

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:

NY/NJ Metro Area, Hudson River, and South Long Island 2016 INVERT Polygons

1.2. Summary description of the data:

This data set contains sensitive biological resource data for marine, estuarine, and freshwater invertebrates, and federally and/or state endangered, threatened, or rare insects in the New York/New Jersey Metro Area, Hudson River, and South Long Island region. Vector polygons in this data set represent invertebrate distributions, spawning areas, migration areas, concentration areas, and harvest areas. 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 the the NY/NJ Metro Area, Hudson River, and South Long Island region. 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: -74.595, E: -71.7215, N: 42.8226, S: 39.9993

This reflects the extent of all land and water features included in the overall New York, New Jersey, Hudson River, and South Long Island 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:

- 2015-11-01 00:00:00 - Step 1. Selection of species and data sources. Four main sources of data were used to depict invertebrate distribution and seasonality for this data layer: 1) digital/tabular data sets provided by the New York Natural Heritage Program (NY NHP), NatureServe (NJ), and New York State Department of State (NYSDOS); 2) fishery-independent survey data provided by the Virginia Institute of Marine Science (VIMS), New York State Department of Environmental Conservation (NYSDEC), New Jersey Department of Environmental Protection (NJDEP), and National Marine Fisheries Service (NMFS); 3) published and unpublished reports; and 4) expert knowledge from resource experts with the NYSDEC, NJDEP, NPS, Cary Institute, Bayshore Watershed Council, and Molloy College. Invertebrates depicted in this atlas include selected marine and estuarine species of commercial, recreational, ecological, and/or conservation interest. Several known invertebrate concentrations, as well as larger, more general areas where invertebrate habitat exists, were mapped. The invertebrates mapped in the Hudson River estuary are blue crab, freshwater mussels, and rare insect species. (Citation: NEW YORK NATURAL HERITAGE PROGRAM BIODIVERSITY DATABASES)
- 2015-11-01 00:00:00 - Step 2. Developing ESI data for blue crab. Blue crab can potentially occur throughout the Hudson River below river mile 74, but only the probable mating and nursery distribution was mapped. Mating and nursery areas are typically shallow (3 m or less) water and salt marsh habitat from river mile 0 to 74 (Kenney pers. comm.). Important concentration areas are Haverstraw Bay, Tappan Zee Bay, and Newburgh Bay. Blue crabs were mapped using NYSDEC Western Long Island beach seine data, ELMR data, and expert knowledge. A large adult wintering concentration occurs November – March in the western part of New York Harbor (Kenney pers. comm.). A concentration of spawning females was mapped in Raritan Bay with information provided by NYSDEC (McKown pers. comm.). (Citation: WESTERN LONG ISLAND BEACH SEINE SURVEY)
- 2015-11-01 00:00:00 - Step 3. Developing ESI data for freshwaters mussels and rare insects. Based on freshwater mussel sampling by the Cary Institute, the section of the tidal Hudson River from river mile 132 to 154 supports a relatively large freshwater mussel population. The species that occur there are the tidewater mucket, alewife floater, and eastern elliptio. Densities (number of mussels per m²) were provided by the Cary Institute and used in the concentration field. Additional locations of the alewife floater and eastern elliptio, as well as rare insect species, were mapped using NY NHP data. Rare and endangered invertebrates were mapped using NY NHP and NatureServe (NJ) data with additional locations were provided by Fire Island National Seashore staff. Some species names were generalized as Rare Insect or Rare Invertebrate to protect sensitive species, as

requested by the data provider. A large number of monarch butterflies move through Fire Island and Sandy Hook from August-October during their annual migration and these were included as migration areas. (Citation: NEW YORK NATURAL HERITAGE PROGRAM BIODIVERSITY DATABASES)

- 2015-11-01 00:00:00 - Step 4. Developing ESI data for shellfish in bays. Shellfish landings data provided by NYSDEC were the primary data source for mapping shellfish distribution and concentrations in the Long Island south shore bays. For concentration, the average number of bushels landed in each bay from 2009 to 2013 was summarized for each species except for whelk. There is no mandatory reporting of harvest for whelk species, resulting in severe underestimates (McKown pers. comm.). Shellfish areas mapped with landings data were assigned the mapping qualifier HARVEST AREA. NYSDOS Significant Coastal Fish and Wildlife Habitat narratives were used to complete the south shore distribution of shellfish. Raritan Bay shellfish distributions were mapped using the Mid-Atlantic ELMR report. For bays in NJ, hardcopy shellfish maps were used to map shellfish concentrations. These maps date as far back as 1983 and are updated as resources allow, with northern quahog in Barnegat Bay the only recently mapped area/species (done in 2012). Pre-2012 data are identified with a concentration value of HISTORIC. Information from resource experts at the NYSDEC, NYSDOS Significant Coastal Fish and Wildlife Habitat narratives, and Mid-Atlantic ELMR data were used to fill data gaps. (Citation: 2000 SHELLFISH SURVEY: RARITAN AND SANDY HOOK BAY DISTRIBUTION AND ABUNDANCE OF THE HARD CLAM. MERCENARIA MERCENARIA)

- 2015-11-01 00:00:00 - Step 5. Developing ESI data for horseshoe crab. Known horseshoe crab spawning areas were mapped using reports from surveyed sites. The actual spawning distribution is more widespread than is depicted on these maps, as any sandy, bayside beach could be potential habitat. High priority spawning beaches (as determined by the data provider) are indicated with HIGH in the concentration field. Spawning areas were mapped by buffering the shoreline by 50 m. Spawning areas were reviewed by resource experts and Fire Island National Seashore staff. (Citation: MIGRATORY SHOREBIRD FORAGING AND HORSESHOE CRAB SPAWNING SURVEYS FOR THE NEW YORK STATE MARINE DISTRICT: A LOOK AT SPECIES INTERACTIONS)

- 2015-11-01 00:00:00 - Step 6. Developing ESI data for Atlantic surfclam and ocean quahog. Atlantic surfclam distributions in NY were mapped using survey data from NYSDEC. NYSDEC conducts routine population surveys using stratified random sampling. The survey takes place along the south shore of Long Island in that Atlantic Ocean from just east of Rockaway Inlet to Montauk Point, extending 3 nautical miles offshore. The study area is divided into 10 strata, with each stratum extending one mile in width and divided from west to east by Jones, Fire Island, and Moriches inlets. There is only one stratum from Moriches Inlet to Montauk Point, extending one mile from shore. Concentration values were determined by calculating the average clam density (clams/m²) in each stratum from 2005-2012 (total of 4 surveys). Concentrations are described as LOW, MEDIUM, and HIGH

corresponding to the first, second and third, and fourth quartiles of density. The NJ surf clam resource is severely depleted with no recent landings except for a bait fishery off of Sandy Hook in prohibited waters. This area was given a concentration of Baitfishery Area. In approved waters the NJ surf clam harvest is virtually nonexistent, and this area was mapped as “historically productive” at the recommendation of NJDEP Bureau of Shellfisheries. Ocean quahogs were mapped using the Essential Fish Habitat (EFH) source document, which states that most adults are found at depths between 25 to 61 m with juveniles at depths of 45-75 m in the middle Atlantic Bight. Based on this information, the ocean quahog distribution was mapped from the 20 m isobath to the offshore extent of the AOI. (Citation: NEW YORK SURF CLAM DATA)

- 2015-11-01 00:00:00 - Step 7. Assessing ocean distribution and abundance of selected species. The ocean distributions of blue crab, horseshoe crab, American lobster, and longfin squid were mapped using fisheries independent datasets: New Jersey Ocean Trawl Survey (NJ OTS), VIMS Northeast Area Monitoring and Assessment Program (NEAMAP), and NMFS Bottom Trawl Survey, using the same methods as with marine finfish as described above. For NJ OTS and NEAMAP data, the CPUE was calculated for each species by strata, and concentrations were described as “HIGH”, “MEDIUM”, “LOW” corresponding to the first, second and third, and fourth quartiles. Longfin squid concentrations were described as “ABUNDANT” or “HIGHLY ABUNDANT” due to their abundance in all depth strata. NEAMAP was used to map horseshoe crab and American lobster distributions in NY (except for the offshore strata) and NMFS was used to map blue crab in NY and all invertebrates in the NY offshore strata. A horseshoe crab concentration off the west end of Long Island was identified using the NYSDEC Atlantic surfclam survey data from 1999 – 2012 (6 years). The CPUE of horseshoe crab for each stratum was averaged across all years and concentrations were described as “HIGH”, “MEDIUM”, “LOW” corresponding to the first, second and third, and fourth quartiles. Only the high concentration strata were mapped as a concentration area. (Citation: NEW JERSEY BMF OCEAN TRAWL DATA)

- 2015-11-01 00:00:00 - Step 8. Assessing seasonality and other considerations. The primary sources for invertebrate seasonality were mid-Atlantic ELMR, NJ OTS, EFH source documents, and resource experts from NYSDEC. Depending on the type of source data, two general approaches are used for compiling the data layer: 1) digital data layers are evaluated and used "as is" or integrated with the ESI base map features (ESIP, HYDROP, ESIL) 2) information gathered during initial interviews and reports are compiled and digitized using ESI base map features. 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 INVERT data layer are made based on the recommendations of the resource experts and digital data are created. (Citation: DISTRIBUTION AND ABUNDANCE OF FISHES AND INVERTEBRATES IN MID-ATLANTIC ESTUARIES. ELMR REP. NO. 12)

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/51273>

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.