

*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:**

Benthic Habitats of Florida Bay, FL 1991-1995 Substrate

### **1.2. Summary description of the data:**

In the winter of 1991/92 the National Oceanic and Atmospheric Administration's Office for Coastal Management's Coastal Change Analysis Program (C-CAP) and the State of Florida commissioned the National Ocean Service's Photogrammetry Unit, the National Geodetic Survey (NGS), to acquire conventional color metric aerial photography of Florida Bay suitable for interpretation of photic benthic habitats (scale of 1:48,000). Additional photography was acquired by NGS in 1995 to cover areas of the bay that were not interpretable due to turbidity and glare during the original mission. The imagery was collected according to stringent parameters detailed in the C-CAP protocol (<https://coast.noaa.gov/crs/lca/ccap.html>). The original photographic diapositives were interpreted by two ecologists, familiar with the local environment. The benthic signatures were interpreted from the photography using Bausch and Lomb Zoom Stereoscopes and Richards Light Tables. The boundaries of each unique signature were delineated on acetate overlays and assigned one of 20 habitat classes. Only the central 'sweet spot' of each frame was interpreted to minimize the effects of sun glint. An ecologist at the Florida Marine Research Institute (FMRI) conducted thematic quality assurance and control. Following interpretation, Office for Coastal Management staff scanned the aerial photos, with the interpreted acetate overlays attached, using a photogrammetric quality scanner (AGFA Horizon Plus) at a resolution of 600 dpi resulting in a pixel resolution of 2.03 meters. The resulting image file was rectified (second order bilinear interpolation) using ERDAS Imagine software. Ground control points were selected from features common to digital orthophotoquads of Florida Bay. The interpreted polygon habitats were digitized into an ARC coverage from the rectified files using ERDAS Imagine software's vector module. In 1999, the final edits and quality control of the habitat polygons were completed. The coverage and shoreline were edge matched to the Benthic Habitats of the Florida Keys Atlas to complete the coverage, as the dates of photography, methodology and classification system used were the same.

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:**

1991 to 1995

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

W: -81.1428, E: -80.3419, N: 25.2733, S: 24.6853

**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:

- Benthic Habitats: National Oceanic and Atmospheric Administration's National Geodetic Survey (NGS) staff conducted the aerial photographic mission. Contracted ecologists and Florida Marine Research Institute staff developed the classification scheme. The ecologists and FMRI staff participated in ground-truthing, classification, and review of the benthic classifications. National Oceanic and Atmospheric Administration's Office for Coastal Management Coastal Change Analysis Program staff made digital compilations of the photographic information and created digital map layers in a Geographic Information System (GIS). Aerial Photography: True color aerial photographs of Florida Bay were acquired by National Oceanic and Atmospheric Administration's Remote Sensing Division during overflights occurring from December 1991 through March 1992. Due to glare and turbidity in certain areas, additional photography was acquired during 1995. A Wild RC-30 camera mounted in a Cessna Citation II Fanjet aircraft was used to acquire the 1:48,000 (1 cm =480 m) source photography. Each photograph covered approximately 160 km<sup>2</sup>. An 80 percent endlap and 60 percent sidelap between adjacent photographs ensured both complete coverage and the presence of adequate reference locations necessary for determining positional accuracy. Approximately 80 photos provided monoscopic coverage and were used to delineate benthic habitats. Establishing a Habitat Classification Scheme: Two recognized ecologists, both with local knowledge of Florida Bay and extensive expertise in marine habitats, were responsible for interpreting and delineating the

benthic communities seen on the aerial photographs. These two ecologists, along with the FMRI staff, developed the hierarchical classification scheme used for this coverage. The habitat classification scheme is composed of 24 benthic communities in four major habitat categories: corals, seagrasses, hardbottom, and bare substrate. Special modifiers were attached to the classes to denote dredge zones, banks, and restoration areas. Photointerpretation: The ecologists and FMRI staff interpreted and then delineated benthic habitats on the aerial photos. The minimum habitat area delineated was 0.5 ha. Ground truthing was conducted to verify that benthic habitats seen in the water were properly identified on aerial photographs. Researchers were able to conduct most ground truthing of benthic communities while snorkeling. Field information about the benthic habitat and site GPS locations were recorded. The completed photos were reviewed for content and accuracy by the ecologists and FMRI staff and then sent to National Oceanic and Atmospheric Administration for digital compilation. Digital Compilation of Aerial Photographs: National Oceanic and Atmospheric Administration's Office for Coastal Management Coastal Change Analysis Program staff inspected each photograph for completeness of delineations, photograph discrepancies, and areas of turbidity. The aerial photographs, with the interpreted acetates attached, were scanned using a photogrammetric quality scanner (AGFA Horizon Plus) at a resolution of 600 dpi resulting in a pixel resolution of 2.03 meters. The resulting image field was rectified interpolation bilinear (second order) by Coastal Change Analysis Program using ground control points drawn from 1 meter color digital orthophotos of Florida Bay. The southern edge of Florida Bay dataset was edge matched to the Benthic Habitats of the Florida Keys Atlas. The rectification and digitization was completed utilizing the ERDAS Imagine software package. Quality Control: A review of the data was conducted in two phases: 1) an on-line review to ensure line and attribute completeness, comparison to the ecologists' delineations, and positional accuracy; and 2) a review of 1:48,000 scale maps of the compiled data against the original source photos.

- 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
- 7.4. 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/47893>

**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/FL\\_FloridaBay.zip](ftp://ftp.coast.noaa.gov/pub/benthic/Benthic_Cover_Data/FL_FloridaBay.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 Florida Bay, Florida, 1991-1995, CD-ROM". Alternatively, fill out a OCM Product Request Form at [https://coast.noaa.gov/clearinghouse/prodreq\\_form.html](https://coast.noaa.gov/clearinghouse/prodreq_form.html);

**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.*