

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:

Shoreline surveys and removal of marine debris at Midway Atoll, Northwestern Hawaiian Islands from 2013 to 2018

1.2. Summary description of the data:

The marine debris data included in this dataset are from annual shoreline surveys conducted from 2013 to 2018 at the islands of Midway Atoll (Eastern, Spit, and Sand Islands) in the Northwestern Hawaiian Islands (NWHI) by the NOAA Pacific Islands Fisheries Science Center (PIFSC), Ecosystem Sciences Division (ESD) with funding from Papahānaumokuākea Marine National Monument (PMNM), and NOAA's Marine Debris (MDP) and Damage Assessment Remediation and Restoration (DARRP) Programs.

Prior to the surveys in 2013, each shoreline was divided into fixed 300-meter segments and stratified by the cardinal direction the shoreline was facing (e.g., north, south, east, and west). The shorelines of Eastern, Spit, and Sand Islands were divided into 19, 4, and 23 segments, respectively. All segments were surveyed at all islands during the 2013, 2015, and 2016 missions. During the 2014 mission, limited time was available to survey all segments; therefore, the pre-existing segments were randomized, and a subset of the segments were identified as a first- or second-tier priority for each strata. All first- and second-tier priority segments were surveyed in 2014. All first- and second-tier priority segments at Eastern and Spit were surveyed in 2018.

During a shoreline survey, field staff flagged the corners of the site and swept the entire survey area for marine debris. Most items found within the survey area >10 cm were collected and, if possible, bagged. Due to operational concerns, metal, glass, and building material were not surveyed or removed. Debris items <10 cm were also collected and bagged if the item could be identified (e.g., bottle caps and lighters were included in the survey, unidentified fragments <10 cm were typically excluded). Additionally, if the debris item was considered large (>1 m) or notable, a GPS waypoint was taken to mark the specific location of the debris, and the item was measured (length and width), recorded on the datasheet, and either bagged, removed, or tagged if the item was too large or hazardous to remove. The survey concluded by walking the perimeter of the survey site with a GPS.

Following the survey, bagged and large debris were transported to the operations center for the mission, weighed, and sorted, tallied, and recorded by debris type for each survey. Total weight of all collected debris and the survey area (derived from the GPS tracks) were recorded for each 300-m segment, along with the date since the last debris survey to calculate the accumulation rate. During an extended field season at Midway Atoll in the NWHI in 2012, PIFSC scientists removed all of the marine debris along the shorelines of the islands at Midway Atoll. This represented a "clean slate" and starting point to begin studying the accumulation rate along the shorelines for subsequent years. Accumulation rates are reliable only for Eastern and Spit Islands. The shorelines of Sand Island are cleaned regularly by permanent U.S. Fish and Wildlife Service residents; thus, the debris data recorded by ESD for Sand Island does not represent natural accumulation.

The shoreline survey and removal efforts at Midway Atoll have been conducted as a component of ship-based missions to the NWHI, a component of a larger shore-based missions at Midway Atoll, or as a stand-alone shoreline debris removal mission at Midway Atoll.

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:

2013-04-05 to 2013-04-16, 2015-08-14 to 2015-09-29, 2016-04-15 to 2016-04-30, 2014-10-06 to 2014-10-19, 2018-05-29 to 2018-10-15

1.5. Actual or planned geographic coverage of the data:

W: -177.396351, E: -177.32316, N: 28.2184, S: 28.19567

Geographic area of shoreline debris survey and removal efforts conducted at Midway Atoll in the Northwestern Hawaiian Islands (NWHI).

1.6. Type(s) of data:

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

Michael W Akridge

2.2. Title:

Metadata Contact

2.3. Affiliation or facility:

2.4. E-mail address:

michael.akridge@noaa.gov

2.5. Phone number:

(808)725-5483

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:

Joao D Garriques

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:

Shoreline debris surveys conducted by the Pacific Islands Fisheries Science Center's Ecosystem Sciences Division along the shorelines of the three islands on Midway Atoll: Sand, Eastern, and Spit since 2013.

Process Steps:

- Prior to the surveys in 2013, each shoreline was divided into fixed 300-meter

survey segments and stratified by the cardinal direction the shoreline was facing (e.g., north, south, east, and west). The shorelines of Eastern Island, Spit Island, and Sand Island were divided into 19, 4, and 23 segments, respectively, and the segments were randomly selected (to ensure accuracy when calculating shoreline marine debris accumulation rates). All shoreline segments are typically surveyed during each annual mission. Accumulation rates are calculated for previously cleaned survey segments that are resurveyed in subsequent years for newly accumulated debris. (Citation: NOAA Marine Debris Shoreline Survey Field Guide)

- During a shoreline survey, field staff flagged the corners of the site and swept the entire survey area for marine debris. Most items found within the survey area >10 cm were collected and, if possible, bagged. Due to operational concerns, metal, glass, and building material were not surveyed or removed. Debris items <10 cm were also collected and bagged if the item could be identified (e.g., bottle caps and lighters were included in the survey, unidentified fragments <10 cm were typically excluded). Additionally, if the debris item was considered large (>1 m) or notable, a GPS waypoint was taken to mark the specific location of the debris, and the item was measured (length and width), recorded on the datasheet, and either bagged, removed, or tagged if the item was too large or hazardous to remove. The survey concluded by walking the perimeter of the survey site with a GPS. (Citation: NOAA Marine Debris Shoreline Survey Field Guide)
- Following the survey, bagged and large debris were transported to the operations center for the mission, weighed, and sorted, tallied, and recorded by debris type for each survey. The NOAA Marine Debris Program-standardized shoreline survey datasheet was used to tally different debris types. Eel traps, oyster spacers, plastic pipes, and plastic baskets were added to the debris type categories (a significant number of these were found during the shoreline surveys). Large and notable items were individually weighed and recorded separately. Total weight of all collected debris and the survey area (derived from the GPS tracks) were recorded for each 300-m segment, along with the date since the last debris survey to calculate the accumulation rate. (Citation: NOAA Marine Debris Shoreline Survey Field Guide)

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):

Data are initially written on data sheets and later entered into an Access database. Data entry is verified post-mission against the original data sheets.

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)

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/32834>

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

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:**

NOAA National Centers for Environmental Information (NCEI)

7.2.1. If data hosting service is needed, please indicate:**7.2.2. URL of data access service, if known:**

<https://accession.nodc.noaa.gov/0189571>

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7.3. Data access methods or services offered:

Data can be accessed online via the NOAA National Centers for Environmental Information (NCEI) Ocean Archive.

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:

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)

NCEI_MD

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

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

NOAA IRC and NOAA Fisheries ITS resources and assets.

9. Additional Line Office or Staff Office Questions

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