

*Please provide the following information, and submit to the NOAA DM Plan Repository.*

### **Reference to Master DM Plan (if applicable)**

*As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.*

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

## **1. General Description of Data to be Managed**

### **1.1. Name of the Data, data collection Project, or data-producing Program:**

AFSC/ABL: Autonomous underwater vehicle for tracking acoustically-tagged fish 2010

### **1.2. Summary description of the data:**

Autonomous underwater vehicles (AUVs) are increasingly being used to collect physical, chemical, and biological information in the marine environment. Recent efforts have been made to merge AUV technology with acoustic telemetry to provide information on the distribution and movements of marine fish. During 2010, we conducted a study in coastal waters near Juneau, Alaska to determine the feasibility of using AUVs to locate marine species under rigorous field conditions, and to compare this approach with traditional vessel-based tracking. Tracking surveys were conducted with a REMUS 100 AUV equipped with an integrated acoustic receiver and hydrophone. The AUV was programmed to navigate along predetermined routes to detect acoustic transmitters within the area. Comparable surveys were conducted with a boat equipped with acoustic tracking gear. Moorings with transmitters at 20-500 m were deployed to provide acoustic targets at known locations and depths. Marine fishes and crabs were tagged to provide mobile targets. Transmitter depth had a major impact on tracking performance. The AUV was equally effective or better detecting reference transmitters in shallow water, and significantly better than the boat for transmitters at deeper depths. Similar results were observed for the tagged animals. Crabs at moderate depths were recorded by both tracking methods, while only the AUV detected fish at depths exceeding 500 m. The AUV periodically had difficulty navigating and maintaining course due to the strong currents and extreme depths in the area. AUVs with greater cruising speeds, increased operating depths, and improved navigation would enhance AUV performance in marine environments.

### **1.3. Is this a one-time data collection, or an ongoing series of measurements?**

One-time data collection

### **1.4. Actual or planned temporal coverage of the data:**

2010-04 to 2010-06

### **1.5. Actual or planned geographic coverage of the data:**

W: -135.0848, E: -134.631, N: 58.3835, S: 58.3546

Marine waters near Juneau, AK including Auke Bay and areas near Portland Island and Point Retreat

**1.6. Type(s) of data:**

*(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)*

Document (digital)

**1.7. Data collection method(s):**

*(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)*

**1.8. If data are from a NOAA Observing System of Record, indicate name of system:**

**1.8.1. If data are from another observing system, please specify:**

**2. Point of Contact for this Data Management Plan (author or maintainer)**

**2.1. Name:**

Metadata Coordinators MC

**2.2. Title:**

Metadata Contact

**2.3. Affiliation or facility:**

**2.4. E-mail address:**

AFSC.metadata@noaa.gov

**2.5. Phone number:**

**3. Responsible Party for Data Management**

*Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.*

**3.1. Name:**

John Eiler

**3.2. Title:**

Data Steward

**4. Resources**

*Programs must identify resources within their own budget for managing the data they produce.*

**4.1. Have resources for management of these data been identified?**

Yes

**4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):**

Unknown

**5. Data Lineage and Quality**

*NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.*

**5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible**

*(describe or provide URL of description):*

Lineage Statement:

Contact the dataset POC for full methodology

**5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:****5.2. Quality control procedures employed (describe or provide URL of description):**

Contact the dataset POC for full QA/QC methodology

**6. Data Documentation**

*The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.*

**6.1. Does metadata comply with EDMC Data Documentation directive?**

No

**6.1.1. If metadata are non-existent or non-compliant, please explain:**

Missing/invalid information:

- 1.7. Data collection method(s)

- 7.2. Name of organization of facility providing data access

**6.2. Name of organization or facility providing metadata hosting:**

NMFS Office of Science and Technology

**6.2.1. If service is needed for metadata hosting, please indicate:****6.3. URL of metadata folder or data catalog, if known:**<https://www.fisheries.noaa.gov/inport/item/17147>**6.4. Process for producing and maintaining metadata**

*(describe or provide URL of description):*

Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: [https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC\\_PD-Data\\_Documentation\\_v1.pdf](https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf)

## 7. Data Access

*NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.*

### 7.1. Do these data comply with the Data Access directive?

Yes

**7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?**

**7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:**

### 7.2. Name of organization of facility providing data access:

**7.2.1. If data hosting service is needed, please indicate:**

yes

**7.2.2. URL of data access service, if known:**

[https://console.cloud.google.com/storage/browser/\\_details/nmfs\\_odp\\_afsc/ABL/Autonomous%20unde](https://console.cloud.google.com/storage/browser/_details/nmfs_odp_afsc/ABL/Autonomous%20unde)

### 7.3. Data access methods or services offered:

N/A

### 7.4. Approximate delay between data collection and dissemination:

unknown

**7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:**

no delay

## 8. Data Preservation and Protection

*The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.*

**8.1. Actual or planned long-term data archive location:**

*(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)*

TO\_BE\_DETERMINED

**8.1.1. If World Data Center or Other, specify:**

**8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:**

**8.2. Data storage facility prior to being sent to an archive facility (if any):**

Auke Bay Laboratories - Juneau, AK

**8.3. Approximate delay between data collection and submission to an archive facility:**

unknown

**8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?**

*Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection*

IT Security and Contingency Plan for the system establishes procedures and applies to the functions, operations, and resources necessary to recover and restore data as hosted in the Western Regional Support Center in Seattle, Washington, following a disruption.

**9. Additional Line Office or Staff Office Questions**

*Line and Staff Offices may extend this template by inserting additional questions in this section.*