

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:

North Carolina 2016 ESI FISH Polygons, Lines

1.2. Summary description of the data:

This data set contains sensitive biological resource data for marine, estuarine, anadromous, and freshwater fish species in North Carolina. Vector polygons (FISH POLYS) in this data set represent fish distributions, spawning and nursery areas, concentration areas, migration areas, anadromous fish runs, and harvest areas. Vector lines (FISH LINES) represent spawning runs that extend beyond the water features in the ESI hydrographic layer (HYDROP). Species-specific abundance, seasonality, status, life history, and source information are stored in associated data tables (described below) designed to be used in conjunction with this spatial data layer. This data set is a portion of the ESI data for North Carolina. As a whole, the ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil, and include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources.

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:

2014 to 2016

1.5. Actual or planned geographic coverage of the data:

W: -78.6308, E: -75.2142, N: 36.5819, S: 33.6182

This reflects the extent of all land and water features included in the overall North Carolina ESI study region. The bounding box for this particular feature class may vary depending on occurrences identified and mapped.

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:

ESI Program Manager

2.2. Title:

Metadata Contact

2.3. Affiliation or facility:

2.4. E-mail address:

orr.esi@noaa.gov

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:

ESI Program Manager

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:

- 2016-11-01 00:00:00 - Finfish depicted in this feature class include selected marine, estuarine, and freshwater species. Species of conservation interest, commercial or recreational importance, or ecological importance are emphasized. Fish polygons (FISH POLYS) were created based on survey information, digital data, and expert opinion provided primarily by resource experts at North Carolina Division of Marine Fisheries (NCDMF), North Carolina Wildlife Resources Commission (NCWRC) , and NOAA.

- 2016-11-01 00:00:00 - ANADROMOUS AND CATADROMOUS SPECIES: Atlantic and shortnose sturgeon - Atlantic (federally and state endangered) and shortnose sturgeon (federally and state endangered) were mapped based on data and expert knowledge provided by Lisa Wickliffe of NOAA, Mike Loeffler of the NCDMF, Liza Hoos of North Carolina State University, Debra J. Gauthier of the Virginia Institute of Marine Science, Jeanne Boylan of the South Carolina Department of Natural Resources (SCDNR), and Wilson Laney of the U.S. Fish and Wildlife Service (USFWS). River herring and shad - Alewife and blueback herring, collectively known as river herring, and American shad are anadromous fish that once supported the largest commercial and recreational fisheries on the Atlantic Coast but have become severely depleted due to human impediments to inland spawning runs, habitat loss, and overfishing. Spawning runs were mapped using data and expert knowledge provided by NCDMR and NOAA. Additional shad species included in this atlas are gizzard shad, hickory shad, and threadfin shad. The aforementioned reduction in available inland habitat for spawning runs for river herring and shad occurred outside of the area of interest. If a spawning run went beyond the water features in the ESI hydrographic layer (HYDROP), this area was mapped using line features (FISH LINES). These areas are designated with "Spawning Area" and "Nursery Area" mapping qualifiers to emphasize these important life history stages. River herring pre-spawning concentrations at the mouths of certain rivers were mapped as migration areas. Timing of migration and spawning was provided primarily by Able and Fahay 2010 and resource experts. Other anadromous and catadromous species - Striped bass, an anadromous species, and American eel, a catadromous species - are included in this atlas. Adult striped bass participate in migrations in waters offshore of North Carolina. Juvenile striped bass may overwinter in estuarine waters for several years before joining the migratory population offshore. American eels go through a "yellow eel" stage lasting approximately 9 - 19 years in estuaries and inshore waters before migrating offshore to spawn in the Sargasso Sea (Able and Fahay 2010).

- 2016-11-01 00:00:00 - ESTUARINE AND BRACKISH WATER SPECIES: Fish that occur primarily in estuarine and brackish waters were mapped using a variety of sources. Fisheries independent data from NCDMF program 120 and 195 data were used to

map southern and summer flounder. Program 120 is a statewide estuarine trawl survey and that primarily aims to sample juvenile fish. This sampling program is conducted yearly from May to June beginning in 1971. A subset of the Program 120 data (1990 - 2014) was used to map fish in this atlas. Program 195, also known as the Pamlico Sound Survey, was initiated in 1987 and includes trawl surveys which have been used to calculate juvenile abundance indices and estimate population parameters. Sampling for Program 195 is typically in summer and fall (June and September). Data from 1987 - 2014 were used to map fish species for this atlas. Recreational and commercial landings data provided by the NCDMF were used to determine presence/absence of adults and/or juveniles in some estuarine and brackish water systems. These data sets included month, year, waterbody, and abundance of for landings from 2006 - 2015 (abundance for recreational landings included count, while abundance for commercial landings included number of dealers as well as pounds of catch. These indices were used to supplement concentration values when other more robust data was unavailable. Thirty (30) meter gridded bathymetry data for major estuarine systems created by the Special Projects Office at NOAA were retrieved from the NOS Data Explorer Service (<http://nosdataexplorer.noaa.gov>) and used as a guide for mapping some species.

- 2016-11-01 00:00:00 - ATLANTIC OCEAN: The ocean distribution of fish was mapped primarily using two fisheries independent trawl survey datasets: Virginia Institute of Marine Science Northeast Area Monitoring and Assessment Program (NEAMAP) and Southeast Area Monitoring and Assessment Program (SEAMAP). Sampling for the NEAMAP program occurs in the spring and fall (typically May and October) and data from NEAMAP collected between 2007 and 2013 were used to map this feature class. Sampling for the SEAMAP program occurs in spring (April - May), summer (July - August), and fall (October - November) and includes data from 1986 to 2014. Offshore bathymetric contour data generated by NOAA's Office for Coastal Management were used in conjunction with NEAMAP/SEAMAP data to map offshore fish distributions for some species. Additional ocean distributions of fish were mapped using fisheries dependent data in the form of recreational and commercial landings spreadsheets from the NCDMF. Offshore fish landings from these data were divided into 4 zones: 0-3 mi North of Cape Hatteras, > 3 mi North of Cape Hatteras, 0-3 mi South of Cape Hatteras, and > 3 mi South of Cape Hatteras. Zones with 10 or fewer species occurrences in either of the fisheries dependent datasets that did not have further evidence of species presence in other sources were not mapped. Seasonality was determined primarily using Able and Fahay 2010 and expert knowledge.

- 2016-11-01 00:00:00 - FRESHWATER FISH: Recreationally important freshwater fish were mapped using species life history information from the NCWRC website (<http://www.ncwildlife.org/Learning/Species#5528105-fish>), recreational and commercial fisheries data from the NCDMF, and sportfish survey data from the NCWRC. Species included in Lake Mattamuskeet were compiled based on Potoka et al. 2014 (see lineage section for more information) and a species list for Lake Mattamuskeet provided by the NCWRC (Dockendorf 2009). The species list for Lake

Mattamuskeet from the NCWRC includes species collected during various surveys in the lake and surrounding canals between 1949 and 2007. For the purposes of mapping fish in this atlas only data from 1990 through 2007 from this data set were used to determine species presence or absence. NOTE: After a review of current literature and consultation with experts at the NCDMF, it was determined that common carp, a species mapped in the 2011 North Carolina ESI Atlas, have the potential to be present year round in all waterbodies in the area of interest. Common carp were introduced to North America in the 1800s from Eurasia. This species is mentioned here in lieu of mapping their distribution.

- 2016-11-01 00:00:00 - See the Lineage section for additional information on the type of source data for this data layer. The ESI, biology, and human-use data are compiled into the standard ESI digital data format. A second set of interviews with participating resource experts are conducted to review the compiled data. If necessary, edits to the FISH data layer are made based on the recommendations of the resource experts and digital data are created.

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)
- 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
- 7.2. Name of organization of facility providing data access
- 7.2.1. If data hosting service is needed, please indicate
- 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/40426>

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:

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

7.2.2. URL of data access service, if known:

https://response.restoration.noaa.gov/esi_download

7.3. Data access methods or services offered:

Data can be accessed by downloading the zipped ArcGIS geodatabase from the Download URL (see Distribution Information). Questions can be directed to the ESI Program Manager (Point Of Contact).

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 of Response and Restoration - Seattle, WA

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.