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:
Willapa Bay, Washington Benthic Habitats 1995 Substrate

1.2. Summary description of the data:
In June 1995, the Columbia River Estuary Study Taskforce (CREST) acquired 295 true color aerial photographs (1:12,000) of Willapa Bay, Washington, from the State of Washington Department of Transportation (WDOT), suitable for the interpretation of submerged rooted aquatic vascular plant populations. In August 1995, field surveys were conducted by a team composed of staff from Oregon State University, CREST, and the Washington Department of Natural Resources, for spectral signature development and verification as well as habitat observation. The submerged plant populations were interpreted and mapped from the photographs and transferred onto State of Washington 1:12,000 Orthophoto maps (USGS 7.5' quadrangle). The interpretations were digitized into a geographic information system (GIS) for the creation of a habitat polygon map. All interpretation, digitization and photography acquisition were according to stringent parameters detailed in the Coastal Change Analysis Program (C-CAP) Protocol (NMFS Technical Document 123). Two datasets were used as ancillary information to complement the interpreted habitat polygons. In 1996, color aerial videography was obtained from WDOT for post mapping verification and accuracy assessments. Marine Resources Consultants, Inc. and the University of Washington collected videography from 29 underwater transects to verify the deep-water edge of selected seagrass beds in the southern portion of the bay. The date, time, geographic coordinates and depth were updated every 2 to 4 seconds and recorded directly on the videotape images. Latitude and longitude were provided by a differentially corrected global positioning system (GPS). The initial presence/absence map of SAV produced by CREST was later segmented by depth to discriminate between two very different seagrass communities and support field accuracy assessment. Final field verification of the data by personnel from CREST and the NOAA Office for Coastal Management was conducted in the Summer of 1997. The benthic data is classified according to the System for Classification of Habitats in Estuarine and Marine Environments (SCHEME). This system is fully described in "Development of a System for Classification of Habitats in Estuarine and Marine Environments (SCHEME) for Florida, Report to U.S. EPA - Gulf of

Mexico Program, Florida Fish and Wildlife Conservation Commission, Florida Marine Research Institute. Review Draft 12/04/02."

Original contact information:

Contact Org: NOAA Office for Coastal Management

Phone: 843-740-1202

Email: coastal.info@noaa.gov

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:
1995-06-28

1.5. Actual or planned geographic coverage of the data:
W: -124.0962, E: -123.7535, N: 46.7546, S: 46.3654

1.6. Type(s) of data:
(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
Map (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:
NOAA Office for Coastal Management (NOAA/OCM)

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:
NOAA Office for Coastal Management (NOAA/OCM)

2.4. E-mail address:
coastal.info@noaa.gov

2.5. Phone number:
(843) 740-1202

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:

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?

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

Process Steps:

- 1997-01-01 00:00:00 - Aerial Photography and Underwater Videography: On June 28, 1995, 295 conventional color metric aerial photographs at a scale of 1:12,000 were acquired through the State of Washington Department of Transportation (WDOT) using a Jena LMK-2015 camera with a 153 mm Jena Lamegon Lens (AV minus blue Jena 405) and Aerocolor 2445 film. The photographs had 60% overlap and 20% sidelap. The equipment and methodology used to collect the 295 images met stringent parameters detailed in the C-CAP Protocol (NMFS Technical Report 123). Deviations to the C-CAP protocols were the use of color aerial videography, obtained in 1996, as an ancillary data source. Data from 29 transects of underwater videography were used to verify the deep-water edge of selected seagrass beds in the southern portion of the bay. Benthic Signature development and Photointerpretation: Field surveys were conducted in August of 1995, after initial review of the images to develop spectral signatures. Observations of SRV on photographs was accomplished using stereopairs and a Leitz stereoscope with a 2X magnifying attachment. Areas containing eelgrass were delineated with reference to spatial distribution, and data from pre-truthing activities were used as constant reference to verify spectral signatures. Mylar overlays, placed on every other photograph, were used for tracing polygons defining SRV habitat from the aerial

photography. The minimum mapping unit was 30 m2 (in order to avoid mapping Spartina rather than eelgrass). Digital Compilation: The delineated polygons were transferred from the overlays to State of Washington Orthophotos (1:24,000). The interpretations were directly transferred and when necessary due to scale differences, a zoom transfer cope was utilized. The final, corrected interpretations were digitized using a digitizing tablet. The bathymetric points were made into a grid using ArcView Spatial Analyst Extension. The bathymetric grid was used to generate a contour line of -2 meters. The contour was unioned with the CREST SAV coverage and recoded for shallow and deep grass classes, shallow and deep open water, unknown bottom, land and Spartina. The coverage was rasterized and 50 random points per class (excluding land) were randomly chosen from the stratified data set using ERDAS Imagine software for a total of 300 points. Field verification of the data by personnel from CREST and C-CAP was conducted in July 1997. The team utilized both underwater videography for deeper water points, and hand-held Hi-8 above water video for shallow, exposed tidal flats. The fieldwork revealed that the deep-water points consisted of dense Zostera marina, while the shallow exposed points were scattered patches of grass, primarily Zostera japonica. Based on the field data, the deep and shallow grasses were recoded dense and patchy, respectively. The final coverage was created in ArcView.
- 2015-01-01 00:00:00 - The data were converted from a single ESRI polygon shapefile classified according to the System for Classifying Habitats in Estuarine and Marine Environments (SCHEME) to the Coastal and Marine Ecological Classification Standard (CMECS) 2012 format (which can be found at https://coast.noaa.gov/digitalcoast/tools/cmecs-crosswalk) which produces separate geoform, substrate, and substrate feature layers from the original input benthic habitat dataset. This substrate feature layer contains CMECS substrate component attributes where an "Equal" or "Nearly Equal" SCHEME value was present in the original data. Polygons for which no substrate information was present have been removed. No other changes to the original polygon boundaries or any other alterations of the original SCHEME data were made during this process.

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):

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)
- 3.1. Responsible Party for Data Management
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

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/47995

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?

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 Office for Coastal Management (NOAA/OCM)

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

7.2.2. URL of data access service, if known:
ftp://ftp.coast.noaa.gov/pub/benthic/Benthic_Cover_Data/WA_WillapaBay.zip

7.3. Data access methods or services offered:
Contact NOAA Office for Coastal Management's Clearinghouse Manager and request a copy of "Benthic Habitats of Willapa Bay, Washington, 1995, CD-ROM." Alternatively, fill out a OCM Product Request Form at https://coast.noaa.gov/clearinghouse/;

7.4. Approximate delay between data collection and dissemination:

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)

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):
Office for Coastal Management - Charleston, SC

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

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

9. Additional Line Office or Staff Office Questions

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