, &<br>16120114-M | Metadata title:      | Biopsy Summaries and Biochemical Data from Killer Whales in Alaska, 2012-2016   |
|  |                               |   | Dataset content:     | Biopsy summary data   |
|  |                               |   | Years:               | 2012-2016   |
|  |                               |   | AOS metadata ID:     | 58b4798f2ab79c0008dd33f3  |
|  |                               |   | Workspace storage:   | <a href="https://workspace.aos.org/group/4601/project/4682/folder/24158/biopsy-data">https://workspace.aos.org/group/4601/project/4682/folder/24158/biopsy-data</a>   |
|  |                               |   | DataONE archive:     | n/a   |
| Pelagic: Long-term Killer Whale Monitoring | Craig Matkin                  | 12120114-M,<br>13120114-M<br>14120114-M,<br>15120114-M, &<br>16120114-M | Metadata title:      | Database of Southern Alaska Killer Whale Surveys and Encounters, 2001 to 2016, Gulf Watch Alaska Pelagic Component  |
|  |                               |   | Dataset content:     | Killer whale survey database  |
|  |                               |   | Years:               | 2001-2016   |
|  |                               |   | AOS metadata ID:     | 58b478042ab79c0008dd33f0  |
|  |                               |   | Workspace storage:   | <a href="https://workspace.aos.org/group/4601/project/4682/folder/24159/database-of-surveys-and-encounters">https://workspace.aos.org/group/4601/project/4682/folder/24159/database-of-surveys-and-encounters</a> |
|  |                               |   | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k1r">https://doi.org/10.24431/rw1k1r</a>   |
| Pelagic: Prince William Sound Marine Birds | Robert Kaler,<br>Kathy Kuletz | 12120114-K,<br>14120114-K, &<br>16120114-K                              | Metadata title:      | Prince William Sound Marine Bird Surveys, July 2012 to 2016, Gulf Watch Alaska Pelagic Component  |
|  |                               |   | Dataset content:     | Seabird survey data for summer and environmental data   |
|  |                               |   | Years:               | 2012-2016   |
|  |                               |   | AOS metadata ID:     | <a href="https://doi.org/10.24431/rw1k1w">588f967c30c49e0007539290</a>  |
|  |                               |   | Workspace storage:   | <a href="https://workspace.aos.org/group/4601/project/4680/folder/1645604/2012-2016-summer-surveys">https://workspace.aos.org/group/4601/project/4680/folder/1645604/2012-2016-summer-surveys</a>                 |
|  |                               |   | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k1w">https://doi.org/10.24431/rw1k1w</a>   |

*Appendix 2. Datasets generated by EVOSTC Herring Research and Monitoring programs from 2012 to 2016 that are stored in the AOOS Workspace, and made publicly available in the Gulf of Alaska Data Portal and replicated in the DataONE archive for long-term preservation.*

| Project Name  | PI     | Project #  | Resource Information |   |
|---|--------|--|----------------------|---|
| PWS Herring Research and Monitoring                         | Pegau  | 12120111,<br>13120111,<br>14120111,<br>15120111,<br>16120111           | Metadata title:      | Prince William Sound Herring Program in the Gulf of Alaska Exxon Valdez Oil Spill Affected Area   |
|   |        |  | Dataset content:     | file inventory  |
|   |        |  | Years:               | 2012-2016   |
|   |        |  | AOOS metadata ID:    | 58c81b8c2ab79c00077c0593  |
|   |        |  | Workspace storage:   | <a href="https://workspace.aos.org/group/3503/projects">https://workspace.aos.org/group/3503/projects</a>   |
|   |        |  | DataONE archive:     | <a href="https://doi.org/10.24431/axds/0a8f3bd2-5329-432c-b71e-94171373854d">https://doi.org/10.24431/axds/0a8f3bd2-5329-432c-b71e-94171373854d</a>   |
| Acoustic consistency: intensive surveys of juvenile herring | Rand   | 12120111-G,<br>13120111-G,<br>16120111-G                               | Metadata title:      | Intensive Acoustic Surveys of Juvenile Herring, Prince William Sound, 2013-2014, EVOS Herring Program   |
|   |        |  | Dataset content:     | raw & processed acoustic files; herring biomass summary   |
|   |        |  | Years:               | 2013-14   |
|   |        |  | AOOS metadata ID:    | 58b5c3f62ab79c0008dd33f4  |
|   |        |  | Workspace storage:   | <a href="https://workspace.aos.org/group/3503/project/283128/folder/212904/raw-acoustic-data-2013-2014">https://workspace.aos.org/group/3503/project/283128/folder/212904/raw-acoustic-data-2013-2014</a>                                       |
|   |        |  | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k1v">https://doi.org/10.24431/rw1k1v</a>   |
| Acoustic consistency: intensive surveys of juvenile herring | Rand   | 12120111-F,<br>13120111-F,<br>14120111-F,<br>15120111-F,<br>16120111-F | Metadata title:      | Acoustic Juvenile Herring Abundance Data, Prince William Sound, 2012-2015, EVOS Herring Program   |
|   |        |  | Dataset content:     | raw & processed acoustic files; herring biomass summary   |
|   |        |  | Years:               | 2007-2016 (raw); 2012-2015 (processed)  |
|   |        |  | AOOS metadata ID:    | 58b8d50a2ab79c0008dd3401  |
|   |        |  | Workspace storage:   | <a href="https://workspace.aos.org/group/3503/project/283121/files">https://workspace.aos.org/group/3503/project/283121/files</a>   |
|   |        |  | DataONE archive:     | <a href="https://doi.org/10.24431/rw1k1v">https://doi.org/10.24431/rw1k1v</a>   |
| ADFG Surveys: aerial survey, biomass age sex length, spawn  | Moffit | 16160111T  | Metadata title:      | Aerial survey observations of Pacific herring ( <i>Clupea pallasii</i> ) school distribution and estimates of school biomass in the Prince William Sound Management Area, Alaska, 1974–2007.  |
|   |        |  | Dataset content:     | aerial biomass observation data   |
|   |        |  | Years:               | 1973-2016   |
|   |        |  | AOOS metadata ID:    | 58c844cc2ab79c00077c0594  |
|   |        |  | Workspace storage:   | <a href="https://workspace.aos.org/group/3503/project/283281/folder/263247/aerial-herring-biomass-observations,-1973-2016">https://workspace.aos.org/group/3503/project/283281/folder/263247/aerial-herring-biomass-observations,-1973-2016</a> |
|   |        |  | DataONE archive:     | n/a   |
| ADFG Surveys: aerial survey, biomass age sex length,        | Moffit | 16160111T  | Metadata title:      | Documentation of Pacific herring ( <i>Clupea pallasii</i> ) milt from aerial surveys in the Prince William Sound Management Area, Alaska, 1973–2016.  |
|   |        |  | Dataset content:     | aerial spawn observation data   |
|   |        |  | Years:               | 1973-2016   |



|   |        |           |                    |   |
|---|--------|-----------|--------------------|---|
| spawn   |        |           | AOOS metadata ID:  | 58c85fcc2ab79c00077c0597  |
|   |        |           | Workspace storage: | <a href="https://workspace.aos.org/group/3503/project/283281/folder/2532168/aerial-herring-spawn-observations,-1973-2016">https://workspace.aos.org/group/3503/project/283281/folder/2532168/aerial-herring-spawn-observations,-1973-2016</a>             |
|   |        |           | DataONE archive:   | n/a   |
| ADFG<br>Surveys: aerial survey, biomass age sex length, spawn | Moffit | 16160111T | Metadata title:    | Survey_Routes_1997_2016_WGS84   |
|   |        |           | Dataset content:   | aerial survey route data  |
|   |        |           | Years:             | 1973-2016   |
|   |        |           | AOOS metadata ID:  | 58c860ec2ab79c00077c0598  |
|   |        |           | Workspace storage: | <a href="https://workspace.aos.org/group/3503/project/283281/folder/263241/aerial-herring-survey-routes,-1999-2016">https://workspace.aos.org/group/3503/project/283281/folder/263241/aerial-herring-survey-routes,-1999-2016</a>                         |
| DataONE archive:  | n/a    |           |                    |   |
| ADFG<br>Surveys: aerial survey, biomass age sex length, spawn | Moffit |           | Metadata title:    | Prince William Sound, ADF&G Pacific Herring Fishery Monitoring- Bird Observations: Birds_2008_2016_WGS84  |
|   |        |           | Dataset content:   | aerial survey marine bird observations  |
|   |        |           | Years:             | 2008-2016   |
|   |        |           | AOOS metadata ID:  | 58c8618f2ab79c00077c0599  |
|   |        |           | Workspace storage: | <a href="https://workspace.aos.org/group/3503/project/283281/folder/2532169/aerial-survey-marine-bird-observations,-2008-2016">https://workspace.aos.org/group/3503/project/283281/folder/2532169/aerial-survey-marine-bird-observations,-2008-2016</a>   |
| DataONE archive:  | n/a    |           |                    |   |
| ADFG<br>Surveys: aerial survey, biomass age sex length, spawn | Moffit |           | Metadata title:    | Prince William Sound, ADF&G Pacific Herring Fishery Monitoring- Marine Mammal Observations: MarineMammals_2008_2016_WGS84_11-15-2016  |
|   |        |           | Dataset content:   | aerial survey marine mammal observations  |
|   |        |           | Years:             | 2008-2016   |
|   |        |           | AOOS metadata ID:  | 58c862832ab79c00077c059a  |
|   |        |           | Workspace storage: | <a href="https://workspace.aos.org/group/3503/project/283281/folder/263252/aerial-survey-marine-mammal-observations,-2008-2016">https://workspace.aos.org/group/3503/project/283281/folder/263252/aerial-survey-marine-mammal-observations,-2008-2016</a> |
| DataONE archive:  | n/a    |           |                    |   |
| ADFG<br>Surveys: aerial survey, biomass age sex length, spawn | Moffit |           | Metadata title:    | Prince William Sound, ADF&G Pacific Herring Fishery Monitoring- Sea Lion Observations: Sealions_2008_2016_WGS84_11-15-2016  |
|   |        |           | Dataset content:   | aerial survey sea lion observations   |
|   |        |           | Years:             | 2008-2016   |
|   |        |           | AOOS metadata ID:  | 58c863402ab79c00077c059b  |
|   |        |           | Workspace storage: | <a href="https://workspace.aos.org/group/3503/project/283281/folder/2532234/aerial-survey-sea-lion-observations,-2008-2016">https://workspace.aos.org/group/3503/project/283281/folder/2532234/aerial-survey-sea-lion-observations,-2008-2016</a>         |
| DataONE archive:  | n/a    |           |                    |   |
| ADFG<br>Surveys: aerial survey, biomass age                   | Moffit | 12120111N | Metadata title:    | Scales as growth history records for Pacific herring in Prince William Sound  |
|   |        |           | Dataset content:   | scale measurement data and scale image library  |
|   |        |           | Years:             | 1982-2016   |

|   |                              |  |                    |   |
|---|------------------------------|--|--------------------|---|
| sex length, spawn   |                              |  | AOOS metadata ID:  | 58c8641f2ab79c00077c059d  |
|   |                              |  | Workspace storage: | <a href="https://workspace.aaos.org/group/3503/project/283281/folder/2460185/scale-measurement-data.-1982-2016">https://workspace.aaos.org/group/3503/project/283281/folder/2460185/scale-measurement-data.-1982-2016</a> |
|   |                              |  | DataONE archive:   | n/a   |
| Adult biomass surveys   | Rand                         | 12120111-E,<br>36120111-E,<br>14120111-E,<br>15120111-E,<br>16120111-E | Metadata title:    | Adult Herring Biomass Survey Data, Prince William Sound, 2012-2016, EVOS Herring Program  |
|   |                              |  | Dataset content:   | raw & processed acoustic files; herring biomass summary   |
|   |                              |  | Years:             | 2000-2016 (raw); 2012-2016 (processed)  |
|   |                              |  | AOOS metadata ID:  | 589bc7cab3cb1f0008806b51  |
|   |                              |  | Workspace storage: | <a href="https://workspace.aaos.org/group/3503/project/283087/files">https://workspace.aaos.org/group/3503/project/283087/files</a>   |
|   |                              |  | DataONE archive:   | n/a   |
| Aerial surveys of juvenile herring                                    | Pegau                        | 16120111-O/<br>10100132-F  | Metadata title:    | Aerial surveys of juvenile herring, Prince William Sound, 2010-2016, EVOS Herring Program   |
|   |                              |  | Dataset content:   | raw & processed aerial; survey files; age 1 index summary   |
|   |                              |  | Years:             | 2010-2016   |
|   |                              |  | AOOS metadata ID:  | 58b8d2ba2ab79c0008dd3400  |
|   |                              |  | Workspace storage: | <a href="https://workspace.aaos.org/group/3503/project/283080/files">https://workspace.aaos.org/group/3503/project/283080/files</a>   |
|   |                              |  | DataONE archive:   | <a href="https://doi.org/10.24431/rw1k111">https://doi.org/10.24431/rw1k111</a>   |
| Age at first spawn  | Vollenw<br>eider &<br>Heintz | 12120111J  | Metadata title:    | Age at First Spawn for Herring in Prince William Sound, 2012-2015, EVOS Herring Program   |
|   |                              |  | Dataset content:   | histological analysis, scale growth measurements, fish age, and biological characteristics of the fish  |
|   |                              |  | Years:             | 2012-2016   |
|   |                              |  | AOOS metadata ID:  | 283160  |
|   |                              |  | Workspace storage: | <a href="https://workspace.aaos.org/project/283156/files">https://workspace.aaos.org/project/283156/files</a>   |
|   |                              |  | DataONE archive:   | <a href="https://doi.org/10.24431/rw1k115">https://doi.org/10.24431/rw1k115</a>   |
| Fatty acid analysis as evidence for winter migration of age-0 herring | Heintz                       | 12120111-I,<br>13120111-I  | Metadata title:    | Fatty Acid Analysis as Evidence for Winter Migration of Age-0 Herring in Prince William Sound, 2010-2012, EVOS Herring Program  |
|   |                              |  | Dataset content:   | fatty acid, growth, energy, RNA/DNA, diet data  |
|   |                              |  | Years:             | 2010-2012   |
|   |                              |  | AOOS metadata ID:  | 5898fc11b3cb1f000824db3a  |
|   |                              |  | Workspace storage: | <a href="https://workspace.aaos.org/group/3503/project/282637/files">https://workspace.aaos.org/group/3503/project/282637/files</a>   |
|   |                              |  | DataONE archive:   | <a href="https://doi.org/10.24431/rw1k110">https://doi.org/10.24431/rw1k110</a>   |
| Fish predation on juvenile herring                                    | Bishop                       | 10100132-G   | Metadata title:    | Fish Predation on Juvenile Herring in Prince William Sound, Alaska, 2009-2012, EVOS Herring Program   |
|   |                              |  | Dataset content:   | fish catch and prey data  |
|   |                              |  | Years:             | 2009-2012   |
|   |                              |  | AOOS metadata ID:  | 589e2806b3cb1f0008806b5c  |

|   |                |  |                    |   |
|---|----------------|--|--------------------|---|
|   |                |  | Workspace storage: | <a href="https://workspace.aos.org/group/3503/project/283074/files">https://workspace.aos.org/group/3503/project/283074/files</a>                               |
|   |                |  | DataONE archive:   | <a href="https://doi.org/10.24431/rw1k1z">https://doi.org/10.24431/rw1k1z</a>   |
| Genetic stock structure of herring in PWS       | Wildes & Guyon | 16120111-P   | Metadata title:    | Genetic Stock Structure of Herring in Prince William Sound, 2012-2015, EVOS Herring Program   |
|   |                |  | Dataset content:   | fish genetics data  |
|   |                |  | Years:             | 2012-2015   |
|   |                |  | AOOS metadata ID:  | 589a0eadb3cb1f000824db46  |
|   |                |  | Workspace storage: | <a href="https://workspace.aos.org/group/3503/project/283164/files">https://workspace.aos.org/group/3503/project/283164/files</a>                               |
|   |                |  | DataONE archive:   | <a href="https://doi.org/10.24431/rw1k14">https://doi.org/10.24431/rw1k14</a>   |
| Growth and energy in overwintering herring      | Heintz         | 10100132-D   | Metadata title:    | Growth and Energy of Overwintering Herring in Prince William Sound, 2009-2012, EVOS Herring Program   |
|   |                |  | Dataset content:   | fatty acid, growth, energy, RNA/DNA, diet data  |
|   |                |  | Years:             | 2009-2015   |
|   |                |  | AOOS metadata ID:  | 5898d70a30c49e0007fce8e   |
|   |                |  | Workspace storage: | <a href="https://workspace.aos.org/group/3503/project/282615/files">https://workspace.aos.org/group/3503/project/282615/files</a>                               |
|   |                |  | DataONE archive:   | <a href="https://doi.org/10.24431/rw1k1y">https://doi.org/10.24431/rw1k1y</a>   |
| Herring capture                                 | Bishop         | 12120111-A,<br>13120111-A,<br>14120111-A,<br>15120111-A,<br>16120111-A | Metadata title:    | Validation of acoustic surveys for Pacific herring, 2010-2016: EVOS Herring Program   |
|   |                |  | Dataset content:   | fish morphometrics; gear deployment log; master cruise list   |
|   |                |  | Years:             | 2009-2015   |
|   |                |  | AOOS metadata ID:  | 589a221fb3cb1f000824db47  |
|   |                |  | Workspace storage: | <a href="https://workspace.aos.org/group/3503/project/283136/files">https://workspace.aos.org/group/3503/project/283136/files</a>                               |
|   |                |  | DataONE archive:   | <a href="https://doi.org/10.24431/rw1k1a">https://doi.org/10.24431/rw1k1a</a>   |
| Herring disease program                         | Hershberger    | 12120111-K,<br>14120111-K,<br>15120111-K,<br>16120111-K;<br>070819     | Metadata title:    | Herring Infections Prevalence Data, 2007-2016, EVOS Herring Program   |
|   |                |  | Dataset content:   | disease prevalence summary; raw lab files   |
|   |                |  | Years:             | 2007-2016   |
|   |                |  | AOOS metadata ID:  | 58a21314b3cb1f0008806b5e  |
|   |                |  | Workspace storage: | <a href="https://workspace.aos.org/group/3503/project/282905/files">https://workspace.aos.org/group/3503/project/282905/files</a>                               |
|   |                |  | DataONE archive:   | <a href="https://doi.org/10.24431/rw1k11">https://doi.org/10.24431/rw1k11</a>   |
| Juvenile herring intensive condition monitoring | Gorman & Kline | 12120111-M,<br>13120111-M  | Metadata title:    | High Temporal and Spatial Resolution Study of Herring Condition in Prince William Sound, Energetics Data, Prince William Sound, 2011-2012, EVOS Herring Program |
|   |                |  | Dataset content:   | age-0 herring morphology and energetic condition data   |
|   |                |  | Years:             | 2011-2012   |
|   |                |  | AOOS metadata ID:  | 589a6aefb3cb1f000824db48  |
|   |                |  | Workspace storage: | <a href="https://workspace.aos.org/group/3503/project/282629/files">https://workspace.aos.org/group/3503/project/282629/files</a>                               |

|   |                        |   |                    |   |
|---|------------------------|---|--------------------|---|
|   |                        |   | DataONE archive:   | <a href="https://doi.org/10.24431/rw1k17">https://doi.org/10.24431/rw1k17</a>   |
| Juvenile herring intensive condition monitoring     | Heintz & Gorman        | 12120111-M,<br>13120111-M                               | Metadata title:    | High Temporal and Spatial Resolution Study of Herring Condition in Prince William Sound, Growth and Diet Data, 2011-2012: EVOS Herring Program  |
|   |                        |   | Dataset content:   | data related to seasonal changes in growth, energy stores, and diet of young-of-the-year (YOY) herring in PWS   |
|   |                        |   | Years:             | 2011-2012   |
|   |                        |   | AOOS metadata ID:  | 310998  |
|   |                        |   | Workspace storage: | <a href="https://workspace.aos.org/project/310992/folders/310998/metadata">https://workspace.aos.org/project/310992/folders/310998/metadata</a>   |
|   |                        |   | DataONE archive:   | <a href="https://doi.org/10.24431/rw1k16">https://doi.org/10.24431/rw1k16</a>   |
| Juvenile herring condition monitoring               | Heintz & Gorman, Kline | 12120111-L,<br>14120111-L,<br>15120111-L,<br>16120111-L | Metadata title:    | Juvenile Herring Condition Monitoring, Energetics Data, Prince William Sound, 2005-2016, EVOS Herring Program   |
|   |                        |   | Dataset content:   | energetics data   |
|   |                        |   | Years:             | 2005-2016   |
|   |                        |   | AOOS metadata ID:  | 33867   |
|   |                        |   | Workspace storage: | <a href="https://workspace.aos.org/project/282629/folder/33867/pwssc-final-energetics-data_2005-2016">https://workspace.aos.org/project/282629/folder/33867/pwssc-final-energetics-data_2005-2016</a>   |
|   |                        |   | DataONE archive:   | <a href="https://doi.org/10.24431/rw1k13">https://doi.org/10.24431/rw1k13</a>   |
| Juvenile herring condition monitoring               | Heintz & Gorman        | 12120111-L,<br>14120111-L,<br>15120111-L,<br>16120111-L | Metadata title:    | Juvenile Herring Condition Monitoring in Prince William Sound, Growth and Diet Data, 2012-2016, EVOS Herring Program  |
|   |                        |   | Dataset content:   | growth, energy, RNA/DNA, diet data  |
|   |                        |   | Years:             | 2012-2016   |
|   |                        |   | AOOS metadata ID:  | 589bbe2ab3cb1f0008806b4f  |
|   |                        |   | Workspace storage: | <a href="https://workspace.aos.org/project/282629/folder/310989/growth-and-diet-data_final.-2012-2016">https://workspace.aos.org/project/282629/folder/310989/growth-and-diet-data_final.-2012-2016</a> |
|   |                        |   | DataONE archive:   | <a href="https://doi.org/10.24431/rw1k15">https://doi.org/10.24431/rw1k15</a>   |
| Meta-analysis of global herring population dynamics | Branch, Trochta        | 12120111-Q,<br>14120111-Q,<br>and<br>16120111-Q         | Metadata title:    | Meta-analysis of Global Herring Population Dynamics, 1974 to 2011, EVOS Herring Program   |
|   |                        |   | Dataset content:   | global herring biomass summaries  |
|   |                        |   | Years:             | n/a   |
|   |                        |   | AOOS metadata ID:  | 58a368c0b3cb1f0008806b63  |
|   |                        |   | Workspace storage: | <a href="https://workspace.aos.org/group/3503/project/1622014/files">https://workspace.aos.org/group/3503/project/1622014/files</a>   |
|   |                        |   | DataONE archive:   | <a href="https://doi.org/10.24431/rw1k1i">https://doi.org/10.24431/rw1k1i</a>   |
| Meta-analysis of global herring population dynamics | Branch                 | 12120111-Q,<br>14120111-Q,<br>and<br>16120111-Q         | Metadata title:    | Using Bayesian Age-Structured-Analysis (ASA) Model for Herring Population Dynamics in Prince William Sound, EVOS Herring Program  |
|   |                        |   | Dataset content:   | ASA model codebase, input and output data files   |
|   |                        |   | Years:             | n/a   |
|   |                        |   | AOOS metadata ID:  | 589e1176b3cb1f0008806b5a  |
|   |                        |   | Workspace storage: | <a href="https://workspace.aos.org/group/3503/project/283170/files">https://workspace.aos.org/group/3503/project/283170/files</a>   |

|   |          |  |                    |   |
|---|----------|--|--------------------|---|
|   |          |  | DataONE archive:   | <a href="https://doi.org/10.24431/rw1k1t">https://doi.org/10.24431/rw1k1t</a>   |
| Non-lethal sampling of juvenile herring                     | Boswell  | 12120111D                                | Metadata title:    | Non-lethal Sampling: In-Situ Estimation of Juvenile Herring Sizes in Prince William Sound, 2013-2014, EVOS Herring Program        |
|   |          |  | Dataset content:   | ROV video files; herring measurement data\  |
|   |          |  | Years:             | 2013-2014   |
|   |          |  | AOOS metadata ID:  | 589b94c4b3cb1f0008806b4c  |
|   |          |  | Workspace storage: | <a href="https://workspace.aos.org/group/3503/project/283142/files">https://workspace.aos.org/group/3503/project/283142/files</a> |
|   |          |  | DataONE archive:   | n/a   |
| Physical oceanographic characteristics of nursery habitats  | Gay      | 10100132-E                               | Metadata title:    | Physical Oceanographic Characteristics of Herring Nursery Habitats in Prince William Sound, 2010-2012: EVOS Herring Program       |
|   |          |  | Dataset content:   | moored and cast CTD; thermistor data  |
|   |          |  | Years:             | 2010-2012   |
|   |          |  | AOOS metadata ID:  | 5898fb2cb3cb1f000824db39  |
|   |          |  | Workspace storage: | <a href="https://workspace.aos.org/group/3503/project/283108/files">https://workspace.aos.org/group/3503/project/283108/files</a> |
|   |          |  | DataONE archive:   | <a href="https://doi.org/10.24431/rw1k116">https://doi.org/10.24431/rw1k116</a>   |
| Plankton & ocean observations in PWS                        | Campbell | 10100132-A                               | Metadata title:    | Oceanographic Conditions in Prince William Sound, CTD, Chlorophyll-a, and Zooplankton Data: 2010-2012, EVOS Herring Program       |
|   |          |  | Dataset content:   | Chl-a, CTD data, zooplankton data   |
|   |          |  | Years:             | 2010-2012   |
|   |          |  | AOOS metadata ID:  | 58af9b432ab79c0008dd33ec  |
|   |          |  | Workspace storage: | <a href="https://workspace.aos.org/group/3503/project/283115/files">https://workspace.aos.org/group/3503/project/283115/files</a> |
|   |          |  | DataONE archive:   | <a href="https://doi.org/10.24431/rw1k14">https://doi.org/10.24431/rw1k14</a>   |
| Tracking seasonal movements of adult Pacific herring in PWS | Bishop   | 12120111-B,<br>13120111-B,<br>14120111-B | Metadata title:    | Tracking Seasonal Movements of Adult Pacific Herring in Prince William Sound, 2012-2014, EVOS Herring Program                     |
|   |          |  | Dataset content:   | herring telemetry tag log and detection data  |
|   |          |  | Years:             | 2012-2013   |
|   |          |  | AOOS metadata ID:  | 5898e410b3cb1f000824db34  |
|   |          |  | Workspace storage: | <a href="https://workspace.aos.org/group/3503/project/283150/files">https://workspace.aos.org/group/3503/project/283150/files</a> |
|   |          |  | DataONE archive:   | <a href="https://doi.org/10.24431/rw1k1x">https://doi.org/10.24431/rw1k1x</a>   |