

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:

Coastal Bend Texas Benthic Habitat Mapping Aransas Bay 2004 Substrate

### 1.2. Summary description of the data:

In 2006 and 2007 the NOAA Office for Coastal Management purchased services to process existing digital multi-spectral imagery (ADS-40) and create digital benthic habitat data from this imagery for selected Texas coastal bend bays. The Center worked cooperatively with the Texas Parks and Wildlife Department (TPWD) and the Texas A and M University Center for Coastal Studies to develop benthic habitat data, primarily Submerged Aquatic Vegetation (SAV) for several coastal bays. This data will support the state's recently adopted Seagrass Monitoring Program which calls for regional mapping of SAV for status and trends assessment. The Center, Texas A and M, and TPWD have coordinated on the requirements of this project.

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:

2007-08-23

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

W: -97.074216, E: -96.709414, N: 28.295159, S: 27.827573

### 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:

- 2007-08-09 00:00:00 - The original 1m DOQQs for the project area were resampled to 2m and mosaicked. For habitat classification, the mosaicked imagery was divided into six processing one set of six mosaics for true color and one set of six mosaics for color-IR. Image segmentation was performed using on the blue, green, red, and near-infrared bands for each Ethe six processing areas. The classification of the habitat segments (as ESRI polygon shapefiles) was performed using CART analysis. The habitat maps for each of the six areas was refined with the aid of field data collected during May, June, and July 2006 and January 2007. The six processing area shapefiles were edgematched and combined into a single shapefile which was clipped to the final project area boundary and then clipped into six separate shapefiles representing the six bay systems in the project area. Adjacent bay systems do not overlap, resulting in no overlapping habitat polygons across the entire project area. Each polygon, within and across all six bay systems, has a unique polygon identification number. Each shapefile was checked for proper topology and to insure that each polygon has a correct habitat label, habitat code, modifier label if present, unique identification number, and an area calculation. Polygons below the 100m<sup>2</sup> minimum mapping unit (MMU) were eliminated, though some polygons less than 100m<sup>2</sup> were retained if their area changed to below the MMU due to the polygon boundary smoothing process. (Citation: 2004 ADS40 Digital NAIP Imagery)

- 2007-08-09 00:00:00 - The habitat data also went through an independent validation review. Accuracy assessment was performed on seven classes with Patchy SRV and Continuous SRV being combined into a single accuracy class. For field data collection, non-random sites in the form of polygons were chosen by analysts with an attempt to sample all available image signatures. These sites were visited in the field and data on each site was collected directly into digital format ( ESRI shapefile) using a laptop or onto a paper form that was later entered into digital format. Sites were navigated to primarily using a Garmin GPS 76unit connected to a Panasonic Toughbook laptop displaying the project imagery and polygons in ArcMap v9.1 or using the GPS unit alone. Habitat classification was estimated as accurately as possible using different methods or combination of methods which included above water observation, snorkeling, wading, and underwater video. This data was entered into an ESRI shapefile via a digital field form in ArcMap specifically developed for this type of field data collection. After collection, sites were classified as either "sand" or "mud" bottom type using Texas Bureau of Economic Geology sediment maps. More sample polygon sites were collected in-office based on the in-field collected sites in order to meet the 50 sites per class per bottom type accuracy assessment requirement. Once all the sites were chosen, they were again divided into "sand" and "mud" bottom types. For each

class, per bottom type, a random selector macro in ArcMap was used to randomly select 50 sites for accuracy assessment. The entire pool of accuracy sites was kept separate from the remaining sites and only used for accuracy assessment during the project. Anonymity of the accuracy sites was maintained throughout the project because it was unnecessary to ever visually review these sites in order to perform the accuracy analysis. More accuracy assessment sites were collected in a later field collection trip to add to the analysis. These sites were chosen by randomly selecting polygons within specific regions that were pre-determined to be visited. Information for these sites was collected using the same methods for the other sites. Accuracy information was compiled using ArcMap. Accuracy polygons were transformed into polygon centroid points forced to be located within the polygon. These points were used to select the corresponding polygons in the habitat map. The selected polygons' attributes were joined to the accuracy polygons so that each accuracy polygon had both the accuracy habitat label and its map label.

An accuracy assessment error matrix was generated using this information by importing it to Microsoft Excel and building the matrix. Both deterministic and fuzzy accuracy assessment were performed. The accuracy analysis and error matrices are presented and discussed in the project final report entitled Coastal Bend of Texas Benthic Habitat Mapping Phase 1 Final Report. (Citation: 2004 ADS40 Digital NAIP Imagery)

- 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 geofom, 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
- 7.3. Data access methods or services offered
- 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/47947>

**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?**

**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/TX\_AransasBay.zip

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

**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.*