

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/MML: Marine Mammal Aerial Surveys in the Bering, Chukchi, and Beaufort Seas, and Amundsen Gulf, 1979-2021

1.2. Summary description of the data:

The Bureau of Ocean Energy Management (BOEM), formerly the Minerals Management Service (MMS), and its precursor, the Bureau of Land Management, funded aerial surveys in the Beaufort, Chukchi, and Bering seas from 1979 to 2019. In 2008, through an Interagency Agreement between MMS and the Alaska Fisheries Science Center (AFSC, National Marine Fisheries Service, National Oceanic and Atmospheric Administration [NOAA]), the Marine Mammal Laboratory (MML, a division of AFSC), formerly the National Marine Mammal Laboratory assumed co-management responsibilities for these surveys. Throughout the history of the surveys, they were referred to as the Bowhead Whale Aerial Survey Project (BWASP) and the Chukchi Offshore Monitoring in Drilling Area (COMIDA) marine mammal aerial surveys, both of which are described in more detail below. In 2011, a new Interagency Agreement between BOEM and NMML was established to authorize NMML to continue the BWASP and COMIDA studies under the auspices of a single study, Aerial Surveys of Arctic Marine Mammals (ASAMM). In 2020 and 2021, aerial line-transect surveys for bowhead whales and other marine mammals were funded and co-managed by the North Slope Borough (NSB) through contract 2021-069 with the Cooperative Institute for Climate, Ocean, and Ecosystem Studies (CICOES), a part of the University of Washington, with collaboration from AFSC, NOAA Fisheries. Consistent survey protocol has been in effect on surveys conducted since 1982. Data collected from 1979 to 1981 were not vetted as carefully as data from 1982 to 2021, and should generally not be used for most analyses. WESTERN BEAUFORT SEA Aerial surveys in the western Beaufort Sea (south of 72 degrees N, 140-157 degrees W) have been conducted each year since 1979. MMS personnel and contractors conducted the surveys from 1979 to 2007. From 2008 to 2019, the surveys were conducted by MML. In 2020 and 2021, surveys were conducted by NSB. The primary goal of the project, also known as BWASP through 2010, ASAMM from 2011 to 2019, and NSB Autumn Aerial Surveys in 2020 and 2021, was to document bowhead whales (*Balaena mysticetus*) during their fall migration through the western Beaufort Sea, although data were also collected

for all other marine mammals that were sighted during the surveys. The surveys were typically conducted during the months of September and October, when offshore drilling and geophysical exploration were feasible and when the fall subsistence hunt for bowhead whales takes place near Kaktovik, Cross Island (village of Nuiqsut), and Utqiagvik (formerly Barrow), Alaska. Additional surveys were conducted in the western Beaufort Sea during spring and summer 1979-1986, during summer 2011-2019, and from approximately 15 September to 15 October in 2020 and 2021. The emphasis of surveys in the Beaufort Sea was to conduct broad-scale surveys to assess shifts in the migration pathway of bowhead whales, and to coordinate effort and manage data necessary to support seasonal offshore drilling and seismic exploration regulations. The selection of survey blocks to be flown on a given day was nonrandom, based primarily on criteria such as observed and predicted weather conditions over the study area and offshore oil industry activities. From 2016 to 2019, to incorporate the area near Liberty prospect, all transects in survey block 1 were extended inshore of the barrier islands to the shoreline. From 19 July through 20 August 2016, transects extended north beyond the usual BWASP study area into study blocks 8, 9, and 10, and north of blocks 11 and 12 (beyond 72 degrees N) to survey Eastern Chukchi Sea (ECS) beluga habitat. In 2017, a coastal transect 1 km offshore between Point Barrow and Demarcation Bay in the Beaufort Sea was added. Otherwise, the project attempted to distribute effort evenly east-to-west across the entire study area. Aerial coverage favored inshore survey blocks because bowhead whales were rarely sighted north of blocks 2, 6, and 7 during surveys conducted from 1979 to 1986. EASTERN CHUKCHI SEA Aerial surveys in the eastern Chukchi Sea (68-73 degrees N, 157-169 degrees W) were conducted by MMS contractors from 1982 to 1991. From 2008 to 2019, the surveys were conducted by MML. In 2020 and 2021, the surveys were conducted by NSB in collaboration with CICOES and MML and used a similar methodology to the surveys conducted in previous years. In 2009, a coastal transect 1 km offshore extending from Point Barrow to Point Hope was added. Starting in 2014, surveys expanded south to 67 degrees N. In July and August 2018, surveys were expanded north to 73 degrees N, 157-160 degrees W to assess potential bowhead whale use of this area in July and August. The goal of the surveys, also known as COMIDA through 2010, ASAMM from 2011 to 2019, and NSB Autumn Aerial Surveys in 2020 and 2021, was to investigate the distribution and relative abundance of marine mammals in the Chukchi Sea Planning Area (CSPA) during the open water (i.e., ice-free) months of June to October, when various species are undertaking seasonal migrations through the area. However, from 1979 to 1984, surveys were also conducted during spring. In 2020 and 2021, NSB Autumn Aerial Surveys in the Chukchi Sea from approximately 15 September to 15 October, were prioritized only when weather conditions were not conducive to surveying the western Beaufort Sea. NORTHERN BERING AND SOUTHERN CHUKCHI SEAS Aerial surveys in the northern Bering and southern Chukchi seas (63-68 degrees N, east of the International Date Line) were conducted by MMS contractors from 1979 to 1985. The goal of these surveys was to investigate the distribution, abundance, migration timing, habitat relationships and behavior of endangered whales during the spring migration. Surveys were conducted from April to July. EASTERN BEAUFORT SEA AND AMUNDSEN GULF Aerial surveys in the eastern Beaufort Sea and Amundsen Gulf (67-73 degrees N, 118-140

degrees W), were conducted by MML from 5 to 27 August 2019, in collaboration with BOEM, NSB, Department of Fisheries and Oceans Canada, Inuvialuit Game Council, and Fisheries Joint Management Committee. The goal of these surveys, known as the ASAMM Bowhead Abundance (ABA) project, was to collect aerial survey data specific to estimating the abundance of the Bering-Chukchi-Beaufort Seas bowhead whale population. The primary ABA study area in its entirety includes the Beaufort Sea shelf and Amundsen Gulf (118-158 degrees W). This database contains aerial survey data from the surveys described above.

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

Ongoing series of measurements

1.4. Actual or planned temporal coverage of the data:

1979-04 to Present

1.5. Actual or planned geographic coverage of the data:

W: -174.0134, E: -115.0671, N: 76.146, S: 57.725

Bering, Chukchi and Beaufort seas

1.6. Type(s) of data:

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

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:

2.2. Title:

Metadata Contact

2.3. Affiliation or facility:

2.4. E-mail address:

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:

Megan Ferguson

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"):

0

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):

Process Steps:

- NA

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):

In 2010, a quality assurance/quality control (QA/QC) review of the database was undertaken to improve use of the database for analyses, standardize attribute values, minimize inconsistencies, and/or correct errors. For more information about this review see AerialMaster_HistoricalDataReview.doc which can be found by downloading the historical BWASP and COMIDA database (1979 to 2013) found here:

<http://www.afsc.noaa.gov/nmml/software/bwaspc-comida.php>

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)
- 2.1. Point of Contact Name
- 2.4. Point of Contact Email

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/17338>

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/0039614>

7.3. Data access methods or services offered:

Data is available at NCEI: <http://data.nodc.noaa.gov/cgi-bin/iso?id=gov.noaa.nodc:0039614>

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):**

National Marine Mammal Laboratory - Seattle, WA

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.