

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:

Satellite Tags- Hawaii EEZ

### 1.2. Summary description of the data:

Satellite tagging was implemented in 2013. Satellite tagging is conducted using a Dan Inject air rifle and deployment arrows designed by Wildlife Computers. Two types of tags are deployed. One type is a Wildlife Computers SPOT5-240C tag that collects location and temperature. The other tag type is the Wildlife Computers SPLASH10-292B, which provides location as well as depth, temperature, and light level.

### 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:

2013-05-16 to 2013-10-16, 2016-07-10 to 2016-09-16, 2017-07-07 to 2017-10-10

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

W: -180, E: -153, N: 31, S: 17

Hawaii EEZ

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

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

### 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.)

Instrument: Wildlife Computers SPLASH, Wildlife Computers SPOT

Platform: SE-06 - Steel Toe

### 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:**

Marie C Hill

**2.2. Title:**

Metadata Contact

**2.3. Affiliation or facility:****2.4. E-mail address:**

marie.hill@noaa.gov

**2.5. Phone number:**

(808)725-5710

**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:**

Marie C Hill

**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?**

No

**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:

Argos transmitters upload short duration messages (of less than one second) to Argos instruments on satellites that pass overhead at an altitude of 850 km. Each platform is

characterized by an identification number specific to its transmitter. A platform transmits periodic messages characterized by the following parameters : Transmission Frequency (401.650 MHz  $\pm$  30 kHz, which must be stable as the location is computed on the basis of Doppler effect measurements, the Repetition period, which is the interval of time between two consecutive message dispatches, varying between 15 and 90 seconds according to the extent to which the platform is used, the platform identification number, and the volume of data collected. The transmission of each message takes less than one second. The three main receiving stations, Wallops Island and Fairbanks in the United States and Svalbard in Norway, collect all the messages recorded by the satellites during an orbit, thus providing coverage of the entire Earth. Data received by the satellites are retransmitted to regional stations in real time if the station is within satellite visibility. The main receiving stations also receive data in real time. There are two global Argos processing centers, one located just outside of Toulouse in Southwestern France, and the other near Washington, DC, USA. Once the data arrive at a processing center, locations are automatically calculated and information made available to users. In the two processing centers, designed for full redundancy, the computers calculate locations and process the received data. The following processing is carried out at the global processing centers: Verification of message quality, reception level, time-tagging, transmitter identification number, sensor message lengths and receiver frequency value (to compute the location) Message time-tagging in coordinated universal time (UTC) Message classification by platform and by chronological order Data processing After the data are received from Argos and uploaded to Movebank.org we apply the Douglas Argos (DAR) filter to determine outliers based on the following user defined variables: maximum redundant distance (consecutive points separated by less than a defined distance are kept by the filter because ARGOS location errors rarely occur in the same place, so very close temporally consecutive points are assumed to be self-confirming); location classes (LCs) that are automatically retained; maximum sustainable rate of movement; and the rate coefficient (Ratecoef) for assessing the angle created by three consecutive points. The rate coefficient algorithm takes into account that the farther an animal moves between locations, the less likely it is to return to or near to the original location without any intervening positions, creating an acute angle characteristic of typical ARGOS error. Locations were retained if they were separated from the next location by less than a maximum redundant distance of 3 km, as well as LC2 and LC3 locations (estimated error of <500 and <250 m, respectively; ARGOS User's Manual). LC1 locations (with estimated error of between 500 and 1500 m), as well as LC0, LCA, LCB, and LCZ locations (with no estimation of accuracy), were only retained if they passed the Douglas ARGOS Filter process. The maximum sustainable rate of movement used was 20 kph for false killer whales, bottlenose dolphins, and rough-toothed dolphins, and 15 kph for short-finned pilot whales and melon-headed whales. These were based on maximum travel speeds noted during observations of fast traveling individuals in Hawai'i (Baird et al. 2013). The default Ratecoef for marine mammals was used (Ratecoef = 25).

#### **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):**

The following processing is carried out at the Argos global processing centers:

Verification of message quality, reception level, time-tagging, transmitter identification number, sensor message lengths and receiver frequency value (to compute the location)

Message time-tagging in coordinated universal time (UTC)

Message classification by platform and by chronological order

Data processing

After the data are received from Argos and uploaded to Movebank.org we apply the Douglas Argos (DAR) filter to determine outliers based on the following user defined variables: maximum redundant distance (consecutive points separated by less than a defined distance are kept by the filter because ARGOS location errors rarely occur in the same place, so very close temporally consecutive points are assumed to be self-confirming); location classes (LCs) that are automatically retained; maximum sustainable rate of movement; and the rate coefficient (Ratecoef) for assessing the angle created by three consecutive points. The rate coefficient algorithm takes into account that the farther an animal moves between locations, the less likely it is to return to or near to the original location without any intervening positions, creating an acute angle characteristic of typical ARGOS error. Locations were retained if they were separated from the next location by less than a maximum redundant distance of 3 km, as well as LC2 and LC3 locations (estimated error of <500 and <250 m, respectively; ARGOS User's Manual). LC1 locations (with estimated error of between 500 and 1500 m), as well as LC0, LCA, LCB, and LCZ locations (with no estimation of accuracy), were only retained if they passed the Douglas ARGOS Filter process. The maximum sustainable rate of movement used was 20 kph for false killer whales, bottlenose dolphins, and rough-toothed dolphins, and 15 kph for short-finned pilot whales and melon-headed whales. These were based on maximum travel speeds noted during observations of fast traveling individuals in Hawai'i (Baird et al. 2013). The default Ratecoef for marine mammals was used (Ratecoef = 25).

## **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?**

Yes

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

**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/25324>

**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:**

Pacific Islands Fisheries Science Center (PIFSC)

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

No

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

<https://www.fisheries.noaa.gov/inport/item/25324>

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

In the future, the data will be publicly available on the Animal Tracking Network. Until then, requests should be made by contacting [marie.hill@noaa.gov](mailto:marie.hill@noaa.gov)

**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:**

unknown

**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)*

OTHER

**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):**

Pacific Islands Fisheries Science Center - Honolulu, HI

IRC 1845 Wasp Blvd., Bldg. 176 Honolulu, HI 96818

**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*

Data are backed up to an internal PIFSC server and multiple hard drives stored in secure locations.

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

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