

*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:**

Chesapeake Bay and the Outer Coasts of Maryland and Virginia 2016 ESI BIRDS  
Polygons, Points

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

This data set contains sensitive biological resource data for wading birds, shorebirds, waterfowl, raptors, diving birds, seabirds, passerine birds, and gulls and terns in Chesapeake Bay and the Outer Coasts of Maryland and Virginia.

Vector polygons (BIRD POLYS) in this data set represent bird nesting, migratory staging, and wintering sites, general distributions, and concentration areas. Vector points (BIRD POINTS) in this data set represent bird nesting and roosting sites. 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 Chesapeake Bay and the Outer Coasts of Maryland and Virginia. 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 2016

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

W: -77.5418, E: -74.7942, N: 39.7215, S: 36.5498

This reflects the extent of all land and water features included in the overall Chesapeake Bay and Outer Coasts of Maryland and Virginia 2016 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):

Lineage Statement:

This atlas supersedes two prior atlases, Virginia (2005, #25) and Maryland (2007, #47). Three main sources of data were used to depict bird distribution and seasonality: 1) personal interviews with resource experts from the Virginia Department of Game and Inland Fisheries (VDGIF), Maryland Department of Natural Resources (MD DNR), National Park Service (NPS), Center for Conservation Biology (CCB), The Nature Conservancy (TNC), Saltmarsh Habitat and Avian Research Program (SHARP), and U.S. Fish and Wildlife Service (USFWS); 2) digital survey data from VDGIF, MD DNR, NPS, CCB, TNC, USFWS, and SHARP; and 3) numerous published and unpublished reports.

Process Steps:

- 2016-09-01 00:00:00 - Shorebirds, diving birds, gulls and terns: Survey data on locations of breeding, migrating, and/or wintering species were provided by various agencies via shapefiles, spreadsheets, primary literature, and expert local knowledge, and was supplemented with information from eBird. In general, data from the various data sources were compiled and mapped to habitat, park/refuge, or specific locations, per expert recommendations. There is additional source information in the GIS data tables.
- 2016-09-01 00:00:00 - Colonial waterbird nesting areas: For Virginia, VDGIF provided nesting data from 2013 that originated from various partner organizations including CCB, VDGIF, TNC, VA DCR, USFWS, USGS, and College of William and Mary. For Maryland, MD DNR provided nesting data from annual surveys conducted between 2004-2013. Each nesting colony was buffered by 200 m. Overlapping nest locations were merged, and counts from the dissolved colonies summed. Additionally, CCB provided nesting heron and egret survey data for the entire Chesapeake Bay drainage area (including MD), also from 2013. Where the heron/egret colonies overlapped with the VA colonial waterbird colonies, the heron/egret counts were added to the existing colony. Elsewhere, the heron and egret survey locations were mapped as points with counts of pairs for each species for each point location.
- 2016-09-01 00:00:00 - Wintering and nesting waterfowl: In Maryland, diving ducks and geese along the Chesapeake Bay were mapped into Areas of Critical State Concern for waterfowl (defined under Maryland's State Planning enabling legislation, article 88C). In coastal bays these species were mapped with a 250m offshore buffer based on MD DNR surveys (2013-2014). Dabbling ducks were mapped based on USFWS mid-winter survey blocks and MD DNR coastal bay

surveys with a 250m onshore/offshore buffer. In Virginia, species were mapped according to areas defined by VDGIF when compiling aerial survey data for USFWS mid-winter surveys (2004-2015) and expert knowledge. Counts were binned into Present (less than 10), 10s, 100s, 1,000s, or 10,000s. Nesting waterfowl occurrences in Maryland were derived from the Second Atlas of the Breeding Birds of Maryland and the District of Columbia and MD DNR expert knowledge; they are mapped as a 250m onshore buffer. In Virginia, American black duck nesting distributions were mapped based on VDGIF expert knowledge; mallard and Canada goose were mapped using species' presence during mid-winter surveys in or near marsh habitats; and wood duck were mapped using species' presence during mid-winter surveys in swamps and freshwater marshes. Nesting concentrations for waterfowl are represented as Present, Low, Moderate, High, or Very High. Onshore buffers that intersected with larger areas of freshwater or salt-and brackish-water marsh included those areas as part of the mapped distribution. Numbers from wintering surveys are likely underestimates, since surveys do not necessarily occur during each species' months of peak abundance.

- 2016-09-01 00:00:00 - Atlantic Ocean and Chesapeake Bay seabirds: Distribution of pelagic birds, gulls, terns, diving birds, alcids, phalaropes, and waterfowl in open waters of Chesapeake Bay and tributaries and the Atlantic Ocean (nearshore and offshore) were generated from discussions with resource experts, reports, and survey data. Species in open waters of Chesapeake Bay and the Atlantic Ocean were mapped from compiled aerial and shipboard survey data from USFWS that included: USFWS Atlantic Coast Wintering Sea Duck Surveys (ACWSD; preliminary survey in 2008, full surveys 2009-11), USFWS Atlantic Marine Assessment Program for Protected Species (AMAPPS) seabird surveys (preliminary survey in 2010, full-coast surveys in summer 2011, spring and fall 2012, winter 2014), NOAA EcoMon surveys, and Department of Energy (DOE)/Biological Research Institute (BRI) surveys (2012-2014). Distribution in Chesapeake Bay tributaries were mapped from USFWS midwinter surveys (2004-2015), BRI reports (2015), and eBird records from 2004-2016. Based on frequency of occurrence, abundance in these areas, and expert advice, data were grouped to create divisions throughout Chesapeake Bay and its tributaries, at the mouth of Chesapeake Bay, and as offshore polygons made as either a 0-5 nautical mile (nm) offshore buffer or a 0-12 nm offshore buffer. Counts were binned into Present (less than 10), 10s, 100s, 1,000s, or 10,000s.

- 2016-09-01 00:00:00 - Raptors: Bald eagle nest survey data (2015) was provided by CCB for Virginia. Nest locations were mapped as points in the ESI. Recent bald eagle nest survey data was not available for MD, as the state no longer surveys for the species. Historical data (1988-2010) of MD nest locations were mapped as points with the last observation date noted in the ESI concentration field. According to local experts, bald eagle nests are common in the state and the historical dataset is incomplete and does not fully cover where the species currently nests. VDGIF provided a Bald Eagle Concentration and Roosts (BECAR) dataset which features concentration areas along shorelines that have been identified through surveys to support a high density of non-breeding bald eagles in summer and/or winter. Roost

sites are sites that have been documented as repeatedly used as night-time resting places for multiple bald eagles, and are displayed as both polygons (based on the VDGIF BECAR data set) and points (based on the CCB data set). Peregrine falcon and osprey nest sites were mapped based on expert knowledge and/or nesting survey data. Northern harrier was mapped based on expert knowledge.

- 2016-09-01 00:00:00 - Secretive marsh birds: Black rail (VA SE) detection data for Virginia was provided by CCB for 2007-2008 and 2014. Data from both datasets largely overlapped, so the datasets were combined for the ESI. Points were buffered by 200 m. Patch analysis data for clapper rail, saltmarsh sharp-tailed sparrow, seaside sparrow, and willet were provided by SHARP. The patch analysis used habitat data from NWI to delineate marsh patches, and used field surveys of the target species to model species densities in each patch. Species densities were converted to number of birds per square kilometer and mapped to the appropriate marsh patches. Additionally, there were four SHARP survey sites on the western side of the Chesapeake Bay that had detected clapper rails in numbers too low for patch analysis. These survey sites were mapped as 50 m buffer polygons. NPS provided survey data of the following marsh birds on Assateague Island: clapper rail, king rail, saltmarsh sharp-tailed sparrow, and seaside sparrow. Each survey location with birds detected was mapped with a 200 m buffer. Where overlap occurred between SHARP data and NPS data, SHARP data was used because it contained more detailed spatial and concentration information.

- 2016-09-01 00:00:00 - Rare birds: A few rare bird species were mapped using data supplied by MD DNR from their Ecologically Significant Areas database. Data from this program came in the form of large generalized polygons that often include the presence of more than one species. Bird species mapped from this data set include: American bittern, black rail (MD SE, VA SE), black skimmer (MD SE), common moorhen, gull-billed tern (MD SE, VA ST), least bittern, peregrine falcon (VA ST), and royal tern (MD SE).

- 2016-09-01 00:00:00 - BIRD POLYS: Data from the above sources were compiled by the project biologist to create the BIRD POLYS data layer. 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. Once 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 BIRD POLYS data layer were made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

- 2016-09-01 00:00:00 - BIRD POINTS: Three main sources of data were used to depict bird distribution and seasonality for the BIRD POINTS data layer: 1) personal interviews with resource experts from the Virginia Department of Game and Inland Fisheries (VDGIF), Maryland Department of Natural Resources (MD DNR), Center

for Conservation Biology (CCB), and U.S. Fish and Wildlife Service (USFWS); 2) digital survey data from VDGIF, MD DNR, and CCB; and 3) published and unpublished reports. CCB provided nesting heron and egret survey data for the entire Chesapeake Bay drainage area (including MD) from 2013. Herons and Egrets:

Where the heron/egret colonies overlapped with the VA colonial waterbird colonies, the heron/egret counts were added to the existing colony. Elsewhere, the heron and egret survey locations were mapped as points with counts of pairs for each species for each point location. Raptors: Bald eagle nest survey data (2015) was provided by CCB for Virginia. Nest locations were mapped as points in the ESI. Recent bald eagle nest survey data was not available for MD, as the state no longer surveys for the species. Historical data (1988-2010) of MD nest locations were mapped as points with the last observation date noted in the ESI concentration field. According to local experts, bald eagle nests are common in the state and the historical dataset is incomplete and does not fully cover where the species currently nests. Roost sites are sites that have been documented as repeatedly used as nighttime resting places for multiple bald eagles, and are displayed as both polygons (based on the VDGIF BECAR data set) and points (based on the CCB data set). Peregrine falcon and osprey nest sites were mapped based on expert knowledge and/or nesting survey data. Northern harrier was mapped based on expert knowledge. The above digital and/or hardcopy sources were compiled by the project biologist to create the BIRD POINTS data layer.

**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/55083>

**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:**

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](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.*