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:
South Carolina 2015 ESI FISH Polygons

1.2. Summary description of the data:
This data set contains sensitive biological resource data for marine, estuarine, anadromous, and freshwater fish species in South Carolina. Vector polygons in this data set represent fish distribution, spawning and nursery areas, concentration areas, and anadromous fish runs. Species specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer. This data set comprises a portion of the ESI data for South Carolina. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data 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 2015

1.5. Actual or planned geographic coverage of the data:
W: -81.1615, E: -78.414, N: 33.9384, S: 31.9322
This reflects the extent of all land and water features included in the overall South 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:

- 2015-08-01 00:00:00 - Nearshore marine and estuarine distributions of fishes were mapped using data provided by South Carolina Department of Natural Resources (SCDNR) and the Southeast Area Monitoring and Assessment Program (SEAMAP) of the Atlantic States Marine Fisheries Commission (ASMFC). These data sets were supplemented with information from the Estuarine Living Marine Resources program (ELMR; Nelson et al. 1991) as well as Jennings and Weyers (2002) and Gut and Curran (2015). Freshwater and anadromous fish were mapped using a combination of survey data, described above, and expert opinion. Populations of shortnose (Federally and state endangered) and Atlantic sturgeon (Federally endangered) are found in South Carolina waters. They inhabit most of the major river systems in South Carolina. Ongoing and recent telemetry work has led to the identification of seasonal concentration areas used by both species of sturgeon. The only documented shortnose sturgeon spawning site in the area of interest (AOI) for the SC ESI is an area on the Cooper River, directly below Pinopolis Dam. No Atlantic sturgeon spawning areas are known to occur within the AOI of the SC ESI. Concentration areas for shortnose and Atlantic sturgeon have been identified on several of the large rivers in South Carolina, and are mapped in the ESI as polygons with a mapping qualifier of 'Concentration area' and a concentration of 'High'. Many of the concentration areas are quite large, in part due to the mobile nature of the species, but also to cover the potential for interannual range shifts caused by variable hydrologic conditions (i.e., freshwater inflow and salinity). Other anadromous species were mapped to their respective habitats based on anecdotal information provided by SC DNR, including: American eel, striped bass, blueback herring, and shad. Unlike populations found in more northern portions of their range, striped bass in South Carolina do not migrate into the ocean. Known striped bass spawning areas, along with their general distribution are represented in the atlas. Shad, herring and eels do not spawn in the area; habitats mapped in the atlas represent adult and juvenile migration corridors and general distributions. Robust redhorse were mapped to the Savannah river to match mapping from the Georgia ESI. Robust redhorse have been collected in the Savannah river; however, the polygon in the ESI represents the potential range of this species. Please note, eel life-histories do not match the standard ESI terminology, so for the ESI, 'juveniles' corresponds to immigrating glass eels and elvers, and 'adults' refers to yellow eels and emigrating silver eels.
- 2015-08-01 00:00:00 - Two fishery-independent data sets were provided by SCDNR staff: 1) South Carolina Trammel Net Sampling; and 2) South Carolina Electrofishing Sampling. Each dataset was summarized by SCDNR staff for the sampling years 2002-2014 to give total number of occurrences per sampling station. From this summary, the frequency of each species caught during each month for each sampling region was calculated. Polygonal sampling regions were created using

geographic distribution of sampling stations and were vetted by SCDNR staff. Species that were found to occur with a 10% frequency or higher in a given month for a given sampling region were marked as present for that month and sampling region. The full 13 years of data was available for the following estuaries and rivers: St. Helena Sound, Edisto River, Combahee River, Charleston Harbor, Ashley River, Cooper River, Wando River, Bulls Bay and Muddy Bay, Winyah Bay, PeeDee River, and Waccamaw River. A number of other areas had more limited sampling data, often only a year or two, including: Port Royal Sound, Santee River, and the Stono, Wadmalaw, and Kiawah Rivers. For these areas, sampling data was used to construct preliminary seasonal presence/absences that were supplemented with expert knowledge from SCDNR staff or other sources. Areas in between sampling stations, most often these occurred between electrofishing and trammel stations, were populated using combinations of seasonalities from adjacent sampling. Additional distributions and life history seasonalities, such as larvae, eggs, and spawning months, were typically gathered from ELMR Program data (Nelson et al. 1991) or expert knowledge provided by SCDNR staff.
- 2015-08-01 00:00:00 - For the nearshore areas out to 10m depth, fish species distributions and seasonalities were created using data from the Southeast Area Monitoring and Assessment Program (SEAMAP) program, both the Inner Strata Sampling Data and the Longline Surveys, of the Atlantic States Marine Fisheries Commission (ASMFC). Fishery-independent sampling for the Inner Strata Sampling program is conducted in roughly three months out of the year, April, July, and October; however, sampling in practice strays into many of the preceding and following months. Data used for the ESI included the years 2004-2013, and the frequencies of species caught were used to determine monthly presence/absence. Presence within a month was determined by the same 10% frequency cut-off as was used with SCDNR fishery independent sampling data. Sampling months were used as proxies for the season within which sampling occurred. Thus, if a species was found to be present in April, it was assumed to be present in March and May; likewise this was done for June and August (July), and September and November (October). After consulting with SEAMAP/SCDNR staff and reviewing literature on nearshore species, seasonalities of select species were used to populate areas from 10m depth out to the boundary of the AOI. In the Savannah River, data from Jennings and Weyers (2002) and Gut and Curran (2015) were used to determine distributions and seasonalities of species in all reaches of the estuary. Jennings and Weyers data were used in areas that averaged less than 15 ppt salinity and Gut and Curran data were used for the lower estuary. Additional polygons that represent known aggregation sites of estuarine-dependent fish spawning in the Charleston Harbor area were delineated based on expert knowledge and published reports. The coast has not been comprehensively surveyed for spawning locations, so more information on these species' life-history is also contained in the 'general distribution' polygons to capture seasons in which spawning, eggs, and larvae are likely to be present. South Carolina bays and estuaries, especially Bulls Bay, are important nursery areas for several shark species. Nursery areas and general

distributions of sharks were mapped based on anecdotal information provided by SCDNR, based on their experience surveying in South Carolina. Please note, the life-history stages for fish do not match the correct terminology for sharks. As a result, areas with months for shark 'larvae' represent months for which that polygon serves as habitat or a nursery area for young-of-year sharks (i.e. primary nursery areas).
- 2015-08-01 00:00:00 - The above digital and/or hardcopy sources were compiled by the project biologist to create the FISH data layer. Depending on the type of source data, three general approaches are used for compiling the data layer: 1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; 2) hardcopy maps are digitized at their source scale; 3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. 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 final hardcopy maps 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

- 7.4. 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/55612

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:

Office of Response and Restoration (ORR)

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.