

# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: HYDRO (Hydrography Lines and Polygons)

## Metadata:

- [Identification Information](#)
- [Data Quality Information](#)
- [Spatial Data Organization Information](#)
- [Spatial Reference Information](#)
- [Entity and Attribute Information](#)
- [Distribution Information](#)
- [Metadata Reference Information](#)

### *Identification\_Information:*

#### *Citation:*

#### *Citation\_Information:*

#### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington.

#### *Originator:*

U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia.

#### *Originator:*

Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

#### *Publication\_Date:*

201107

#### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: HYDRO (Hydrography Lines and Polygons)

#### *Edition:*

Second

#### *Geospatial\_Data\_Presentation\_Form:*

vector digital data

#### *Series\_Information:*

#### *Series\_Name:*

None

#### *Issue\_Identification:*

North Carolina

#### *Publication\_Information:*

#### *Publication\_Place:*

Seattle, Washington

#### *Publisher:*

NOAA's Ocean Service, Office of Response and Restoration (OR&R), Emergency Response Division (ERD).

*Other\_Citation\_Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division, Seattle, Washington.

*Online\_Linkage:*

<http://response.restoration.noaa.gov/esi>

*Description:**Abstract:*

This data set contains vector lines and polygons representing coastal hydrography used in the creation of the Environmental Sensitivity Index (ESI) for North Carolina. The HYDRO data layer contains all annotation used in producing the atlas. The annotation features are categorized into three subclasses in order to simplify the mapping and quality control procedures: GEOG for geographic features, SOC for socioeconomic features, and HYDRO for water features. This data set comprises a portion of the ESI data for North 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.

*Purpose:*

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

*Time\_Period\_of\_Content:**Time\_Period\_Information:**Range\_of\_Dates/Times:**Beginning\_Date:*

1901

*Ending\_Date:*

2010

*Currentness\_Reference:*

The data were compiled during 2010-2011. The currentness dates for the data range from 1901 to 2010 and are documented in the Lineage section.

*Status:**Progress:*

Complete

*Maintenance\_and\_Update\_Frequency:*

None Scheduled

*Spatial\_Domain:**Bounding\_Coordinates:**West\_Bounding\_Coordinate:*

-78.62500

*East\_Bounding\_Coordinate:*

-75.39900

*North\_Bounding\_Coordinate:*

36.62500

*South\_Bounding\_Coordinate:*

33.75000

*Keywords:**Theme:**Theme\_Keyword\_Thesaurus:*

ISO 19115 Topic Category

*Theme\_Keyword:*

biota

*Theme\_Keyword:*  
environment

*Theme:*

*Theme\_Keyword\_Thesaurus:*  
None

*Theme\_Keyword:*  
Environmental Monitoring

*Theme\_Keyword:*  
ESI

*Theme\_Keyword:*  
Sensitivity maps

*Theme\_Keyword:*  
Coastal resources

*Theme\_Keyword:*  
Oil spill planning

*Theme\_Keyword:*  
Coastal Zone Management

*Theme\_Keyword:*  
Wildlife

*Theme\_Keyword:*  
Hydrography

*Theme:*

*Theme\_Keyword\_Thesaurus:*  
NOS Data Explorer Topic Category

*Theme\_Keyword:*  
Environmental Monitoring

*Place:*

*Place\_Keyword\_Thesaurus:*  
None

*Place\_Keyword:*  
North Carolina

*Access\_Constraints:*

None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:*  
datafig.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

**JPEG***Browse\_Graphic:**Browse\_Graphic\_File\_Name:*

datafig2.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and desktop data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington; the U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia; and the Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 9.3) and SQL SERVER(R) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003). The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00, and wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio\_lut.e00, biofile.e00, biores.e00, breed.e00, breed\_dt.e00, seasonal.e00, soc\_dat.e00, soc\_lut.e00, sources.e00, species.e00, and status.e00.

*Program\_Affiliation:**Program\_Name:*

National Ocean Service Data Explorer

[Back To Index](#)*Data\_Quality\_Information:**Attribute\_Accuracy:**Attribute\_Accuracy\_Report:*

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD/DVD and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks.

*Completeness\_Report:*

These data represent linear and polygonal hydrography for North Carolina.

*Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy\_Report:*

The hydrography data set was developed from pre-existing digital data and reflects the positional accuracy of these original data. The horizontal positional accuracy of the 1:24,000 USGS topographic quads should conform to National Map Accuracy Standards at scales of 1:24,000. See the Lineage and Process\_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

GOOGLE EARTH PRO

*Publication\_Date:*

2010

*Title:*

IMAGERY OF NORTH CAROLINA SHORELINE FOR ESI ANALYSIS

*Geospatial\_Data\_Presentation\_Form:*

remote-sensing image

*Publication\_Information:*

*Publication\_Place:*

MOUNTAIN VIEW, CA

*Publisher:*

GOOGLE, INC.

*Other\_Citation\_Details:*

IMAGE DATES RANGE FROM 2006 TO 2010. IMAGE SOURCES INCLUDES USDA FARM SERVICE AGENCY, U.S. GEOLOGICAL SURVEY, AND DIGITAL GLOBE.

*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

2006

*Ending\_Date:*

2010

*Source\_Currentness\_Reference:*

DATE OF SURVEY

*Source\_Citation\_Abbreviation:*

Google Earth Pro 2010

*Source\_Contribution:*

HYDRO INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

LIMBER, PATRICK (NORTH CAROLINA DEPARTMENT OF

ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF  
COASTAL MANAGEMENT)*Publication\_Date:*

20070501

*Title:*

2004 WET/DRY SHORELINE

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Other\_Citation\_Details:*DIVISION OF COASTAL MANAGEMENT, 2728 CAPITAL  
BLVD, RALEIGH, NC 27604-1546*Source\_Scale\_Denominator:*

1500

*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Range\_of\_Dates/Times:**Beginning\_Date:*

20040826

*Ending\_Date:*

20040923

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

Limber 2007

*Source\_Contribution:*

HYDRO INFORMATION

*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*

NOAA, COASTAL SERVICES CENTER

*Publication\_Date:*

20070917

*Title:*COMPOSITE SHORELINE OF THE CONTINENTAL UNITED  
STATES DERIVED FROM NOAA-NOS COASTAL SURVEY  
MAPS DEVELOPED FROM 1901-1995 SOURCE DATA*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Other\_Citation\_Details:*NOAA, COASTAL SERVICES CENTER, 2234 SOUTH  
HOBSON AVENUE, CHARLESTON, SC 29405*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Range\_of\_Dates/Times:**Beginning\_Date:*

1901

*Ending\_Date:*

1995

*Source\_Currentness\_Reference:*  
DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*  
NOAA 2007

*Source\_Contribution:*  
HYDRO INFORMATION

*Source\_Information:*

*Source\_Citation:*  
*Citation\_Information:*

*Originator:*

NOAA, NATIONAL OCEAN SERVICE, OFFICE OF RESPONSE  
AND RESTORATION, EMERGENCY RESPONSE DIVISION

*Publication\_Date:*  
199609

*Title:*  
SENSITIVITY OF COASTAL ENVIRONMENTS AND  
WILDLIFE TO SPILLED OIL: NORTH CAROLINA

*Geospatial\_Data\_Presentation\_Form:*  
vector digital data

*Publication\_Information:*

*Publication\_Place:*  
SEATTLE, WA

*Publisher:*  
NOAA

*Other\_Citation\_Details:*  
7600 SAND POINT WAY, SEATTLE, WA 98115-6349

*Online\_Linkage:*  
<http://response.restoration.noaa.gov/esi>

*Source\_Scale\_Denominator:*  
24000

*Type\_of\_Source\_Media:*  
CD-ROM

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*  
*Range\_of\_Dates/Times:*

*Beginning\_Date:*  
198107

*Ending\_Date:*  
199602

*Source\_Currentness\_Reference:*  
DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*  
NOAA 1996

*Source\_Contribution:*  
HYDRO INFORMATION

*Source\_Information:*

*Source\_Citation:*  
*Citation\_Information:*

*Originator:*

RESEARCH PLANNING, INC.

*Publication\_Date:*

2009

*Title:*

OVERFLIGHT OBLIQUES

*Geospatial\_Data\_Presentation\_Form:*

PHOTOGRAPH

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

DIGITAL PHOTOGRAPH

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF SURVEY

*Source\_Citation\_Abbreviation:*

RPI 2009

*Source\_Contribution:*

HYDRO INFORMATION

*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*

RESEARCH PLANNING, INC.

*Publication\_Date:*

2010

*Title:*

INDEX ARCS

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Other\_Citation\_Details:*

UNPUBLISHED

*Source\_Scale\_Denominator:*

24000

*Type\_of\_Source\_Media:*

DIGITAL

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2010

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

RPI 2010

*Source\_Contribution:*

HYDRO INFORMATION

*Process\_Step:**Process\_Description:*

The shoreline was derived primarily from digital coastline data originating from the 1996 atlas, Sensitivity of Coastal Environments and Wildlife to Spilled Oil:



North Carolina. These data were supplemented with updated data from the North Carolina Department of Environment and Natural Resources and the NOAA Coastal Services Center. In some cases, gross shoreline changes were digitized using Google Earth Pro and oblique overflight photography taken by Research Planning, Inc. during the shoreline survey segment of this project. The above digital and/or hardcopy sources were compiled to create the HYDRO data layer. Depending on the type of source data, four general approaches are used for compiling the data layer: 1) hardcopy maps are digitized at their source scale; 2) digital data layers are evaluated and used "as is" or integrated with the other data sources; 3) overflight classifications are digitized from the scanned and registered hardcopy field maps; and/or 4) classifications are interpreted from oblique GPS-referenced photography or video taken during the overflights. After the initial shoreline classification, these data are edgematched and checked for logical consistency errors. Review maps are plotted at 1:24,000 scale for verification of polygonal and linear attributes. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews are conducted to review the maps. If necessary, edits to the HYDRO data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:*

201107

*Process\_Contact:*

*Contact\_Information:*

*Contact\_Organization\_Primary:*

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Person:*

Jill Petersen

*Contact\_Address:*

*Address\_Type:*

Physical address

*Address:*

7600 Sand Point Way, N.E.

*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6944

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Contact\_Electronic\_Mail\_Address:*

Jill.Petersen@noaa.gov

[Back To Index](#)

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*Spatial\_Data\_Organization\_Information:*

*Direct\_Spatial\_Reference\_Method:*

Vector

*Point\_and\_Vector\_Object\_Information:**SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

GT-polygon composed of chains

*Point\_and\_Vector\_Object\_Count:*

3617

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Area point

*Point\_and\_Vector\_Object\_Count:*

3618

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Complete chain

*Point\_and\_Vector\_Object\_Count:*

22045

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Link

*Point\_and\_Vector\_Object\_Count:*

1048152

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Label point

*Point\_and\_Vector\_Object\_Count:*

300

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Node,planar graph

*Point\_and\_Vector\_Object\_Count:*

22045

[Back To Index](#)*Spatial\_Reference\_Information:**Horizontal\_Coordinate\_System\_Definition:**Geographic:**Latitude\_Resolution:*

0.0000001

*Longitude\_Resolution:*

0.0000001

*Geographic\_Coordinate\_Units:*

Decimal degrees

*Geodetic\_Model:**Horizontal\_Datum\_Name:*

North American Datum of 1983

*Ellipsoid\_Name:*

Geodetic Reference System 80

*Semi-major\_Axis:*

6378137.000000

*Denominator\_of\_Flattening\_Ratio:*

298.257222

[Back To Index](#)

*Entity\_and\_Attribute\_Information:**Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

HYDRO.AAT

*Entity\_Type\_Definition:*

The HYDRO.AAT table contains attribute information for the vector lines representing linear hydrography features in the HYDRO data layer.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

LINE

*Attribute\_Definition:*

Type of geographic feature.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

B

*Enumerated\_Domain\_Value\_Definition:*

Breakwater

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Extent of Digital Data

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

H

*Enumerated\_Domain\_Value\_Definition:*

Hydrography

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

I

*Enumerated\_Domain\_Value\_Definition:*

Index

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

S

*Enumerated\_Domain\_Value\_Definition:*

Shoreline

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SOURCE\_ID

*Attribute\_Definition:*

Source identifier that links to the SOURCES data table. This identifier indicates the source of a vector line segment.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

HYDRO.PAT

*Entity\_Type\_Definition:*

The HYDRO.PAT table contains attribute information for the vector polygons representing polygonal hydrography features in the HYDRO data layer.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

WATER\_CODE

*Attribute\_Definition:*

Specifies a polygon as either water or land.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

L

*Enumerated\_Domain\_Value\_Definition:*

Land

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

W

*Enumerated\_Domain\_Value\_Definition:*

Water

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

ANNO.GEOG

*Entity\_Type\_Definition:*

The spatial data layer HYDRO contains label points representing annotation for geographic features.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

ANNO.HYDRO

*Entity\_Type\_Definition:*

The spatial data layer HYDRO contains label points representing annotation for water features.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

ANNO.SOC

*Entity\_Type\_Definition:*

The spatial data layer HYDRO contains label points representing annotation for socioeconomic features.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

SOURCES

*Entity\_Type\_Definition:*

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SOURCE\_ID

*Attribute\_Definition:*

Source identifier that links records in the SOURCES data table to the items G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID and ESI\_SOURCE in the ESI, WETLANDS, and HYDRO data layers.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

ORIGINATOR

*Attribute\_Definition:*

Author or developer of source material or data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

DATE\_PUB

*Attribute\_Definition:*

Date of source material, publication, or date of personal communication with expert source.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

TITLE

*Attribute\_Definition:*

Title of source material or data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

DATA\_FORMAT

*Attribute\_Definition:*

The format of the source material.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

PUB\_PLACE

*Attribute\_Definition:*

Publication place.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUBLISHER

*Attribute\_Definition:*

Publisher.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUBLICATION

*Attribute\_Definition:*

Additional citation information.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

ONLINE\_LINK

*Attribute\_Definition:*

Online computer resource URL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

SCALE

*Attribute\_Definition:*

Description of the source scale.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

TIME\_PERIOD

*Attribute\_Definition:*

Date(s) of data collection that the source material is based upon.

*Attribute\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Overview\_Description:**Entity\_and\_Attribute\_Overview:*

In addition to the geographic data layers, the relational attribute or data table, SOURCES, is used to store the source data information in the ESI data structure. The geographic data layer containing resource information (in this case, HYDRO) is linked to the SOURCES table using the SOURCE\_ID. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_and\_Attribute\_Detail\_Citation:*

A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines ([http://response.restoration.noaa.gov/esi\\_guidelines](http://response.restoration.noaa.gov/esi_guidelines)).

[Back To Index](#)*Distribution\_Information:**Distributor:**Contact\_Information:**Contact\_Person\_Primary:**Contact\_Person:*

John Kaperick

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Address:**Address\_Type:*

Physical Address

*Address:*

7600 Sand Point Way N.E.

*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6400

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Resource\_Description:*

Downloadable Data

*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*



Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

[Back To Index](#)

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*Metadata\_Reference\_Information:*

*Metadata\_Date:*

20111015

*Metadata\_Review\_Date:*

20111015

*Metadata\_Contact:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:*

Jill Petersen

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Position:*

GIS Manager

*Contact\_Address:*

*Address\_Type:*

Physical Address

*Address:*

7600 Sand Point Way, N.E.

*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6944

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Contact\_Electronic\_Mail\_Address:*

Jill.Petersen@noaa.gov

*Metadata\_Standard\_Name:*

Content Standards for Digital Geospatial Metadata

*Metadata\_Standard\_Version:*

FGDC-STD-001-1998

*Metadata\_Extensions:*

*Online\_Linkage:*

[http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile\\_v2.pdf](http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile_v2.pdf)

*Profile\_Name:*

Content Specification for Metadata in the National Coastal Data Development Center's Data Catalog Version 2.0

# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: ESI (ESI Shoreline Types - Lines and Polygons)

## Metadata:

- [Identification Information](#)
- [Data Quality Information](#)
- [Spatial Data Organization Information](#)
- [Spatial Reference Information](#)
- [Entity and Attribute Information](#)
- [Distribution Information](#)
- [Metadata Reference Information](#)

### *Identification\_Information:*

#### *Citation:*

#### *Citation\_Information:*

#### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington.

#### *Originator:*

U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia.

#### *Originator:*

Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

#### *Publication\_Date:*

201107

#### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: ESI (ESI Shoreline Types - Lines and Polygons)

#### *Edition:*

Second

#### *Geospatial\_Data\_Presentation\_Form:*

vector digital data

#### *Series\_Information:*

#### *Series\_Name:*

None

#### *Issue\_Identification:*

North Carolina

#### *Publication\_Information:*

#### *Publication\_Place:*

Seattle, Washington

#### *Publisher:*

NOAA's Ocean Service, Office of Response and Restoration (OR&R), Emergency Response Division (ERD).

*Other\_Citation\_Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division, Seattle, Washington.

*Online\_Linkage:*

<http://response.restoration.noaa.gov/esi>

*Description:**Abstract:*

This data set contains vector lines and polygons representing the shoreline and coastal habitats of North Carolina classified according to the Environmental Sensitivity Index (ESI) classification system. This data set comprises a portion of the ESI data for North 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. See also the WETLANDS data layer, part of the larger North Carolina ESI database, for additional ESI information.

*Purpose:*

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

*Time\_Period\_of\_Content:**Time\_Period\_Information:**Range\_of\_Dates/Times:**Beginning\_Date:*

1901

*Ending\_Date:*

2010

*Currentness\_Reference:*

The data were compiled during 2010-2011. The currentness dates for the data range from 1901 to 2010 and are documented in the Lineage section.

*Status:**Progress:*

Complete

*Maintenance\_and\_Update\_Frequency:*

None Scheduled

*Spatial\_Domain:**Bounding\_Coordinates:**West\_Bounding\_Coordinate:*

-78.62500

*East\_Bounding\_Coordinate:*

-75.39900

*North\_Bounding\_Coordinate:*

36.62500

*South\_Bounding\_Coordinate:*

33.75000

*Keywords:**Theme:**Theme\_Keyword\_Thesaurus:*

ISO 19115 Topic Category

*Theme\_Keyword:*

biota

*Theme\_Keyword:*

environment

*Theme:**Theme\_Keyword\_Thesaurus:*

None

*Theme\_Keyword:*

Environmental Monitoring

*Theme\_Keyword:*

ESI

*Theme\_Keyword:*

Sensitivity maps

*Theme\_Keyword:*

Coastal resources

*Theme\_Keyword:*

Oil spill planning

*Theme\_Keyword:*

Coastal Zone Management

*Theme\_Keyword:*

Wildlife

*Theme\_Keyword:*

Shoreline types

*Theme:**Theme\_Keyword\_Thesaurus:*

NOS Data Explorer Topic Category

*Theme\_Keyword:*

Environmental Monitoring

*Place:**Place\_Keyword\_Thesaurus:*

None

*Place\_Keyword:*

North Carolina

*Access\_Constraints:*

None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:**Browse\_Graphic\_File\_Name:*

datafig.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:*

datafig2.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and desktop data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington; the U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia; and the Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 9.3) and SQL SERVER(R) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003). The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00, and wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio\_lut.e00, biofile.e00, biores.e00, breed.e00, breed\_dt.e00, seasonal.e00, soc\_dat.e00, soc\_lut.e00, sources.e00, species.e00, and status.e00.

*Program\_Affiliation:**Program\_Name:*

National Ocean Service Data Explorer

[Back To Index](#)

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*Data\_Quality\_Information:**Attribute\_Accuracy:**Attribute\_Accuracy\_Report:*

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD/DVD and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks.

*Completeness\_Report:*

These data represent coastal shorelines and habitats classified according to the Environmental Sensitivity Index (ESI) classification system. See also the WETLANDS data

layer, part of the larger North Carolina ESI database, for additional ESI information.  
*Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy\_Report:*

The spatial location of the ESI shoreline was developed from pre-existing digital sources and reflects the positional accuracy of these original data. The horizontal positional accuracy of the 1:24,000 USGS topographic quads should conform to National Map Accuracy Standards at scales of 1:24,000. The minimum mapping unit (MMU) of the actual shoreline classification segments is estimated at 50 meters where mapping is conducted using 1:24,000 hardcopy fieldmaps. Field verification has shown that the absolute positional accuracy of breaks between shoreline ESI types with a 95-percent error bound is approximately 58 meters. See the Lineage and Process\_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

GOOGLE EARTH PRO

*Publication\_Date:*

2010

*Title:*

IMAGERY OF NORTH CAROLINA SHORELINE FOR ESI ANALYSIS

*Geospatial\_Data\_Presentation\_Form:*

remote-sensing image

*Publication\_Information:*

*Publication\_Place:*

MOUNTAIN VIEW, CA

*Publisher:*

GOOGLE, INC.

*Other\_Citation\_Details:*

IMAGE DATES RANGE FROM 2006 TO 2010. IMAGE SOURCES INCLUDES USDA FARM SERVICE AGENCY, U.S. GEOLOGICAL SURVEY, AND DIGITAL GLOBE.

*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

2006

*Ending\_Date:*

2010

*Source\_Currentness\_Reference:*

DATE OF SURVEY

*Source\_Citation\_Abbreviation:*

Google Earth Pro 2010

*Source\_Contribution:*

ESI INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

LIMBER, PATRICK (NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF COASTAL MANAGEMENT)

*Publication\_Date:*

20070501

*Title:*

2004 WET/DRY SHORELINE

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Other\_Citation\_Details:*

DIVISION OF COASTAL MANAGEMENT, 2728 CAPITAL BLVD, RALEIGH, NC 27604-1546

*Source\_Scale\_Denominator:*

1500

*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

20040826

*Ending\_Date:*

20040923

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

Limber 2007

*Source\_Contribution:*

ESI INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

NOAA, COASTAL SERVICES CENTER

*Publication\_Date:*

20070917

*Title:*

COMPOSITE SHORELINE OF THE CONTINENTAL UNITED STATES DERIVED FROM NOAA-NOS COASTAL SURVEY MAPS DEVELOPED FROM 1901-1995 SOURCE DATA

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Other\_Citation\_Details:*

NOAA, COASTAL SERVICES CENTER, 2234 SOUTH HOBSON AVENUE, CHARLESTON, SC 29405

*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

1901

*Ending\_Date:*

1995

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

NOAA 2007

*Source\_Contribution:*

ESI INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

NOAA, NATIONAL OCEAN SERVICE, OFFICE OF RESPONSE  
AND RESTORATION, EMERGENCY RESPONSE DIVISION

*Publication\_Date:*

199609

*Title:*

SENSITIVITY OF COASTAL ENVIRONMENTS AND  
WILDLIFE TO SPILLED OIL: NORTH CAROLINA

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Publication\_Information:*

*Publication\_Place:*

SEATTLE, WA

*Publisher:*

NOAA

*Other\_Citation\_Details:*

7600 SAND POINT WAY, SEATTLE, WA 98115-6349

*Online\_Linkage:*

<http://response.restoration.noaa.gov/esi>

*Source\_Scale\_Denominator:*

24000

*Type\_of\_Source\_Media:*

CD-ROM

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

198107

*Ending\_Date:*

199602

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

NOAA 1996

*Source\_Contribution:*

ESI INFORMATION

*Source\_Information:*



*Source\_Citation:**Citation\_Information:**Originator:*

RESEARCH PLANNING, INC.

*Publication\_Date:*

2009

*Title:*

OVERFLIGHT OBLIQUES

*Geospatial\_Data\_Presentation\_Form:*

PHOTOGRAPH

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

DIGITAL PHOTOGRAPH

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF SURVEY

*Source\_Citation\_Abbreviation:*

RPI 2009

*Source\_Contribution:*

ESI INFORMATION

*Process\_Step:**Process\_Description:*

Original ESI maps, published in 1996, were re-examined and fully updated using the sources and methods described below. The intertidal shoreline habitats of North Carolina were mapped via interpretation of a continuous, overlapping set of georeferenced oblique aerial photographs. These photographs were acquired between July and October 2009 during overflights conducted at elevations of 400-600 feet and slow air speed. All flights were planned to maximize time on site during the 2.5 hours preceding and the 2.5 hours following peak low tide. Where appropriate, revisions to the existing shoreline were made and, where necessary, multiple habitats were described for each shoreline segment. During these flights a geomorphologist utilized a digital SLR camera to capture the images of the intertidal zone. Tidal flats were discerned from the georeferenced oblique aerial photographs. The above digital and/or hardcopy sources were compiled to create the ESI data layer. Depending on the type of source data, three general approaches are used for compiling the data layer: 1) hardcopy maps are digitized at their source scale; 2) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources; and 3) overflight changes are digitized from the scanned and registered hardcopy field maps or aerial photography. After the initial shoreline classification, these data are edgematched and checked for logical consistency errors. Review maps are plotted at 1:24,000 scale for verification of polygonal and linear attributes. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews are conducted to review the maps. If necessary, edits to the ESI data layer are made based on the recommendations of

the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:*

201107

*Process\_Contact:*

*Contact\_Information:*

*Contact\_Organization\_Primary:*

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Person:*

Jill Petersen

*Contact\_Address:*

*Address\_Type:*

Physical address

*Address:*

7600 Sand Point Way, N.E.

*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6944

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Contact\_Electronic\_Mail\_Address:*

Jill.Petersen@noaa.gov

[Back To Index](#)

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*Spatial\_Data\_Organization\_Information:*

*Direct\_Spatial\_Reference\_Method:*

Vector

*Point\_and\_Vector\_Object\_Information:*

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:*

GT-polygon composed of chains

*Point\_and\_Vector\_Object\_Count:*

3423

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:*

Area point

*Point\_and\_Vector\_Object\_Count:*

3424

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:*

Complete chain

*Point\_and\_Vector\_Object\_Count:*

21873

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:*

Link

*Point\_and\_Vector\_Object\_Count:*

1032586

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Node,planar graph

*Point\_and\_Vector\_Object\_Count:*

21930

[Back To Index](#)

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*Spatial\_Reference\_Information:**Horizontal\_Coordinate\_System\_Definition:**Geographic:**Latitude\_Resolution:*

0.0000001

*Longitude\_Resolution:*

0.0000001

*Geographic\_Coordinate\_Units:*

Decimal degrees

*Geodetic\_Model:**Horizontal\_Datum\_Name:*

North American Datum of 1983

*Ellipsoid\_Name:*

Geodetic Reference System 80

*Semi-major\_Axis:*

6378137.000000

*Denominator\_of\_Flattening\_Ratio:*

298.257222

[Back To Index](#)

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*Entity\_and\_Attribute\_Information:**Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

ESI.AAT

*Entity\_Type\_Definition:*

The ESI.AAT table contains attribute information for the vector lines representing linear shoreline features with ESI classification.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ESI

*Attribute\_Definition:*

The item ESI contains values representing the ESI shoreline type. In many cases shorelines are ranked with multiple codes, such as "6B/3A" (listed landward to seaward from left to right). The first code, "6B", is the most landward shoreline type and the second code, "3A", is the shoreline type closest to the water. Singular shoreline types are listed below. No multiple codes are listed, but all multiple codes included in the data set can be assembled from the codes described. The ESI rankings progress from low to high susceptibility to oil spills. To determine the sensitivity of a particular intertidal shoreline habitat, the following factors are integrated: 1) Shoreline type (substrate, grain size, tidal elevation, origin); 2) Exposure to wave and tidal energy; 3) Biological

productivity and sensitivity; 4) Ease of cleanup. Prediction of the behavior and persistence of oil in intertidal habitats is based on an understanding of the dynamics of the coastal environments, not just the substrate type and grain size. The intensity of energy expended upon a shoreline by wave action, tidal currents, and river currents directly affects the persistence of stranded oil. The need for shoreline cleanup activities is determined, in part, by the slowness of natural processes in removal of oil stranded on the shoreline. The potential for biological injury, and ease of cleanup of spilled oil are also important factors in the ESI ranking. Generally speaking, areas exposed to high levels of physical energy, such as wave action and tidal currents, and low biological activity rank low on the scale, whereas sheltered areas with associated high biological activity have the highest ranking.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

1B

*Enumerated\_Domain\_Value\_Definition:*

Exposed, Solid Man-made Structures

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

2A

*Enumerated\_Domain\_Value\_Definition:*

Exposed Wave-cut Platforms in Mud or Clay

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

3A

*Enumerated\_Domain\_Value\_Definition:*

Fine- to Medium-grained Sand Beaches

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

3B

*Enumerated\_Domain\_Value\_Definition:*

Scarps and Steep Slopes in Sand

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

4

*Enumerated\_Domain\_Value\_Definition:*

Coarse-grained Sand Beaches

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
5  
*Enumerated\_Domain\_Value\_Definition:*  
Mixed Sand and Gravel Beaches  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
6B  
*Enumerated\_Domain\_Value\_Definition:*  
Riprap  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
7  
*Enumerated\_Domain\_Value\_Definition:*  
Exposed Tidal Flats  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
8B  
*Enumerated\_Domain\_Value\_Definition:*  
Sheltered, Solid Man-made Structures  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
8C  
*Enumerated\_Domain\_Value\_Definition:*  
Sheltered Riprap  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
9A  
*Enumerated\_Domain\_Value\_Definition:*  
Sheltered Tidal Flats  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

9B

*Enumerated\_Domain\_Value\_Definition:*

Vegetated Low Banks

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

10A

*Enumerated\_Domain\_Value\_Definition:*

Salt- and Brackish-water Marshes

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

10B

*Enumerated\_Domain\_Value\_Definition:*

Freshwater Marshes

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

10C

*Enumerated\_Domain\_Value\_Definition:*

Swamps

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

10D

*Enumerated\_Domain\_Value\_Definition:*

Scrub-shrub Wetlands

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

U

*Enumerated\_Domain\_Value\_Definition:*

Unranked

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

LINE

*Attribute\_Definition:*

Type of geographic feature.

*Attribute\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

B

*Enumerated\_Domain\_Value\_Definition:*

Breakwater

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

F

*Enumerated\_Domain\_Value\_Definition:*

Flat

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

H

*Enumerated\_Domain\_Value\_Definition:*

Hydrography

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

S

*Enumerated\_Domain\_Value\_Definition:*

Shoreline

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SOURCE\_ID

*Attribute\_Definition:*

Source identifier that links to the SOURCES data table. This identifier indicates the source of a vector line segment.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

ENVIR

*Attribute\_Definition:*

Type of regional environment.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Estuarine

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

U

*Enumerated\_Domain\_Value\_Definition:*

Unclassified

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ESI\_SOURCE

*Attribute\_Definition:*

Source identifier that links to the SOURCES data table. This identifier indicates the source of the ESI classification of a line segment. Vector features that were not surveyed or do not qualify for an ESI classification have a value of -1.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

-1

*Range\_Domain\_Maximum:*

N

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

ESI.PAT

*Entity\_Type\_Definition:*

The ESI.PAT table contains attribute information for the vector polygons representing polygonal features with ESI classification.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ESI

*Attribute\_Definition:*

The item ESI contains values representing the ESI polygon type.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*



7

*Enumerated\_Domain\_Value\_Definition:*

Exposed Tidal Flats

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

U

*Enumerated\_Domain\_Value\_Definition:*

Unranked

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

WATER\_CODE

*Attribute\_Definition:*

Specifies a polygon as either water or land.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

L

*Enumerated\_Domain\_Value\_Definition:*

Land

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

W

*Enumerated\_Domain\_Value\_Definition:*

Water

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ENVIR

*Attribute\_Definition:*

Type of regional environment.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Estuarine

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

U

*Enumerated\_Domain\_Value\_Definition:*

Unclassified

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ESI\_SOURCE

*Attribute\_Definition:*

Source identifier that links to the SOURCES data table. This identifier indicates the source of the ESI classification of a polygon. Polygon features that do not have an associated ESI value are given an ESI\_SOURCE value of -1.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

-1

*Range\_Domain\_Maximum:*

N

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

SOURCES

*Entity\_Type\_Definition:*

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SOURCE\_ID

*Attribute\_Definition:*

Source identifier that links records in the SOURCES data table to the items G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID and ESI\_SOURCE in the ESI, WETLANDS, and HYDRO data layers.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

ORIGINATOR

*Attribute\_Definition:*

Author or developer of source material or data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

DATE\_PUB

*Attribute\_Definition:*

Date of source material, publication, or date of personal communication with expert source.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

TITLE

*Attribute\_Definition:*

Title of source material or data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

DATA\_FORMAT

*Attribute\_Definition:*

The format of the source material.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUB\_PLACE

*Attribute\_Definition:*

Publication place.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUBLISHER

*Attribute\_Definition:*

Publisher.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUBLICATION

*Attribute\_Definition:*

Additional citation information.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

ONLINE\_LINK

*Attribute\_Definition:*

Online computer resource URL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

SCALE

*Attribute\_Definition:*

Description of the source scale.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

TIME\_PERIOD

*Attribute\_Definition:*

Date(s) of data collection that the source material is based upon.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Overview\_Description:*

*Entity\_and\_Attribute\_Overview:*

In addition to the geographic data layers, the relational attribute or data table, SOURCES, is used to store the source data information in the ESI data structure. The geographic data layer containing resource information (in this case, ESI) is linked to the SOURCES table using the SOURCE\_ID. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_and\_Attribute\_Detail\_Citation:*

A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines ([http://response.restoration.noaa.gov/esi\\_guidelines](http://response.restoration.noaa.gov/esi_guidelines)).

[Back To Index](#)

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*Distribution\_Information:**Distributor:**Contact\_Information:**Contact\_Person\_Primary:**Contact\_Person:*

John Kaperick

*Contact\_Organization:*

NOAA, Office of Response and Restoration

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Physical Address

*Address:*

7600 Sand Point Way N.E.

*City:*

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*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6400

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Resource\_Description:*

Downloadable Data

*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution

CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

[Back To Index](#)

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*Metadata\_Reference\_Information:*

*Metadata\_Date:*

20111015

*Metadata\_Review\_Date:*

20111015

*Metadata\_Contact:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:*

Jill Petersen

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Position:*

GIS Manager

*Contact\_Address:*

*Address\_Type:*

Physical Address

*Address:*

7600 Sand Point Way, N.E.

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Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

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*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Contact\_Electronic\_Mail\_Address:*

Jill.Petersen@noaa.gov

*Metadata\_Standard\_Name:*

Content Standards for Digital Geospatial Metadata

*Metadata\_Standard\_Version:*

FGDC-STD-001-1998

*Metadata\_Extensions:*

*Online\_Linkage:*

[http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile\\_v2.pdf](http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile_v2.pdf)

*Profile\_Name:*

Content Specification for Metadata in the National Coastal Data Development Center's Data Catalog Version 2.0

[Back To Index](#)

# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: WETLANDS (Wetland Polygons)

## Metadata:

- [Identification Information](#)
  - [Data Quality Information](#)
  - [Spatial Data Organization Information](#)
  - [Spatial Reference Information](#)
  - [Entity and Attribute Information](#)
  - [Distribution Information](#)
  - [Metadata Reference Information](#)
- 

### *Identification\_Information:*

#### *Citation:*

##### *Citation\_Information:*

##### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington.

##### *Originator:*

U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia.

##### *Originator:*

Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

##### *Publication\_Date:*

201107

##### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: WETLANDS (Wetland Polygons)

##### *Edition:*

Second

##### *Geospatial\_Data\_Presentation\_Form:*

vector digital data

##### *Series\_Information:*

##### *Series\_Name:*

None

##### *Issue\_Identification:*

North Carolina

##### *Publication\_Information:*

##### *Publication\_Place:*

Seattle, Washington

##### *Publisher:*

NOAA's Ocean Service, Office of Response and Restoration (OR&R), Emergency Response Division (ERD).

*Other\_Citation\_Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division, Seattle, Washington.

*Online\_Linkage:*

<http://response.restoration.noaa.gov/esi>

*Description:**Abstract:*

This data set contains vector polygons representing the coastal wetlands for North Carolina. This data set comprises a portion of the ESI data for North 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. See also the ESI data layer, part of the larger North Carolina ESI database, for additional ESI information.

*Purpose:*

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

*Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2003

*Currentness\_Reference:*

The data were compiled during 2010-2011. The currentness date for the data is 2003 and is documented in the Lineage section.

*Status:**Progress:*

Complete

*Maintenance\_and\_Update\_Frequency:*

None Scheduled

*Spatial\_Domain:**Bounding\_Coordinates:**West\_Bounding\_Coordinate:*

-78.62500

*East\_Bounding\_Coordinate:*

-75.39900

*North\_Bounding\_Coordinate:*

36.62500

*South\_Bounding\_Coordinate:*

33.75000

*Keywords:**Theme:**Theme\_Keyword\_Thesaurus:*

ISO 19115 Topic Category

*Theme\_Keyword:*

biota

*Theme\_Keyword:*

environment

*Theme:**Theme\_Keyword\_Thesaurus:*

None



*Theme\_Keyword:*  
Environmental Monitoring

*Theme\_Keyword:*  
ESI

*Theme\_Keyword:*  
Sensitivity maps

*Theme\_Keyword:*  
Coastal resources

*Theme\_Keyword:*  
Oil spill planning

*Theme\_Keyword:*  
Coastal Zone Management

*Theme\_Keyword:*  
Wildlife

*Theme\_Keyword:*  
Shoreline types

*Theme\_Keyword:*  
Wetlands

*Theme:*

*Theme\_Keyword\_Thesaurus:*  
NOS Data Explorer Topic Category

*Theme\_Keyword:*  
Environmental Monitoring

*Place:*

*Place\_Keyword\_Thesaurus:*  
None

*Place\_Keyword:*  
North Carolina

*Access\_Constraints:*

None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:*  
datafig.jpg

*Browse\_Graphic\_File\_Description:*  
Depicts the relationships between spatial data layers and attribute data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*  
JPEG

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:*

datafig2.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and desktop data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington; the U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia; and the Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 9.3) and SQL SERVER(R) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003). The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00, and wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio\_lut.e00, biofile.e00, biores.e00, breed.e00, breed\_dt.e00, seasonal.e00, soc\_dat.e00, soc\_lut.e00, sources.e00, species.e00, and status.e00.

*Program\_Affiliation:*

*Program\_Name:*

National Ocean Service Data Explorer

[Back To Index](#)

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*Data\_Quality\_Information:*

*Attribute\_Accuracy:*

*Attribute\_Accuracy\_Report:*

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD/DVD and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks.

*Completeness\_Report:*

These data represent wetlands-related coastal shorelines and habitats (e.g., marshes, swamps) classified according to the Environmental Sensitivity Index (ESI) classification system. See also the ESI data layer, part of the larger North Carolina ESI database, for additional ESI

information.

*Positional\_Accuracy:*  
*Horizontal\_Positional\_Accuracy:*  
*Horizontal\_Positional\_Accuracy\_Report:*  
 The WETLANDS data set was developed from pre-existing digital sources and reflects the positional accuracy of these original data. See the Lineage and Process\_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

*Lineage:*  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
 NORTH CAROLINA DIVISION OF COASTAL MANAGEMENT  
*Publication\_Date:*  
 20031230  
*Title:*  
 WETLAND TYPES - NORTH CAROLINA COASTAL AREA  
*Geospatial\_Data\_Presentation\_Form:*  
 vector digital data  
*Publication\_Information:*  
*Publication\_Place:*  
 RALEIGH, NC  
*Publisher:*  
 NORTH CAROLINA DEPARTMENT OF ENVIRONMENT  
 AND NATURAL RESOURCES DIVISION OF COASTAL  
 MANAGEMENT  
*Online\_Linkage:*  
<http://dcm2.enr.state.nc.us/Wetlands/download.htm>

*Source\_Scale\_Denominator:*  
 24000  
*Type\_of\_Source\_Media:*  
 online  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:*  
 20030801  
*Source\_Currentness\_Reference:*  
 DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:*  
 NC DCM 2003  
*Source\_Contribution:*  
 WETLANDS INFORMATION

*Process\_Step:*  
*Process\_Description:*  
 Polygonal wetlands from the 2003 North Carolina Division of Coastal Management data were classified according to the Environmental Sensitivity Index (ESI) classification system and clipped with the ESI HYDRO layer. Additional minor spatial and attribute edits were made to better integrate the data layer with the ESI layer and the overflight classifications.  
*Process\_Date:*

201107

*Process\_Contact:**Contact\_Information:**Contact\_Organization\_Primary:**Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Person:*

Jill Petersen

*Contact\_Address:**Address\_Type:*

Physical address

*Address:*

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*City:*

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*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6944

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Contact\_Electronic\_Mail\_Address:*

Jill.Petersen@noaa.gov

[Back To Index](#)*Spatial\_Data\_Organization\_Information:**Direct\_Spatial\_Reference\_Method:*

Vector

*Point\_and\_Vector\_Object\_Information:**SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

GT-polygon composed of chains

*Point\_and\_Vector\_Object\_Count:*

19983

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Area point

*Point\_and\_Vector\_Object\_Count:*

19984

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Complete chain

*Point\_and\_Vector\_Object\_Count:*

28626

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Link

*Point\_and\_Vector\_Object\_Count:*

2670450

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:*  
Node,planar graph  
*Point\_and\_Vector\_Object\_Count:*  
24143

[Back To Index](#)

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*Spatial\_Reference\_Information:*  
*Horizontal\_Coordinate\_System\_Definition:*  
*Geographic:*  
*Latitude\_Resolution:*  
0.0000001  
*Longitude\_Resolution:*  
0.0000001  
*Geographic\_Coordinate\_Units:*  
Decimal degrees  
*Geodetic\_Model:*  
*Horizontal\_Datum\_Name:*  
North American Datum of 1983  
*Ellipsoid\_Name:*  
Geodetic Reference System 80  
*Semi-major\_Axis:*  
6378137.000000  
*Denominator\_of\_Flattening\_Ratio:*  
298.257222

[Back To Index](#)

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*Entity\_and\_Attribute\_Information:*  
*Detailed\_Description:*  
*Entity\_Type:*  
*Entity\_Type\_Label:*  
ESI.PAT  
*Entity\_Type\_Definition:*  
The WETLANDS.PAT table contains attribute information for the vector polygons representing polygonal features with ESI classification.  
*Entity\_Type\_Definition\_Source:*  
NOAA ESI Guidelines  
*Attribute:*  
*Attribute\_Label:*  
ESI  
*Attribute\_Definition:*  
The item ESI contains values representing the ESI polygon type.  
*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
10A  
*Enumerated\_Domain\_Value\_Definition:*  
Salt- and Brackish-water Marshes  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

10B

*Enumerated\_Domain\_Value\_Definition:*

Freshwater Marshes

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

10C

*Enumerated\_Domain\_Value\_Definition:*

Swamps

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

10D

*Enumerated\_Domain\_Value\_Definition:*

Scrub-shrub Wetlands

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

WATER\_CODE

*Attribute\_Definition:*

Specifies a polygon as either water or land.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

L

*Enumerated\_Domain\_Value\_Definition:*

Land

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

W

*Enumerated\_Domain\_Value\_Definition:*

Water

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

ENVIR

*Attribute\_Definition:*

Type of regional environment.

*Attribute\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Estuarine

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

U

*Enumerated\_Domain\_Value\_Definition:*

Unclassified

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ESI\_SOURCE

*Attribute\_Definition:*

Source identifier that links to the SOURCES data table. This identifier indicates the source of the ESI classification of a polygon. Polygon features that do not have an associated ESI value are given an ESI\_SOURCE value of -1.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

-1

*Range\_Domain\_Maximum:*

N

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

SOURCES

*Entity\_Type\_Definition:*

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SOURCE\_ID

*Attribute\_Definition:*

Source identifier that links records in the SOURCES data table to the items G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID and ESI\_SOURCE in the ESI, WETLANDS, and HYDRO data layers.

*Attribute\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

ORIGINATOR

*Attribute\_Definition:*

Author or developer of source material or data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

DATE\_PUB

*Attribute\_Definition:*

Date of source material, publication, or date of personal communication with expert source.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

TITLE

*Attribute\_Definition:*

Title of source material or data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

DATA\_FORMAT

*Attribute\_Definition:*

The format of the source material.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*



Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUB\_PLACE

*Attribute\_Definition:*

Publication place.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUBLISHER

*Attribute\_Definition:*

Publisher.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUBLICATION

*Attribute\_Definition:*

Additional citation information.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

ONLINE\_LINK

*Attribute\_Definition:*

Online computer resource URL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

SCALE

*Attribute\_Definition:*

Description of the source scale.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

TIME\_PERIOD

*Attribute\_Definition:*

Date(s) of data collection that the source material is based upon.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Overview\_Description:**Entity\_and\_Attribute\_Overview:*

In addition to the geographic data layers, the relational attribute or data table, SOURCES, is used to store the source data information in the ESI data structure. The geographic data layer containing resource information (in this case, WETLANDS) is linked to the SOURCES table using the SOURCE\_ID. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_and\_Attribute\_Detail\_Citation:*

A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines ([http://response.restoration.noaa.gov/esi\\_guidelines](http://response.restoration.noaa.gov/esi_guidelines)).

[Back To Index](#)*Distribution\_Information:**Distributor:**Contact\_Information:**Contact\_Person\_Primary:**Contact\_Person:*

John Kaperick

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NOAA, Office of Response and Restoration

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*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6400

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Resource\_Description:*

Downloadable Data

*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution

constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

[Back To Index](#)

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*Metadata\_Reference\_Information:*

*Metadata\_Date:*

20111015

*Metadata\_Review\_Date:*

20111015

*Metadata\_Contact:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:*

Jill Petersen

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Position:*

GIS Manager

*Contact\_Address:*

*Address\_Type:*

Physical Address

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7600 Sand Point Way, N.E.

*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

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(206) 526-6944

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Contact\_Electronic\_Mail\_Address:*

Jill.Petersen@noaa.gov

*Metadata\_Standard\_Name:*

Content Standards for Digital Geospatial Metadata

*Metadata\_Standard\_Version:*

FGDC-STD-001-1998

*Metadata\_Extensions:*

*Online\_Linkage:*

[http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile\\_v2.pdf](http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile_v2.pdf)

*Profile\_Name:*

Content Specification for Metadata in the National Coastal Data Development Center's  
Data Catalog Version 2.0

[Back To Index](#)

# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: INDEX (Index Polygons)

## Metadata:

- [Identification Information](#)
  - [Data Quality Information](#)
  - [Spatial Data Organization Information](#)
  - [Spatial Reference Information](#)
  - [Entity and Attribute Information](#)
  - [Distribution Information](#)
  - [Metadata Reference Information](#)
- 

### *Identification\_Information:*

#### *Citation:*

#### *Citation\_Information:*

#### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington.

#### *Originator:*

U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia.

#### *Originator:*

Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

#### *Publication\_Date:*

201107

#### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: INDEX (Index Polygons)

#### *Edition:*

Second

#### *Geospatial\_Data\_Presentation\_Form:*

vector digital data

#### *Series\_Information:*

#### *Series\_Name:*

None

#### *Issue\_Identification:*

North Carolina

#### *Publication\_Information:*

#### *Publication\_Place:*

Seattle, Washington

#### *Publisher:*

NOAA's Ocean Service, Office of Response and Restoration (OR&R), Emergency Response Division (ERD).

*Other\_Citation\_Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division, Seattle, Washington.

*Online\_Linkage:*

<http://response.restoration.noaa.gov/esi>

*Description:**Abstract:*

This data set contains vector polygons representing the boundaries of all hardcopy cartographic products produced as part of the Environmental Sensitivity Index (ESI) for North Carolina. This data set comprises a portion of the ESI data for North 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.

*Purpose:*

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

*Time\_Period\_of\_Content:**Time\_Period\_Information:**Range\_of\_Dates/Times:**Beginning\_Date:*

1949

*Ending\_Date:*

2010

*Currentness\_Reference:*

The data were compiled during 2010-2011. The currentness dates for the data range from 1949 to 2010 and are documented in the Lineage section.

*Status:**Progress:*

Complete

*Maintenance\_and\_Update\_Frequency:*

None Scheduled

*Spatial\_Domain:**Bounding\_Coordinates:**West\_Bounding\_Coordinate:*

-78.62500

*East\_Bounding\_Coordinate:*

-75.39900

*North\_Bounding\_Coordinate:*

36.62500

*South\_Bounding\_Coordinate:*

33.75000

*Keywords:**Theme:**Theme\_Keyword\_Thesaurus:*

ISO 19115 Topic Category

*Theme\_Keyword:*

biota

*Theme\_Keyword:*

environment

*Theme:*

*Theme\_Keyword\_Thesaurus:*

None

*Theme\_Keyword:*

Environmental Monitoring

*Theme\_Keyword:*

ESI

*Theme\_Keyword:*

Sensitivity maps

*Theme\_Keyword:*

Coastal resources

*Theme\_Keyword:*

Oil spill planning

*Theme\_Keyword:*

Coastal Zone Management

*Theme\_Keyword:*

Wildlife

*Theme:**Theme\_Keyword\_Thesaurus:*

NOS Data Explorer Topic Category

*Theme\_Keyword:*

Environmental Monitoring

*Place:**Place\_Keyword\_Thesaurus:*

None

*Place\_Keyword:*

North Carolina

*Access\_Constraints:*

None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:**Browse\_Graphic\_File\_Name:*

datafig.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Browse\_Graphic:**Browse\_Graphic\_File\_Name:*

datafig2.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and desktop data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington; the U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia; and the Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 9.3) and SQL SERVER(R) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003). The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00, and wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio\_lut.e00, biofile.e00, biores.e00, breed.e00, breed\_dt.e00, seasonal.e00, soc\_dat.e00, soc\_lut.e00, sources.e00, species.e00, and status.e00.

*Program\_Affiliation:*

*Program\_Name:*

National Ocean Service Data Explorer

[Back To Index](#)

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*Data\_Quality\_Information:*

*Attribute\_Accuracy:*

*Attribute\_Accuracy\_Report:*

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD/DVD and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks.

*Completeness\_Report:*

These data represent the boundaries of all hardcopy cartographic products and digital data extents produced as part of the North Carolina ESI atlas.

*Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy\_Report:*



The index polygons in this data layer were generated in ArcInfo from the coordinates of the USGS 1:24,000 topographic map corners. Some small amount of positional error may be present along the arcs forming the boundaries of these polygons, particularly away from the polygon corners. Some boundaries were developed from pre-existing digital and hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process\_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

RESEARCH PLANNING, INC.

*Publication\_Date:*

2010

*Title:*

INDEX ARCS

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Other\_Citation\_Details:*

UNPUBLISHED

*Source\_Scale\_Denominator:*

24000

*Type\_of\_Source\_Media:*

DIGITAL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2010

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

RPI 2010

*Source\_Contribution:*

INDEX INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

U.S. GEOLOGICAL SURVEY

*Publication\_Date:*

2010

*Title:*

TOPOGRAPHIC MAPS

*Geospatial\_Data\_Presentation\_Form:*

raster digital data

*Publication\_Information:*

*Publication\_Place:*

RESTON, VA

*Publisher:*

## USGS

*Source\_Scale\_Denominator:*

24000

*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Range\_of\_Dates/Times:**Beginning\_Date:*

1949

*Ending\_Date:*

1993

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

USGS 2010

*Source\_Contribution:*

ARAPAHOE, N.C. (1993); ASKIN, N.C. (1983); ATLANTIC, N.C. (1949); AURORA, N.C. (1993); BARCO, N.C. (1982); BATH, N.C. (1993); BEAUFORT, N.C. (1987); BELHAVEN, N.C. (1974); BLOUNTS BAY, N.C. (1993); BLUFF POINT, N.C. (1951); BROAD CREEK, N.C. (1980); BROWNS INLET, N.C. (1988); BUFFALO CITY, N.C. (1980); BUXTON, N.C. (1983); CALABASH, N.C.-S.C. (1990); CAMDEN POINT, N.C. (1982); CAMP LEJEUNE, N.C. (1971); CAPE FEAR, N.C. (1970); CAPE HATTERAS, N.C. (1983); CAPE LOOKOUT, N.C. (1951); CAROLINA BEACH, N.C. (1970); CASTLE HAYNE, N.C. (1970); CHERRY POINT, N.C. (1983); COINJOCK, N.C. (1982); COLUMBIA EAST, N.C. (1974); COLUMBIA WEST, N.C. (1974); CORE CREEK, N.C. (1983); COROLLA, N.C. (1982); CREEDS, VA.-N.C. (1986); CURRITUCK, N.C. (1982); DAVIS, N.C. (1983); EAST LAKE SE, N.C. (1987); EAST LAKE, N.C. (1975); EDENHOUSE, N.C. (1982); EDENTON, N.C. (1981); ELIZABETH CITY, N.C. (1982); ENGELHARD EAST, N.C. (1983); ENGELHARD NE, N.C. (1980); ENGELHARD NW, N.C. (1987); ENGELHARD WEST, N.C. (1983); FAIRFIELD NE, N.C. (1974); FAIRFIELD NW, N.C. (1983); FAIRFIELD, N.C. (1983); FORT LANDING, N.C. (1974); FRYING PAN, N.C. (1974); GREAT ISLAND, N.C. (1951); GREEN ISLAND, N.C. (1983); HAMPSTEAD, N.C. (1970); HARKERS ISLAND, N.C. (1983); HARVEY NECK, N.C. (1982); HATTERAS, N.C. (1987); HAVELOCK, N.C. (1983); HERTFORD, N.C. (1982); HOLDEN BEACH, N.C. (1990); HOLLY RIDGE, N.C. (1970); HORSEPEN POINT, N.C. (1950); HOWARD REEF, N.C. (1980); HUBERT, N.C. (1988); JACKSONVILLE SOUTH, N.C. (1988); JARVISBURG, N.C. (1982); JONES BAY, N.C. (1993); KITTY HAWK, N.C. (1982); KNOTTS ISLAND, VA.-N.C. (1971); KURE BEACH, N.C. (1979); LEONARDS POINT, N.C. (1974); LITTLE FISHING POINT, N.C. (1974); LITTLE KINNAKEET, N.C. (1983); LITTLE RIVER, S.C.-N.C. (1990); LOCKWOODS FOLLY, N.C. (1990); LONG BAY, N.C. (1987); LONG SHOAL POINT, N.C. (1951); LOWLAND, N.C. (1993); MANN'S HARBOR, N.C. (1974); MANSFIELD, N.C. (1983); MANTEO, N.C. (1983); MARTIN POINT, N.C. (1982); MERRIMON, N.C. (1983); MIDDLETOWN ANCHORAGE, N.C. (1985); MIDDLETOWN, N.C. (1978); MOSSEY ISLANDS, N.C. (1982); NEW BERN, N.C. (1988); NEW HOLLAND, N.C. (1974); NEW LAKE SE, N.C. (1983); NEW RIVER INLET, N.C. (1988); NEWPORT, N.C. (1983); NIXONTON, N.C. (1982); NORTH

BAY, N.C. (1971); OCRACOCKE, N.C. (1983); OREGON INLET, N.C. (1983); ORIENTAL, N.C. (1987); PAMLICO BEACH, N.C. (1974); PAMLICO POINT, N.C. (1951); PANTEGO, N.C. (1974); PEA ISLAND, N.C. (1983); PLYMOUTH WEST, N.C. (1987); POINT HARBOR, N.C. (1982); POINT OF MARSH, N.C. (1983); PONZER, N.C. (1983); PORTSMOUTH, N.C. (1983); RANSOMVILLE, N.C. (1983); ROANOKE ISLAND NE, N.C. (1983); RODANTHE, N.C. (1983); ROPER NORTH, N.C. (1978); SALTER PATH, N.C. (1983); SCOTTS HILL, N.C. (1970); SCRANTON, N.C. (1974); SHALLLOTTE, N.C. (1990); SHILOH, N.C. (1982); SNEADS FERRY, N.C. (1988); SOUTH CREEK, N.C. (1993); SOUTH RIVER, N.C. (1983); SOUTHPORT, N.C. (1990); SPICER BAY, N.C. (1971); STELLA, N.C. (1988); STEVENSON POINT, N.C. (1982); STUMPY POINT, N.C. (1953); STYRON BAY, N.C. (1971); SWANQUARTER, N.C. (1974); SWANSBORO, N.C. (1983); TOPSAIL, N.C. (1970); UPPER BROAD CREEK, N.C. (1993); VANDEMERE, N.C. (1993); WADE POINT, N.C. (1990); WAINWRIGHT ISLAND, N.C. (1971); WANCHESE, N.C. (1983); WEEKSVILLE, N.C. (1982); WESTOVER, N.C. (1978); WILLISTON, N.C. (1983); WILMINGTON, N.C. (1979); WRIGHTSVILLE BEACH, N.C. (1970); YEOPIM RIVER, N.C. (1982).

*Process\_Step:**Process\_Description:*

Primarily, 1:24,000 USGS topographic maps were used to provide boundaries for cartographic products. In some cases the polygons represent USGS topographic maps that were re-tiled, moved, or extended to provide better cartographic coverage of the study area.

*Process\_Date:*

201107

*Process\_Contact:**Contact\_Information:**Contact\_Organization\_Primary:**Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Person:*

Jill Petersen

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Physical address

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7600 Sand Point Way, N.E.

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*State\_or\_Province:*

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*Contact\_Electronic\_Mail\_Address:*

Jill.Petersen@noaa.gov

*Spatial\_Data\_Organization\_Information:**Direct\_Spatial\_Reference\_Method:*

Vector

*Point\_and\_Vector\_Object\_Information:**SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

GT-polygon composed of chains

*Point\_and\_Vector\_Object\_Count:*

152

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Area point

*Point\_and\_Vector\_Object\_Count:*

153

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Complete chain

*Point\_and\_Vector\_Object\_Count:*

365

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Link

*Point\_and\_Vector\_Object\_Count:*

3000

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Node,planar graph

*Point\_and\_Vector\_Object\_Count:*

214

[Back To Index](#)*Spatial\_Reference\_Information:**Horizontal\_Coordinate\_System\_Definition:**Geographic:**Latitude\_Resolution:*

0.0000001

*Longitude\_Resolution:*

0.0000001

*Geographic\_Coordinate\_Units:*

Decimal degrees

*Geodetic\_Model:**Horizontal\_Datum\_Name:*

North American Datum of 1983

*Ellipsoid\_Name:*

Geodetic Reference System 80

*Semi-major\_Axis:*

6378137.000000

*Denominator\_of\_Flattening\_Ratio:*

298.257222

[Back To Index](#)

*Entity\_and\_Attribute\_Information:**Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

INDEX.PAT

*Entity\_Type\_Definition:*

The INDEX.PAT table contains attribute information for the vector polygons representing the boundaries of the maps and digital data boundaries used in the creation of the ESI atlas.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

TILE-NAME

*Attribute\_Definition:*

The TILE-NAME contains the map number according to the specified layout of the atlas.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

134

*Attribute:**Attribute\_Label:*

TOPO-NAME

*Attribute\_Definition:*

USGS Topographic map name, short description of location, or atlas name.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

SCALE

*Attribute\_Definition:*

SCALE contains the value of the denominator of the scale at which the map is plotted in the final map product.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

24000

*Enumerated\_Domain\_Value\_Definition:*

Scale = 1:24,000

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

MAPANGLE

*Attribute\_Definition:*

MAPANGLE contains the value to rotate the final map product so that it is situated straight up and down.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

-2.0390

*Range\_Domain\_Maximum:*

0.0000

*Attribute\_Units\_of\_Measure:*

Degree

*Attribute:**Attribute\_Label:*

PAGESIZE

*Attribute\_Definition:*

PAGESIZE contains the value of the width and height of the map in the final map product.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

11,17

*Enumerated\_Domain\_Value\_Definition:*

Page size= 11" by 17"

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Overview\_Description:**Entity\_and\_Attribute\_Overview:*

In addition to the geographic data layers, relational attribute or data tables are used to store information in the ESI data structure. The entity-relationship diagram describes relationships between attribute tables in the ESI data structure. This particular geographic data layer (INDEX) does not link to other ESI tables.

*Entity\_and\_Attribute\_Detail\_Citation:*

A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines ([http://response.restoration.noaa.gov/esi\\_guidelines](http://response.restoration.noaa.gov/esi_guidelines)).

[Back To Index](#)

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*Distribution\_Information:**Distributor:**Contact\_Information:**Contact\_Person\_Primary:**Contact\_Person:*

John Kaperick

*Contact\_Organization:*

NOAA, Office of Response and Restoration

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*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6400

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Resource\_Description:*

Downloadable Data

*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

[Back To Index](#)*Metadata\_Reference\_Information:**Metadata\_Date:*

20111015

*Metadata\_Review\_Date:*

20111015

*Metadata\_Contact:**Contact\_Information:**Contact\_Person\_Primary:**Contact\_Person:*

Jill Petersen

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Position:*

GIS Manager

*Contact\_Address:**Address\_Type:*

Physical Address

*Address:*

7600 Sand Point Way, N.E.

*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6944

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Contact\_Electronic\_Mail\_Address:*

Jill.Petersen@noaa.gov

*Metadata\_Standard\_Name:*

Content Standards for Digital Geospatial Metadata

*Metadata\_Standard\_Version:*

FGDC-STD-001-1998

*Metadata\_Extensions:*

*Online\_Linkage:*

[http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile\\_v2.pdf](http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile_v2.pdf)

*Profile\_Name:*

Content Specification for Metadata in the National Coastal Data Development Center's  
Data Catalog Version 2.0

[Back To Index](#)



# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: MGT (Management Area Polygons)

## Metadata:

- [Identification Information](#)
  - [Data Quality Information](#)
  - [Spatial Data Organization Information](#)
  - [Spatial Reference Information](#)
  - [Entity and Attribute Information](#)
  - [Distribution Information](#)
  - [Metadata Reference Information](#)
- 

### *Identification\_Information:*

#### *Citation:*

##### *Citation\_Information:*

##### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington.

##### *Originator:*

U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia.

##### *Originator:*

Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

##### *Publication\_Date:*

201107

##### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: MGT (Management Area Polygons)

##### *Edition:*

Second

##### *Geospatial\_Data\_Presentation\_Form:*

vector digital data

##### *Series\_Information:*

##### *Series\_Name:*

None

##### *Issue\_Identification:*

North Carolina

##### *Publication\_Information:*

##### *Publication\_Place:*

Seattle, Washington

##### *Publisher:*

NOAA's Ocean Service, Office of Response and Restoration (OR&R), Emergency Response Division (ERD).

*Other\_Citation\_Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division, Seattle, Washington.

*Online\_Linkage:*

<http://response.restoration.noaa.gov/esi>

*Description:**Abstract:*

This data set contains sensitive human-use data for Designated Critical Habitats, wildlife refuges, management areas, National Forests, National Parks, National Park Service properties, and State and regional parks in North Carolina. Vector polygons in this data set represent management areas. Location-specific type 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 North 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. See also the SOCECON data layer, part of the larger North Carolina ESI database, for additional human-use information.

*Purpose:*

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

*Time\_Period\_of\_Content:**Time\_Period\_Information:**Range\_of\_Dates/Times:**Beginning\_Date:*

1991

*Ending\_Date:*

2010

*Currentness\_Reference:*

The data were compiled during 2010-2011. The currentness dates for the data range from 1991 to 2010 and are documented in the Lineage section.

*Status:**Progress:*

Complete

*Maintenance\_and\_Update\_Frequency:*

None Scheduled

*Spatial\_Domain:**Bounding\_Coordinates:**West\_Bounding\_Coordinate:*

-78.62500

*East\_Bounding\_Coordinate:*

-75.39900

*North\_Bounding\_Coordinate:*

36.62500

*South\_Bounding\_Coordinate:*

33.75000

*Keywords:**Theme:**Theme\_Keyword\_Thesaurus:*

ISO 19115 Topic Category

*Theme\_Keyword:*

biota

*Theme\_Keyword:*  
environment

*Theme:*

*Theme\_Keyword\_Thesaurus:*  
None

*Theme\_Keyword:*  
Environmental Monitoring

*Theme\_Keyword:*  
ESI

*Theme\_Keyword:*  
Sensitivity maps

*Theme\_Keyword:*  
Coastal resources

*Theme\_Keyword:*  
Oil spill planning

*Theme\_Keyword:*  
Coastal Zone Management

*Theme\_Keyword:*  
Wildlife

*Theme\_Keyword:*  
Management areas

*Theme:*

*Theme\_Keyword\_Thesaurus:*  
NOS Data Explorer Topic Category

*Theme\_Keyword:*  
Environmental Monitoring

*Place:*

*Place\_Keyword\_Thesaurus:*  
None

*Place\_Keyword:*  
North Carolina

*Access\_Constraints:*

None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:*  
datafig.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Browse\_Graphic:**Browse\_Graphic\_File\_Name:*

datafig2.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and desktop data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington; the U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia; and the Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 9.3) and SQL SERVER(R) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003). The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00, and wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio\_lut.e00, biofile.e00, biores.e00, breed.e00, breed\_dt.e00, seasonal.e00, soc\_dat.e00, soc\_lut.e00, sources.e00, species.e00, and status.e00.

*Program\_Affiliation:**Program\_Name:*

National Ocean Service Data Explorer

[Back To Index](#)*Data\_Quality\_Information:**Attribute\_Accuracy:**Attribute\_Accuracy\_Report:*

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD/DVD and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and

database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

*Completeness\_Report:*

These data represent a synthesis of digital boundaries for management areas. See also the SOCECON data layer, part of the larger North Carolina ESI database, for additional human-use information. These data do not necessarily represent all management areas in North Carolina.

*Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy\_Report:*

Spatial components for the human-use data layers can come from expert interviews, hardcopy, or digital sources. Most of the spatial components of the human-use data layers are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. Some of the spatial components of the human-use data layers are compiled on hardcopy base maps with a scale of 1:24,000. See the Lineage and Process\_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

CAROON, CLAY (NORTH CAROLINA DIVISION OF MARINE FISHERIES)

*Publication\_Date:*

2009

*Title:*

OYSTER SANCTUARIES

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Publication\_Information:*

*Publication\_Place:*

MOREHEAD CITY, NORTH CAROLINA

*Publisher:*

NORTH CAROLINA DIVISION OF MARINE FISHERIES

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Caroon 2009

*Source\_Contribution:*

MGT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

HOFF, MIKE (U.S. FISH & WILDLIFE SERVICE)

*Publication\_Date:*

2009

*Title:*

MACKAY ISLAND BOUNDARY AND DEEDBYCURR\_2009

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

2008

*Ending\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

Hoff 2009

*Source\_Contribution:*

MGT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

NATIONAL PARK SERVICE

*Publication\_Date:*

20100621

*Title:*

NPS\_BOUNDARY

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Publication\_Information:*

*Publication\_Place:*

FORT COLLINS, COLORADO

*Publisher:*

NATIONAL PARK SERVICE

*Online\_Linkage:*

[http://nrdata.nps.gov/programs/lands/nps\\_boundary.xml](http://nrdata.nps.gov/programs/lands/nps_boundary.xml)

*Type\_of\_Source\_Media:*

online  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:*  
20020201  
*Source\_Currentness\_Reference:*  
DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:*  
NPS 2010  
*Source\_Contribution:*  
MGT INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
NATIONAL PARK SERVICE  
*Publication\_Date:*  
2007  
*Title:*  
NPS\_BNDY  
*Geospatial\_Data\_Presentation\_Form:*  
vector digital data  
*Publication\_Information:*  
*Publication\_Place:*  
SAM NUNN FEDERAL BUILDING, ATLANTA, GA  
30312  
*Publisher:*  
NATIONAL PARK SERVICE, SE REGIONAL OFFICES  
*Type\_of\_Source\_Media:*  
EMAIL  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:*  
2007  
*Source\_Currentness\_Reference:*  
DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:*  
NPS 2007  
*Source\_Contribution:*  
MGT INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
NATIONAL PARK SERVICE CAPE LOOKOUT NATIONAL  
SEASHORE  
*Publication\_Date:*  
2009  
*Title:*  
CRIT HABITAT

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

CD-ROM

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

NPS 2009

*Source\_Contribution:*

MGT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

NELSON, D.M., E.A. IRLANDI, L.R. SETTLE, M.E. MONACO,  
AND L.COSTON-CLEMENTS

*Publication\_Date:*

1991

*Title:*

DISTRIBUTION AND ABUNDANCE OF FISHES AND  
INVERTEBRATES IN SOUTHEAST ESTUARIES

*Geospatial\_Data\_Presentation\_Form:*

HARDCOPY TEXT

*Publication\_Information:*

*Publication\_Place:*

SILVER SPRING, MARYLAND

*Publisher:*

NOAA STRATEGIC ENVIRONMENTAL ASSESSMENTS  
DIVISION

*Type\_of\_Source\_Media:*

paper

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

1991

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

Nelson et al. 1991

*Source\_Contribution:*

MGT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*



*Originator:*  
NEWCOMB, DOUG (U.S. FISH & WILDLIFE SERVICE)  
*Publication\_Date:*  
2009  
*Title:*  
NWR\_BOUNDARIES  
*Geospatial\_Data\_Presentation\_Form:*  
vector digital data  
*Other\_Citation\_Details:*  
UNPUBLISHED

*Type\_of\_Source\_Media:*  
EMAIL  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:*  
2009  
*Source\_Currentness\_Reference:*  
DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:*  
Newcomb 2009  
*Source\_Contribution:*  
MGT INFORMATION

*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
NORTH CAROLINA CENTER FOR GEOGRAPHIC  
INFORMATION AND ANALYSIS  
*Publication\_Date:*  
2002  
*Title:*  
LANDS MANAGED FOR CONSERVATION AND OPEN  
SPACE  
*Geospatial\_Data\_Presentation\_Form:*  
vector digital data  
*Publication\_Information:*  
*Publication\_Place:*  
RALEIGH, NORTH CAROLINA  
*Publisher:*  
NC ONEMAP  
*Online\_Linkage:*  
<http://www.nconemap.com/Default.aspx?tabid=286>  
*Type\_of\_Source\_Media:*  
online  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:*  
2002  
*Source\_Currentness\_Reference:*  
DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*  
NC CGIA 2002

*Source\_Contribution:*  
MGT INFORMATION

*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
NORTH CAROLINA DIVISION OF MARINE FISHERIES

*Publication\_Date:*  
2007

*Title:*  
CRAB SPAWNING SITES

*Geospatial\_Data\_Presentation\_Form:*  
vector digital data

*Publication\_Information:*  
*Publication\_Place:*  
MOREHEAD CITY, NORTH CAROLINA

*Publisher:*  
NORTH CAROLINA DIVISION OF MARINE FISHERIES

*Type\_of\_Source\_Media:*  
EMAIL

*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:*  
2007

*Source\_Currentness\_Reference:*  
DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*  
NC DMF 2007

*Source\_Contribution:*  
MGT INFORMATION

*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
NORTH CAROLINA DIVISION OF PARKS AND RECREATION

*Publication\_Date:*  
2008

*Title:*  
NCPRK

*Geospatial\_Data\_Presentation\_Form:*  
vector digital data

*Publication\_Information:*  
*Publication\_Place:*  
RALEIGH, NORTH CAROLINA

*Publisher:*  
NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2008

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

NC Parks 2008

*Source\_Contribution:*

MGT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

NORTH CAROLINA SIGNIFICANT NATURAL HERITAGE  
PROGRAM

*Publication\_Date:*

2010

*Title:*

SIGNIFICANT NATURAL HERITAGE AREAS

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2010

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

NC NHP 2010

*Source\_Contribution:*

MGT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

U.S. FISH & WILDLIFE SERVICE

*Publication\_Date:*

20100610

*Title:*

FWSINTR2010

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Publication\_Information:*

*Publication\_Place:*

ARLINGTON, VIRGINIA

*Publisher:*U.S. FISH & WILDLIFE SERVICE, DIVISION OF  
REALTY*Online\_Linkage:*<http://www.fws.gov/GIS/data/CadastralDB/index.htm>*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

20100610

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

USFWS 2010

*Source\_Contribution:*

MGT INFORMATION

*Process\_Step:**Process\_Description:*

Numerous digital coverages were used to depict management areas for this data layer. Agencies providing digital management layers include: NC State University, National Park Service (NPS), NC Center for Geographic Information and Analysis (NC CGIA), NC Department of Environment and Natural Resources (NC DENR), NC Department of Transportation (NC DOT), NC Shellfish Sanitation and Recreational Water Quality Section, NC Division of Parks and Recreation, NC Division of Marine Fisheries (NC DMF), NC State Historic Preservation Office (NC SHPO), and U.S Fish and Wildlife Service (USFWS). The above digital and/or hardcopy sources were compiled by the project biologist to create the MGT 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 compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews are conducted to review the maps. If necessary, edits to the MGT data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:*

201107

*Process\_Contact:**Contact\_Information:**Contact\_Organization\_Primary:**Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Person:*

Jill Petersen

*Contact\_Address:*  
*Address\_Type:*  
 Physical address  
*Address:*  
 7600 Sand Point Way, N.E.  
*City:*  
 Seattle  
*State\_or\_Province:*  
 Washington  
*Postal\_Code:*  
 98115-6349  
*Contact\_Voice\_Telephone:*  
 (206) 526-6944  
*Contact\_Facsimile\_Telephone:*  
 (206) 526-6329  
*Contact\_Electronic\_Mail\_Address:*  
 Jill.Petersen@noaa.gov

[Back To Index](#)

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*Spatial\_Data\_Organization\_Information:*  
*Direct\_Spatial\_Reference\_Method:*  
 Vector  
*Point\_and\_Vector\_Object\_Information:*  
*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
 GT-polygon composed of chains  
*Point\_and\_Vector\_Object\_Count:*  
 563  
*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
 Area point  
*Point\_and\_Vector\_Object\_Count:*  
 564  
*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
 Complete chain  
*Point\_and\_Vector\_Object\_Count:*  
 1200  
*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
 Link  
*Point\_and\_Vector\_Object\_Count:*  
 154830  
*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
 Node,planar graph  
*Point\_and\_Vector\_Object\_Count:*  
 1030

[Back To Index](#)

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*Spatial\_Reference\_Information:*  
*Horizontal\_Coordinate\_System\_Definition:*

*Geographic:**Latitude\_Resolution:*

0.0000001

*Longitude\_Resolution:*

0.0000001

*Geographic\_Coordinate\_Units:*

Decimal degrees

*Geodetic\_Model:**Horizontal\_Datum\_Name:*

North American Datum of 1983

*Ellipsoid\_Name:*

Geodetic Reference System 80

*Semi-major\_Axis:*

6378137.000000

*Denominator\_of\_Flattening\_Ratio:*

298.257222

[Back To Index](#)*Entity\_and\_Attribute\_Information:**Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

MGT.PAT

*Entity\_Type\_Definition:*

The MGT.PAT table contains attribute information for the vector polygons representing Designated Critical Habitats, wildlife refuges, management areas, National Forests, National Parks, National Park Service properties, and State and regional parks in North Carolina. Note that all attribute information is stored in a series of relational files, described below and in the Overview\_Description section. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

TYPE

*Attribute\_Definition:*

The human-use features depicted on the maps are those that could be impacted by an oil spill or could provide access for response operations. TYPE can be used as a quick identifier for the managed polygon features. Greater detail about the object is provided in the SOC\_DAT table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

CH

*Enumerated\_Domain\_Value\_Definition:*

Designated Critical Habitat

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

FO

*Enumerated\_Domain\_Value\_Definition:*

National Forest

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

MA

*Enumerated\_Domain\_Value\_Definition:*

Management Area

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

MR

*Enumerated\_Domain\_Value\_Definition:*

Multiple Records - Signifies that multiple types overlap in the polygon

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

NP

*Enumerated\_Domain\_Value\_Definition:*

National Park

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

P

*Enumerated\_Domain\_Value\_Definition:*

Regional or State Park

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

WR

*Enumerated\_Domain\_Value\_Definition:*

Wildlife Refuge

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

ID

*Attribute\_Definition:*

An identifier that links vector objects in the human-use data layers to records in the SOC\_LUT data table. ID is a concatenation of atlas number (235), element number (11), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

2351100002

*Range\_Domain\_Maximum:*

2351100724

*Attribute:**Attribute\_Label:*

HUNUM

*Attribute\_Definition:*

An identifier that links directly to the SOC\_DAT table. HUNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

235000198

*Range\_Domain\_Maximum:*

235000529

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

SOC\_LUT

*Entity\_Type\_Definition:*

The data table SOC\_LUT is a lookup table that contains items necessary for linking vector objects in the human-use data layers with the SOC\_DAT data table. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

HUNUM

*Attribute\_Definition:*

An identifier that links records in the SOC\_LUT data table to records in the SOC\_DAT data table. HUNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

235000001



*Range\_Domain\_Maximum:*  
235000529

*Attribute:*

*Attribute\_Label:*  
ID

*Attribute\_Definition:*

An identifier that links vector objects in the human-use data layers to records in the SOC\_LUT data table. ID is a concatenation of atlas number (235), element number (10=SOCECON, 11=MGT), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*  
NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*  
2350000001

*Range\_Domain\_Maximum:*  
2350000724

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*  
SOC\_DAT

*Entity\_Type\_Definition:*

The data table SOC\_DAT contains both human-use attribute data and items necessary for linking the human-use spatial data layers to the SOURCES data table. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
HUNUM

*Attribute\_Definition:*

An identifier that links records in the SOC\_DAT data table to records in the SOC\_LUT data table. HUNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*  
NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*  
235000001

*Range\_Domain\_Maximum:*  
235000529

*Attribute:*

*Attribute\_Label:*  
TYPE

*Attribute\_Definition:*

The human-use features depicted on the maps are those that could be impacted by an oil spill or could provide access for response operations.

*Attribute\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

ABANDONED VESSEL

*Enumerated\_Domain\_Value\_Definition:*

Abandoned Vessel

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

ACCESS

*Enumerated\_Domain\_Value\_Definition:*

Access

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

AIRPORT

*Enumerated\_Domain\_Value\_Definition:*

Airport

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

ARCHAEOLOGICAL SITE

*Enumerated\_Domain\_Value\_Definition:*

Archaeological Site

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

ARTIFICIAL REEF

*Enumerated\_Domain\_Value\_Definition:*

Artificial Reef

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

BEACH

*Enumerated\_Domain\_Value\_Definition:*

Beach

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

## BOAT RAMP

*Enumerated\_Domain\_Value\_Definition:*

Boat Ramp

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

CAMPGROUND

*Enumerated\_Domain\_Value\_Definition:*

Campground

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

COAST GUARD

*Enumerated\_Domain\_Value\_Definition:*

Coast Guard

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

COMMERCIAL FISHING

*Enumerated\_Domain\_Value\_Definition:*

Commercial Fishing

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

CRITICAL HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Designated Critical Habitat

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FERRY

*Enumerated\_Domain\_Value\_Definition:*

Ferry

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HELIPORT

*Enumerated\_Domain\_Value\_Definition:*

Heliport

*Enumerated\_Domain\_Value\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

HISTORICAL SITE

*Enumerated\_Domain\_Value\_Definition:*

Historical Site

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

MANAGEMENT AREA

*Enumerated\_Domain\_Value\_Definition:*

Management Area

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

MARINA

*Enumerated\_Domain\_Value\_Definition:*

Marina

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

NATIONAL FOREST

*Enumerated\_Domain\_Value\_Definition:*

National Forest

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

NATIONAL PARK

*Enumerated\_Domain\_Value\_Definition:*

National Park

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

PARK

*Enumerated\_Domain\_Value\_Definition:*

Regional or State Park

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

## RECREATIONAL FISHING

*Enumerated\_Domain\_Value\_Definition:*

Recreational Fishing

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

WATER INTAKE

*Enumerated\_Domain\_Value\_Definition:*

Water Intake

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

WILDLIFE REFUGE

*Enumerated\_Domain\_Value\_Definition:*

Wildlife Refuge

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

NAME

*Attribute\_Definition:*

The feature name.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

CONTACT

*Attribute\_Definition:*

Contact person or entity.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

PHONE

*Attribute\_Definition:*

Contact telephone number.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Any character

*Enumerated\_Domain\_Value\_Definition:*

Free text

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

G\_SOURCE

*Attribute\_Definition:*

Geographic source identifier that links records in the SOC\_DAT data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

A\_SOURCE

*Attribute\_Definition:*

Attribute source identifier that links records in the SOC\_DAT data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

SOURCES

*Entity\_Type\_Definition:*

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SOURCE\_ID

*Attribute\_Definition:*

Source identifier that links records in the SOURCES data table to the items G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID and ESI\_SOURCE in the ESI, WETLANDS, and HYDRO data layers.

*Attribute\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

ORIGINATOR

*Attribute\_Definition:*

Author or developer of source material or data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

DATE\_PUB

*Attribute\_Definition:*

Date of source material, publication, or date of personal communication with expert source.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

TITLE

*Attribute\_Definition:*

Title of source material or data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

DATA\_FORMAT

*Attribute\_Definition:*

The format of the source material.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUB\_PLACE

*Attribute\_Definition:*

Publication place.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUBLISHER

*Attribute\_Definition:*

Publisher.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUBLICATION

*Attribute\_Definition:*

Additional citation information.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

ONLINE\_LINK

*Attribute\_Definition:*

Online computer resource URL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

SCALE

*Attribute\_Definition:*

Description of the source scale.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*



*Attribute\_Label:*

TIME\_PERIOD

*Attribute\_Definition:*

Date(s) of data collection that the source material is based upon.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Overview\_Description:**Entity\_and\_Attribute\_Overview:*

Two relational attribute or data tables, SOC\_DAT, and SOURCES, are used to store the complex socioeconomic data in the ESI data structure. The geographic data layer containing socioeconomic data resource information (in this case, MGT) is linked to the Socioeconomic Resources table (SOC\_DAT) using the unique ID and the lookup table SOC\_LUT, or it can be linked directly using HUNUM. HUNUM is a unique reference number concatenated with the atlas number (for North Carolina, the number is 235). ID is a unique combination of the atlas number (235), an element specific number (MGT = 11), and a unique record number. SOC\_DAT and the other relational data tables are described in the Detailed\_Description sections. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

*Entity\_and\_Attribute\_Detail\_Citation:*

A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines ([http://response.restoration.noaa.gov/esi\\_guidelines](http://response.restoration.noaa.gov/esi_guidelines)).

[Back To Index](#)

---

*Distribution\_Information:**Distributor:**Contact\_Information:**Contact\_Person\_Primary:**Contact\_Person:*

John Kaperick

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Address:**Address\_Type:*

Physical Address

*Address:*

7600 Sand Point Way N.E.

*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6400

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Resource\_Description:*

Downloadable Data

*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

[Back To Index](#)*Metadata\_Reference\_Information:**Metadata\_Date:*

20111015

*Metadata\_Review\_Date:*

20111015

*Metadata\_Contact:**Contact\_Information:**Contact\_Person\_Primary:**Contact\_Person:*

Jill Petersen

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Position:*

GIS Manager

*Contact\_Address:**Address\_Type:*

Physical Address

*Address:*

7600 Sand Point Way, N.E.

*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6944

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Contact\_Electronic\_Mail\_Address:*

Jill.Petersen@noaa.gov

*Metadata\_Standard\_Name:*

Content Standards for Digital Geospatial Metadata

*Metadata\_Standard\_Version:*

FGDC-STD-001-1998

*Metadata\_Extensions:*

*Online\_Linkage:*

[http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile\\_v2.pdf](http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile_v2.pdf)

*Profile\_Name:*

Content Specification for Metadata in the National Coastal Data Development Center's Data Catalog Version 2.0

[Back To Index](#)

# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: SOCECON (Socioeconomic Resource Points and Lines)

## Metadata:

- [Identification Information](#)
- [Data Quality Information](#)
- [Spatial Data Organization Information](#)
- [Spatial Reference Information](#)
- [Entity and Attribute Information](#)
- [Distribution Information](#)
- [Metadata Reference Information](#)

### *Identification\_Information:*

#### *Citation:*

##### *Citation\_Information:*

##### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington.

##### *Originator:*

U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia.

##### *Originator:*

Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

##### *Publication\_Date:*

201107

##### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: SOCECON (Socioeconomic Resource Points and Lines)

##### *Edition:*

Second

##### *Geospatial\_Data\_Presentation\_Form:*

vector digital data

##### *Series\_Information:*

##### *Series\_Name:*

None

##### *Issue\_Identification:*

North Carolina

##### *Publication\_Information:*

##### *Publication\_Place:*

Seattle, Washington

##### *Publisher:*

NOAA's Ocean Service, Office of Response and Restoration (OR&R), Emergency Response Division (ERD).

*Other\_Citation\_Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division, Seattle, Washington.

*Online\_Linkage:*

<http://response.restoration.noaa.gov/esi>

*Description:**Abstract:*

This data set contains human-use resource data for abandoned vessels, access points, airports, archaeological sites, artificial reefs, beaches, boat ramps, campgrounds, coast guard stations, commercial fishing sites, ferries, heliports, historical sites, marinas, recreational fishing, surfing, and water intakes in North Carolina. Vector points and lines in this data set represent human-use site locations. Location-specific type 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 North 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. See also the MGT data layer, part of the larger North Carolina ESI database, for additional human-use information.

*Purpose:*

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

*Time\_Period\_of\_Content:**Time\_Period\_Information:**Range\_of\_Dates/Times:**Beginning\_Date:*

2004

*Ending\_Date:*

2010

*Currentness\_Reference:*

The data were compiled during 2010-2011. The currentness dates for the data range from 2004 to 2010 and are documented in the Lineage section.

*Status:**Progress:*

Complete

*Maintenance\_and\_Update\_Frequency:*

None Scheduled

*Spatial\_Domain:**Bounding\_Coordinates:**West\_Bounding\_Coordinate:*

-78.62500

*East\_Bounding\_Coordinate:*

-75.39900

*North\_Bounding\_Coordinate:*

36.62500

*South\_Bounding\_Coordinate:*

33.75000

*Keywords:**Theme:**Theme\_Keyword\_Thesaurus:*

ISO 19115 Topic Category

*Theme\_Keyword:*

biota

*Theme\_Keyword:*

environment

*Theme:*

*Theme\_Keyword\_Thesaurus:*

None

*Theme\_Keyword:*

Environmental Monitoring

*Theme\_Keyword:*

ESI

*Theme\_Keyword:*

Sensitivity maps

*Theme\_Keyword:*

Coastal resources

*Theme\_Keyword:*

Oil spill planning

*Theme\_Keyword:*

Coastal Zone Management

*Theme\_Keyword:*

Wildlife

*Theme\_Keyword:*

Socioeconomic resources

*Theme\_Keyword:*

Human use resources

*Theme:*

*Theme\_Keyword\_Thesaurus:*

NOS Data Explorer Topic Category

*Theme\_Keyword:*

Environmental Monitoring

*Place:*

*Place\_Keyword\_Thesaurus:*

None

*Place\_Keyword:*

North Carolina

*Access\_Constraints:*

None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:*

datafig.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Browse\_Graphic:**Browse\_Graphic\_File\_Name:*

datafig2.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and desktop data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington; the U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia; and the Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 9.3) and SQL SERVER(R) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003). The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00, and wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio\_lut.e00, biofile.e00, biores.e00, breed.e00, breed\_dt.e00, seasonal.e00, soc\_dat.e00, soc\_lut.e00, sources.e00, species.e00, and status.e00.

*Program\_Affiliation:**Program\_Name:*

National Ocean Service Data Explorer

[Back To Index](#)

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*Data\_Quality\_Information:**Attribute\_Accuracy:**Attribute\_Accuracy\_Report:*

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A

final review is made by the GIS manager, where the data are written to CD/DVD and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

*Completeness\_Report:*

These data represent a synthesis of expert knowledge, hardcopy reports, tabular, and digital data on socioeconomic resources. See also the MGT data layer, part of the larger North Carolina ESI database, for additional human-use information. These data do not necessarily represent all human-use sites in North Carolina.

*Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy\_Report:*

Spatial components for the human-use data layers can come from expert interviews, hardcopy, or digital sources. Most of the spatial components of the human-use data layers are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. Some of the spatial components of the human-use data layers are compiled on hardcopy base maps with a scale of 1:24,000. See the Lineage and Process\_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

ALTMAN, JON (NATIONAL PARK SERVICE)

*Publication\_Date:*

2009

*Title:*

CAPE LOOKOUT NATIONAL SEASHORE RESOURCES

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION



*Source\_Citation\_Abbreviation:*  
Altman 2009

*Source\_Contribution:*  
SOCECON INFORMATION

*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
BAKER, MICHELLE (NATIONAL PARK SERVICE, CAPE  
HATTERAS NATIONAL SEASHORE)

*Publication\_Date:*  
2009

*Title:*  
NATURAL RESOURCES AT CAPE HATTERAS

*Geospatial\_Data\_Presentation\_Form:*  
EXPERT KNOWLEDGE

*Other\_Citation\_Details:*  
UNPUBLISHED

*Type\_of\_Source\_Media:*  
PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:*  
2009

*Source\_Currentness\_Reference:*  
DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*  
Baker 2009

*Source\_Contribution:*  
SOCECON INFORMATION

*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
CAPE HATTERAS NATIONAL SEASHORE, NATIONAL PARK  
SERVICE

*Publication\_Date:*  
2006

*Title:*  
CAHA HISTORIC STRUCTURES

*Geospatial\_Data\_Presentation\_Form:*  
vector digital data

*Publication\_Information:*  
*Publication\_Place:*  
SOUTHEAST ARCHAEOLOGICAL CENTER, NATIONAL  
PARK SERVICE

*Publisher:*  
CAPE HATTERAS NATIONAL SEASHORE, NATIONAL  
PARK SERVICE

*Type\_of\_Source\_Media:*  
online

*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:*  
 2006  
*Source\_Currentness\_Reference:*  
 DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:*  
 CAHA NS 2006  
*Source\_Contribution:*  
 SOCECON INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
 CARFIOLI, M. (NATIONAL PARK SERVICE)  
*Publication\_Date:*  
 2009  
*Title:*  
 CAPE HATTERAS NATIONAL SEASHORE RESOURCES  
*Geospatial\_Data\_Presentation\_Form:*  
 EXPERT KNOWLEDGE  
*Other\_Citation\_Details:*  
 UNPUBLISHED  
*Type\_of\_Source\_Media:*  
 PERSONAL COMMUNICATION  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:*  
 2009  
*Source\_Currentness\_Reference:*  
 DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:*  
 Carfioli 2009  
*Source\_Contribution:*  
 SOCECON INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
 FRINGELI, J. (U.S. FISH & WILDLIFE SERVICE)  
*Publication\_Date:*  
 2009  
*Title:*  
 MATTAMUSKEET NATIONAL WILDLIFE REFUGE  
 RESOURCES  
*Geospatial\_Data\_Presentation\_Form:*  
 EXPERT KNOWLEDGE  
*Other\_Citation\_Details:*  
 UNPUBLISHED  
*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Fringeli 2009

*Source\_Contribution:*

SOCECON INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

LOEFFLER, MICHAEL (NORTH CAROLINA DEPARTMENT  
OF ENVIRONMENT AND NATURAL RESOURCES)

*Publication\_Date:*

2010

*Title:*

FISH DISTRIBUTION AND ABUNDANCE FOR THE  
ROANOKE RIVER

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Publication\_Information:*

*Publication\_Place:*

N/A

*Publisher:*

N/A

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2010

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Loeffler 2010

*Source\_Contribution:*

SOCECON INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

NORTH CAROLINA CENTER FOR GEOGRAPHIC  
INFORMATION AND ANALYSIS

*Publication\_Date:*

2004

*Title:*

## AIRPORTS

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Publication\_Information:**Publication\_Place:*

RALEIGH, NORTH CAROLINA

*Publisher:*

NC ONEMAP

*Online\_Linkage:*<http://www.nconemap.com/Default.aspx?tabid=286>*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2004

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

NC CGIA 2004

*Source\_Contribution:*

SOCECON INFORMATION

*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*NORTH CAROLINA CENTER FOR GEOGRAPHIC  
INFORMATION AND ANALYSIS*Publication\_Date:*

2006

*Title:*

FEDERAL LAND OWNERSHIP

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Publication\_Information:**Publication\_Place:*

RALEIGH, NORTH CAROLINA

*Publisher:*

NC ONEMAP

*Online\_Linkage:*<http://www.nconemap.com/Default.aspx?tabid=286>*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2006

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

NC CGIA 2006

*Source\_Contribution:*

SOCECON INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND  
NATURAL RESOURCES - DIVISION OF WATER QUALITY,  
PLANNING BRANCH

*Publication\_Date:*

2004

*Title:*

SURFACE WATER INTAKES

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Publication\_Information:*

*Publication\_Place:*

RALEIGH, NORTH CAROLINA

*Publisher:*

NC ONEMAP

*Online\_Linkage:*

<http://www.nconemap.com/Default.aspx?tabid=286>

*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2004

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

NC DENR 2004

*Source\_Contribution:*

SOCECON INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
GEOGRAPHIC INFORMATION SYSTEMS UNIT

*Publication\_Date:*

2005

*Title:*

FERRY ROUTES

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Publication\_Information:*

*Publication\_Place:*

RALEIGH, NORTH CAROLINA

*Publisher:*

NORTH CAROLINA DEPARTMENT OF  
TRANSPORTATION

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2005

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

NC DOT 2005

*Source\_Contribution:*

SOCECON INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

NORTH CAROLINA DIVISION OF MARINE FISHERIES

*Publication\_Date:*

2005

*Title:*

REEF GUIDE 2005

*Geospatial\_Data\_Presentation\_Form:*

document

*Publication\_Information:*

*Publication\_Place:*

MOREHEAD CITY, NORTH CAROLINA

*Publisher:*

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT  
AND NATURAL RESOURCES

*Online\_Linkage:*

<http://www.ncfisheries.net/reefs/index.html>

*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:*

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*Calendar\_Date:*

2005

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

NC DMF 2005

*Source\_Contribution:*

SOCECON INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

NORTH CAROLINA SHELLFISH SANITATION AND

RECREATIONAL WATER QUALITY SECTION

*Publication\_Date:*

2009

*Title:*

NC DOCKAGE\_20090921

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Publication\_Information:*

*Publication\_Place:*

MOREHEAD CITY, NORTH CAROLINA

*Publisher:*

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT  
AND NATURAL RESOURCES, DIVISION OF  
ENVIRONMENTAL HEALTH

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

2004

*Ending\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF SURVEY

*Source\_Citation\_Abbreviation:*

NC SS & RWQ Section 2009

*Source\_Contribution:*

SOCECON INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

PICKENS, LAURA (CAPE HATTERAS NATIONAL  
SEASHORE, NATIONAL PARK SERVICE)

*Publication\_Date:*

2010

*Title:*

BASEDATA.GDP

*Geospatial\_Data\_Presentation\_Form:*

spreadsheet

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

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*Single\_Date/Time:*

*Calendar\_Date:*

2010

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*  
 Pickens 2010

*Source\_Contribution:*  
 SOCECON INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*  
 RIKARD, MICHAEL (NATIONAL PARK SERVICE, CAPE  
 LOOKOUT NATIONAL SEASHORE)

*Publication\_Date:*  
 2009

*Title:*  
 CAPE LOOKOUT RESOURCES

*Geospatial\_Data\_Presentation\_Form:*  
 EXPERT KNOWLEDGE

*Other\_Citation\_Details:*  
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*Type\_of\_Source\_Media:*  
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*Source\_Time\_Period\_of\_Content:*

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*Calendar\_Date:*  
 2009

*Source\_Currentness\_Reference:*  
 DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*  
 Rikard 2009

*Source\_Contribution:*  
 SOCECON INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*  
 SHIPWRECKS

*Publication\_Date:*  
 2010

*Title:*  
 CAPE HATTERAS NATIONAL SEASHORE BEACH  
 SHIPWRECKS

*Geospatial\_Data\_Presentation\_Form:*  
 HARDCOPY TEXT

*Other\_Citation\_Details:*  
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*Type\_of\_Source\_Media:*  
 online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*  
*Calendar\_Date:*  
 2010



*Source\_Currentness\_Reference:*  
DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*  
Shipwrecks 2010

*Source\_Contribution:*  
SOCECON INFORMATION

*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
SOUTHERN, MICHAEL (NORTH CAROLINA STATE  
HISTORIC PRESERVATION OFFICE)

*Publication\_Date:*  
2010

*Title:*  
NC\_NATIONALREGISTER\_COASTAL\_20100301

*Geospatial\_Data\_Presentation\_Form:*  
vector digital data

*Publication\_Information:*  
*Publication\_Place:*  
RALEIGH, NORTH CAROLINA

*Publisher:*  
NORTH CAROLINA STATE HISTORIC PRESERVATION  
OFFICE

*Type\_of\_Source\_Media:*  
EMAIL

*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:*  
2010

*Source\_Currentness\_Reference:*  
DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*  
Southern 2010

*Source\_Contribution:*  
SOCECON INFORMATION

*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
STEWART, D. (U.S. FISH & WILDLIFE SERVICE)

*Publication\_Date:*  
2009

*Title:*  
NC COASTAL NATIONAL WILDLIFE REFUGES

*Geospatial\_Data\_Presentation\_Form:*  
EXPERT KNOWLEDGE

*Other\_Citation\_Details:*  
UNPUBLISHED

*Type\_of\_Source\_Media:*  
PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:*  
2009

*Source\_Currentness\_Reference:*  
DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*  
Stewart 2010

*Source\_Contribution:*  
SOCECON INFORMATION

*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
STOVER, D. (NATIONAL PARK SERVICE)

*Publication\_Date:*  
2009

*Title:*  
CULTURAL RESOURCES AT CAPE HATTERAS NATIONAL SEASHORE

*Geospatial\_Data\_Presentation\_Form:*  
EXPERT KNOWLEDGE

*Other\_Citation\_Details:*  
UNPUBLISHED

*Type\_of\_Source\_Media:*  
PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:*  
2009

*Source\_Currentness\_Reference:*  
DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*  
Stover 2010

*Source\_Contribution:*  
SOCECON INFORMATION

*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
THAYER, VICKY (NORTH CAROLINA STATE UNIVERSITY)

*Publication\_Date:*  
2009

*Title:*  
DISTRIBUTION AND SEASONALITY DATA FOR MARINE MAMMALS IN NORTH CAROLINA

*Geospatial\_Data\_Presentation\_Form:*  
EXPERT KNOWLEDGE

*Other\_Citation\_Details:*  
UNPUBLISHED

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Thayer 2009

*Source\_Contribution:*

SOCECON INFORMATION

*Process\_Step:**Process\_Description:*

Three main sources of data were used to depict human-use resources for this data layer. These included personal interviews with resource experts and digital and hardcopy data sets provided by: NC State University, National Park Service (NPS), NC Division of Marine Fisheries (NC DMF), U.S. Fish and Wildlife Service (USFWS), NC Department of Environment and Natural Resources (NC DENR), and NC State Historic Preservation Office (NC SHPO). The 2006 NC DENR Artificial Reefs data inside of the study area were represented with a single point at each reef's buoy location. The above digital and/or hardcopy sources were compiled by the project biologist to create the SOCECON 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; and/or 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 compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews are conducted to review the maps. If necessary, edits to the SOCECON data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:*

201107

*Process\_Contact:**Contact\_Information:**Contact\_Organization\_Primary:**Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Person:*

Jill Petersen

*Contact\_Address:**Address\_Type:*

Physical address

*Address:*

7600 Sand Point Way, N.E.

*City:*

Seattle

*State\_or\_Province:*  
 Washington  
*Postal\_Code:*  
 98115-6349  
*Contact\_Voice\_Telephone:*  
 (206) 526-6944  
*Contact\_Facsimile\_Telephone:*  
 (206) 526-6329  
*Contact\_Electronic\_Mail\_Address:*  
 Jill.Petersen@noaa.gov

[Back To Index](#)

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*Spatial\_Data\_Organization\_Information:*  
*Direct\_Spatial\_Reference\_Method:*  
 Vector  
*Point\_and\_Vector\_Object\_Information:*  
*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
 Area point  
*Point\_and\_Vector\_Object\_Count:*  
 776  
*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
 Complete chain  
*Point\_and\_Vector\_Object\_Count:*  
 8  
*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
 Link  
*Point\_and\_Vector\_Object\_Count:*  
 46  
*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
 Node,planar graph  
*Point\_and\_Vector\_Object\_Count:*  
 16

[Back To Index](#)

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*Spatial\_Reference\_Information:*  
*Horizontal\_Coordinate\_System\_Definition:*  
*Geographic:*  
*Latitude\_Resolution:*  
 0.0000001  
*Longitude\_Resolution:*  
 0.0000001  
*Geographic\_Coordinate\_Units:*  
 Decimal degrees  
*Geodetic\_Model:*  
*Horizontal\_Datum\_Name:*  
 North American Datum of 1983  
*Ellipsoid\_Name:*  
 Geodetic Reference System 80

*Semi-major\_Axis:*  
6378137.000000  
*Denominator\_of\_Flattening\_Ratio:*  
298.257222

[Back To Index](#)

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*Entity\_and\_Attribute\_Information:*

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*  
SOCECON.AAT

*Entity\_Type\_Definition:*

The SOCECON.AAT table contains attribute information for the vector lines representing bridges and state boundaries.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

TYPE

*Attribute\_Definition:*

The human-use features depicted on the maps are those that could be impacted by an oil spill or could provide access for response operations. TYPE can be used as a quick identifier for the socioeconomic or human-use point features and is the attribute that is used to symbolize the layer.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

R

*Enumerated\_Domain\_Value\_Definition:*

Road, Transportation, or Bridge

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

SB

*Enumerated\_Domain\_Value\_Definition:*

State Border

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*  
SOCECON.PAT

*Entity\_Type\_Definition:*

The SOCECON.PAT table contains attribute information for the vector points representing abandoned vessels, access points, airports, archaeological sites, artificial reefs, beaches, boat ramps, campgrounds, coast guard stations, commercial fishing sites, ferries, heliports, historical sites, marinas, recreational fishing, surfing, and water intakes. Note that all attribute information is stored in

a series of relational files, described below and in the Overview\_Description section. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
TYPE

*Attribute\_Definition:*

The human-use features depicted on the maps are those that could be impacted by an oil spill or could provide access for response operations. TYPE can be used as a quick identifier for the socioeconomic or human-use point features and is the attribute that is used to symbolize the layer. Greater detail about the object is provided in the SOC\_DAT table.

*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

A

*Enumerated\_Domain\_Value\_Definition:*

Airport

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

A2

*Enumerated\_Domain\_Value\_Definition:*

Access

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

AR

*Enumerated\_Domain\_Value\_Definition:*

Artificial Reef

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

AS

*Enumerated\_Domain\_Value\_Definition:*

Archaeological Site

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

AV

*Enumerated\_Domain\_Value\_Definition:*

Abandoned Vessel

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

B

*Enumerated\_Domain\_Value\_Definition:*

Beach

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

BR

*Enumerated\_Domain\_Value\_Definition:*

Boat Ramp

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Campground

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

CF

*Enumerated\_Domain\_Value\_Definition:*

Commercial Fishing

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

CG

*Enumerated\_Domain\_Value\_Definition:*

Coast Guard

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

F

*Enumerated\_Domain\_Value\_Definition:*

Ferry

*Enumerated\_Domain\_Value\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HP

*Enumerated\_Domain\_Value\_Definition:*

Heliport

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HS

*Enumerated\_Domain\_Value\_Definition:*

Historical Site

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

M

*Enumerated\_Domain\_Value\_Definition:*

Marina

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

RF

*Enumerated\_Domain\_Value\_Definition:*

Recreational Fishing

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

S2

*Enumerated\_Domain\_Value\_Definition:*

Surfing

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

WI

*Enumerated\_Domain\_Value\_Definition:*

Water Intake

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ID



*Attribute\_Definition:*

An identifier that links vector objects in the human-use data layers to records in the SOC\_LUT data table. ID is a concatenation of atlas number (235), element number (10), and record number.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

2351000001

*Range\_Domain\_Maximum:*

2351000776

*Attribute:**Attribute\_Label:*

HUNUM

*Attribute\_Definition:*

An identifier that links directly to the SOC\_DAT table.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

235000001

*Range\_Domain\_Maximum:*

235000480

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

SOC\_LUT

*Entity\_Type\_Definition:*

The data table SOC\_LUT is a lookup table that contains items necessary for linking vector objects in the human-use data layers with the SOC\_DAT data table. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

HUNUM

*Attribute\_Definition:*

An identifier that links records in the SOC\_LUT data table to records in the SOC\_DAT data table. HUNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

235000001

*Range\_Domain\_Maximum:*

235000529

*Attribute:**Attribute\_Label:*

ID

*Attribute\_Definition:*

An identifier that links vector objects in the human-use data layers to records in the SOC\_LUT data table. ID is a concatenation of atlas number (235), element number (10=SOCECON, 11=MGT), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

2350000001

*Range\_Domain\_Maximum:*

2350000724

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

SOC\_DAT

*Entity\_Type\_Definition:*

The data table SOC\_DAT contains both human-use attribute data and items necessary for linking the human-use spatial data layers to the SOURCES data table. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

HUNUM

*Attribute\_Definition:*

An identifier that links records in the SOC\_DAT data table to records in the SOC\_LUT data table. HUNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

235000001

*Range\_Domain\_Maximum:*

235000529

*Attribute:**Attribute\_Label:*

TYPE

*Attribute\_Definition:*

The human-use features depicted on the maps are those that could be impacted by an oil spill or could provide access for response operations.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*  
ABANDONED VESSEL

*Enumerated\_Domain\_Value\_Definition:*  
Abandoned Vessel

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*  
ACCESS

*Enumerated\_Domain\_Value\_Definition:*  
Access

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*  
AIRPORT

*Enumerated\_Domain\_Value\_Definition:*  
Airport

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*  
ARCHAEOLOGICAL SITE

*Enumerated\_Domain\_Value\_Definition:*  
Archaeological Site

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*  
ARTIFICIAL REEF

*Enumerated\_Domain\_Value\_Definition:*  
Artificial Reef

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*  
BEACH

*Enumerated\_Domain\_Value\_Definition:*  
Beach

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*  
BOAT RAMP

*Enumerated\_Domain\_Value\_Definition:*

## Boat Ramp

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

CAMPGROUND

*Enumerated\_Domain\_Value\_Definition:*

Campground

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

COAST GUARD

*Enumerated\_Domain\_Value\_Definition:*

Coast Guard

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

COMMERCIAL FISHING

*Enumerated\_Domain\_Value\_Definition:*

Commercial Fishing

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

CRITICAL HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Designated Critical Habitat

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FERRY

*Enumerated\_Domain\_Value\_Definition:*

Ferry

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HELIPORT

*Enumerated\_Domain\_Value\_Definition:*

Heliport

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HISTORICAL SITE

*Enumerated\_Domain\_Value\_Definition:*

Historical Site

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

MANAGEMENT AREA

*Enumerated\_Domain\_Value\_Definition:*

Management Area

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

MARINA

*Enumerated\_Domain\_Value\_Definition:*

Marina

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

NATIONAL FOREST

*Enumerated\_Domain\_Value\_Definition:*

National Forest

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

NATIONAL PARK

*Enumerated\_Domain\_Value\_Definition:*

National Park

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

PARK

*Enumerated\_Domain\_Value\_Definition:*

Regional or State Park

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

RECREATIONAL FISHING

*Enumerated\_Domain\_Value\_Definition:*

## Recreational Fishing

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

SURFING

*Enumerated\_Domain\_Value\_Definition:*

Surfing Area

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

WATER INTAKE

*Enumerated\_Domain\_Value\_Definition:*

Water Intake

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

WILDLIFE REFUGE

*Enumerated\_Domain\_Value\_Definition:*

Wildlife Refuge

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

NAME

*Attribute\_Definition:*

The feature name.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

CONTACT

*Attribute\_Definition:*

Contact person or entity.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

PHONE

*Attribute\_Definition:*

Contact telephone number.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

Any character

*Enumerated\_Domain\_Value\_Definition:*

Free text

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

G\_SOURCE

*Attribute\_Definition:*

Geographic source identifier that links records in the SOC\_DAT data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

A\_SOURCE

*Attribute\_Definition:*

Attribute source identifier that links records in the SOC\_DAT data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

SOURCES

*Entity\_Type\_Definition:*

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SOURCE\_ID

*Attribute\_Definition:*

Source identifier that links records in the SOURCES data table to the items G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID and ESI\_SOURCE in the ESI, WETLANDS, and HYDRO data layers.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

ORIGINATOR

*Attribute\_Definition:*

Author or developer of source material or data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

DATE\_PUB

*Attribute\_Definition:*

Date of source material, publication, or date of personal communication with expert source.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

TITLE

*Attribute\_Definition:*

Title of source material or data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

DATA\_FORMAT



*Attribute\_Definition:*

The format of the source material.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

PUB\_PLACE

*Attribute\_Definition:*

Publication place.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

PUBLISHER

*Attribute\_Definition:*

Publisher.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

PUBLICATION

*Attribute\_Definition:*

Additional citation information.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

ONLINE\_LINK

*Attribute\_Definition:*

Online computer resource URL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

SCALE

*Attribute\_Definition:*

Description of the source scale.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

TIME\_PERIOD

*Attribute\_Definition:*

Date(s) of data collection that the source material is based upon.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Overview\_Description:**Entity\_and\_Attribute\_Overview:*

Two relational attribute or data tables, SOC\_DAT, and SOURCES, are used to store the complex socioeconomic data in the ESI data structure. The geographic data layer containing socioeconomic data resource information (in this case, SOCECON) is linked to the Socioeconomic Resources table (SOC\_DAT) using the unique ID and the lookup table SOC\_LUT, or it can be linked directly using HUNUM. HUNUM is a unique reference number concatenated with the atlas number (for North Carolina, the number is 235). ID is a unique combination of the atlas number (235), an element specific number (SOCECON = 10), and a unique record number. SOC\_DAT and the other relational data tables are described in the Detailed\_Description sections. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

*Entity\_and\_Attribute\_Detail\_Citation:*

A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines ([http://response.restoration.noaa.gov/esi\\_guidelines](http://response.restoration.noaa.gov/esi_guidelines)).

[Back To Index](#)

---

*Distribution\_Information:**Distributor:**Contact\_Information:**Contact\_Person\_Primary:**Contact\_Person:*

John Kaperick

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Address:**Address\_Type:*

Physical Address

*Address:*

7600 Sand Point Way N.E.

*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6400

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Resource\_Description:*

Downloadable Data

*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

[Back To Index](#)*Metadata\_Reference\_Information:**Metadata\_Date:*

20111015

*Metadata\_Review\_Date:*

20111015

*Metadata\_Contact:**Contact\_Information:**Contact\_Person\_Primary:**Contact\_Person:*

Jill Petersen

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Position:*

GIS Manager

*Contact\_Address:**Address\_Type:*

Physical Address

*Address:*

7600 Sand Point Way, N.E.

*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6944

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Contact\_Electronic\_Mail\_Address:*

Jill.Petersen@noaa.gov

*Metadata\_Standard\_Name:*

Content Standards for Digital Geospatial Metadata

*Metadata\_Standard\_Version:*

FGDC-STD-001-1998

*Metadata\_Extensions:*

*Online\_Linkage:*

[http://www.ncddc.noaa.gov/metadatarresource/metadatarreferences/files/ncddcmdprofile\\_v2.pdf](http://www.ncddc.noaa.gov/metadatarresource/metadatarreferences/files/ncddcmdprofile_v2.pdf)

*Profile\_Name:*

Content Specification for Metadata in the National Coastal Data Development Center's Data Catalog Version 2.0

*Metadata\_Extensions:*

*Online\_Linkage:*

[http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile\\_v2.pdf](http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile_v2.pdf)

*Profile\_Name:*

Content Specification for Metadata in the National Coastal Data Development Center's Data Catalog Version 2.0

[Back To Index](#)

# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: BIRDS (Bird Polygons)

## Metadata:

- [Identification Information](#)
  - [Data Quality Information](#)
  - [Spatial Data Organization Information](#)
  - [Spatial Reference Information](#)
  - [Entity and Attribute Information](#)
  - [Distribution Information](#)
  - [Metadata Reference Information](#)
- 

### *Identification\_Information:*

#### *Citation:*

#### *Citation\_Information:*

#### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington.

#### *Originator:*

U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia.

#### *Originator:*

Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

#### *Publication\_Date:*

201107

#### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: BIRDS (Bird Polygons)

#### *Edition:*

Second

#### *Geospatial\_Data\_Presentation\_Form:*

vector digital data

#### *Series\_Information:*

#### *Series\_Name:*

None

#### *Issue\_Identification:*

North Carolina

#### *Publication\_Information:*

#### *Publication\_Place:*

Seattle, Washington

#### *Publisher:*

NOAA's Ocean Service, Office of Response and Restoration (OR&R), Emergency Response Division (ERD).

#### *Other\_Citation\_Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National

Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division, Seattle, Washington.

*Online\_Linkage:*

<http://response.restoration.noaa.gov/esi>

*Description:*

*Abstract:*

This data set contains sensitive biological resource data for wading birds, shorebirds, waterfowl, raptors, diving birds, seabirds, passerine birds, and gulls and terns in North Carolina. Vector polygons in this data set represent bird nesting, migratory staging, and wintering 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 North 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. See also the NESTS data layer, part of the larger North Carolina ESI database, for additional bird information.

*Purpose:*

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

*Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

1972

*Ending\_Date:*

2010

*Currentness\_Reference:*

The data were compiled during 2010-2011. The currentness dates for the data range from 1972 to 2010 and are documented in the Lineage section.

*Status:*

*Progress:*

Complete

*Maintenance\_and\_Update\_Frequency:*

None Scheduled

*Spatial\_Domain:*

*Bounding\_Coordinates:*

*West\_Bounding\_Coordinate:*

-78.62500

*East\_Bounding\_Coordinate:*

-75.39900

*North\_Bounding\_Coordinate:*

36.62500

*South\_Bounding\_Coordinate:*

33.75000

*Keywords:*

*Theme:*

*Theme\_Keyword\_Thesaurus:*

ISO 19115 Topic Category

*Theme\_Keyword:*

biota

*Theme\_Keyword:*  
environment

*Theme:*

*Theme\_Keyword\_Thesaurus:*  
None

*Theme\_Keyword:*  
Environmental Monitoring

*Theme\_Keyword:*  
ESI

*Theme\_Keyword:*  
Sensitivity maps

*Theme\_Keyword:*  
Coastal resources

*Theme\_Keyword:*  
Oil spill planning

*Theme\_Keyword:*  
Coastal Zone Management

*Theme\_Keyword:*  
Wildlife

*Theme\_Keyword:*  
Bird

*Theme:*

*Theme\_Keyword\_Thesaurus:*  
NOS Data Explorer Topic Category

*Theme\_Keyword:*  
Environmental Monitoring

*Place:*

*Place\_Keyword\_Thesaurus:*  
None

*Place\_Keyword:*  
North Carolina

*Access\_Constraints:*

None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:*  
datafig.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

**JPEG***Browse\_Graphic:**Browse\_Graphic\_File\_Name:*

datafig2.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and desktop data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington; the U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia; and the Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 9.3) and SQL SERVER(R) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003). The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00, and wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio\_lut.e00, biofile.e00, biores.e00, breed.e00, breed\_dt.e00, seasonal.e00, soc\_dat.e00, soc\_lut.e00, sources.e00, species.e00, and status.e00.

*Program\_Affiliation:**Program\_Name:*

National Ocean Service Data Explorer

[Back To Index](#)*Data\_Quality\_Information:**Attribute\_Accuracy:**Attribute\_Accuracy\_Report:*

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD/DVD and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new



ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

#### *Completeness\_Report:*

These data represent a synthesis of expert knowledge, available hardcopy documents, survey data, maps, and digital data on bird nesting, wintering, migratory staging and other spatial/temporal concentration areas. See also the NESTS data layer, part of the larger North Carolina ESI database, for additional bird information. These data do not necessarily represent all bird occurrences in North Carolina. The following species are included in this data set: (Species\_ID, Common Name, Scientific Name [n/a if not applicable]): 1, Common loon, *Gavia immer*; 3, Red-throated loon, *Gavia stellata*; 5, Horned grebe, *Podiceps auritus*; 8, Double-crested cormorant, *Phalacrocorax auritus*; 11, Tundra swan, *Cygnus columbianus*; 12, Canada goose, *Branta canadensis*; 13, Brant, *Branta bernicla*; 15, Snow goose, *Chen caerulescens*; 16, Mallard, *Anas platyrhynchos*; 17, Northern pintail, *Anas acuta*; 18, Green-winged teal, *Anas crecca*; 20, Northern shoveler, *Anas clypeata*; 21, Canvasback, *Aythya valisineria*; 24, Common goldeneye, *Bucephala clangula*; 26, Bufflehead, *Bucephala albeola*; 30, Surf scoter, *Melanitta perspicillata*; 32, Common merganser, *Mergus merganser*; 33, Red-breasted merganser, *Mergus serrator*; 34, American coot, *Fulica americana*; 42, Bonaparte's gull, *Larus philadelphia*; 45, Common tern, *Sterna hirundo*; 54, Great blue heron, *Ardea herodias*; 55, Whimbrel, *Numenius phaeopus*; 58, Greater yellowlegs, *Tringa melanoleuca*; 59, Lesser yellowlegs, *Tringa flavipes*; 60, Red knot, *Calidris canutus*; 61, Pectoral sandpiper, *Calidris melanotos*; 62, Least sandpiper, *Calidris minutilla*; 63, Dunlin, *Calidris alpina*; 64, Short-billed dowitcher, *Limnodromus griseus*; 65, Long-billed dowitcher, *Limnodromus scolopaceus*; 66, Western sandpiper, *Calidris mauri*; 67, Sanderling, *Calidris alba*; 69, Semipalmated plover, *Charadrius semipalmatus*; 70, Killdeer, *Charadrius vociferus*; 71, Black-bellied plover, *Pluvialis squatarola*; 73, Ruddy turnstone, *Arenaria interpres*; 76, Bald eagle, *Haliaeetus leucocephalus*; 77, Osprey, *Pandion haliaetus*; 86, Least tern, *Sternula antillarum*; 87, Little blue heron, *Egretta caerulea*; 88, Great egret, *Ardea alba*; 89, Snowy egret, *Egretta thula*; 90, Black-crowned night-heron, *Nycticorax nycticorax*; 91, Glossy ibis, *Plegadis falcinellus*; 93, Cattle egret, *Bubulcus ibis*; 94, Tricolored heron, *Egretta tricolor*; 97, Green heron, *Butorides virescens*; 107, Peregrine falcon, *Falco peregrinus*; 115, White ibis, *Eudocimus albus*; 116, Roseate spoonbill, *Ajaia ajaja*; 118, Brown pelican, *Pelecanus occidentalis*; 120, Yellow-crowned night-heron, *Nyctanassa violacea*; 124, Redhead, *Aythya americana*; 125, Clapper rail, *Rallus longirostris*; 132, Wood stork, *Mycteria americana*; 133, Black skimmer, *Rynchops niger*; 134, Gull-billed tern, *Gelochelidon nilotica*; 138, Forster's tern, *Sterna forsteri*; 141, American avocet, *Recurvirostra americana*; 142, Black-necked stilt, *Himantopus mexicanus*; 148, Ruddy duck, *Oxyura jamaicensis*; 150, Black rail, *Laterallus jamaicensis*; 152, American oystercatcher, *Haematopus palliatus*; 153, Piping plover, *Charadrius melodus*; 154, Wilson's plover, *Charadrius wilsonia*; 155, Willet, *Catoptrophorus semipalmatus*; 156, Semipalmated sandpiper, *Calidris pusilla*; 162, Gadwall, *Anas strepera*; 167, Northern gannet, *Morus bassanus*; 169, American wigeon, *Anas americana*; 173, American white pelican, *Pelecanus erythrorhynchos*; 178, Least bittern, *Ixobrychus exilis*; 179, Pied-billed grebe, *Podilymbus podiceps*; 180, Ring-necked duck, *Aythya collaris*; 181, Northern harrier, *Circus cyaneus*; 182, American kestrel, *Falco sparverius*; 184, King rail, *Rallus elegans*; 185, American bittern, *Botaurus lentiginosus*; 186, American black duck, *Anas rubripes*; 187, Virginia rail, *Rallus limicola*; 188, Sora, *Porzana carolina*; 190, Blue-

winged teal, *Anas discors*; 191, Wood duck, *Aix sponsa*; 197, Black scoter, *Melanitta nigra*; 198, Hooded merganser, *Lophodytes cucullatus*; 210, Marbled godwit, *Limosa fedoa*; 213, Stilt sandpiper, *Calidris himantopus*; 218, Red-shouldered hawk, *Buteo lineatus*; 219, Sharp-shinned hawk, *Accipiter striatus*; 220, Merlin, *Falco columbarius*; 224, Sedge wren, *Cistothorus platensis*; 225, Marsh wren, *Cistothorus palustris*; 230, Red-tailed hawk, *Buteo jamaicensis*; 238, White-rumped sandpiper, *Calidris fuscicollis*; 271, Rails, n/a; 273, Geese, n/a; 277, Seaside sparrow, *Ammodramus maritimus*; 278, Saltmarsh sharp-tailed sparrow, *Ammodramus caudacutus*; 286, Dowitchers, *Limnodromus* spp.; 293, Yellowlegs, *Tringa* spp.; 299, Scaup, *Aythya* spp.; 301, Mergansers, n/a; 302, Scoters, *Melanitta* spp.; 394, Plovers, *Charadrius* spp.; 462, Loons, *Gavia* spp.; 734, Nelson's sharp-tailed sparrow, *Ammodramus nelsoni*; 858, Painted bunting, *Passerina ciris*; 1001, Gulls, n/a; 1002, Shorebirds, n/a; 1003, Waterfowl, n/a; 1004, Wading birds, n/a; 1006, Diving birds, n/a; 1007, Colonial waterbirds, n/a; 1008, Terns, n/a; 1013, Dabbling ducks, n/a; 1014, Diving ducks, n/a; 1015, Egrets, n/a; 1016, Herons, n/a; 1017, Sandpipers, n/a; 1019, Sea ducks, n/a; 1021, Ducks, n/a; 1027, Swans, *Cygnus* spp.; 1032, Bitterns, n/a; 1037, Cormorants, *Phalacrocorax* spp.

*Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy\_Report:*

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources. See the Lineage and Process\_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

ALLEN, D. (NORTH CAROLINA WILDLIFE RESOURCES COMMISSION)

*Publication\_Date:*

2009

*Title:*

COLONIAL WATERBIRD, SHOREBIRD, AND TERRAPIN DISTRIBUTION IN COASTAL NORTH CAROLINA

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*Publication\_Date:*  
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*Publication\_Date:*

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*Publication\_Date:*

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*Publication\_Date:*  
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(DIVISION OF MIGRATORY BIRD MANAGEMENT, U.S. FISH  
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*Publication\_Date:*

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*Publication\_Date:*

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Three main sources of data were used to depict bird distribution and seasonality for this data layer: 1) personal interviews with resource experts from Audubon North Carolina, U.S. Fish and Wildlife Service (USFWS), North Carolina Wildlife Resources Commission (NCWRC), National Park Service (NPS) Cape Hatteras and Cape Lookout National Seashores, and North Carolina Natural Heritage Program, 2) geospatial and tabular survey data provided by NCWRC, NPS, and USFWS, and 3) numerous published and unpublished reports. The above digital and/or hardcopy sources were compiled by the project biologist to create the BIRDS 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; and/or 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 compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews are conducted to review the maps. If necessary, edits to the BIRDS data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:*

201107

*Process\_Contact:**Contact\_Information:**Contact\_Organization\_Primary:**Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Person:*

Jill Petersen

*Contact\_Address:*

*Address\_Type:*  
 Physical address  
*Address:*  
 7600 Sand Point Way, N.E.  
*City:*  
 Seattle  
*State\_or\_Province:*  
 Washington  
*Postal\_Code:*  
 98115-6349  
*Contact\_Voice\_Telephone:*  
 (206) 526-6944  
*Contact\_Facsimile\_Telephone:*  
 (206) 526-6329  
*Contact\_Electronic\_Mail\_Address:*  
 Jill.Petersen@noaa.gov

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*Semi-major\_Axis:*  
 6378137.000000  
*Denominator\_of\_Flattening\_Ratio:*  
 298.257222

[Back To Index](#)

---

*Entity\_and\_Attribute\_Information:*

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

BIRDS.PAT

*Entity\_Type\_Definition:*

The BIRDS.PAT table contains attribute information for the vector polygons in this data set representing bird nesting, migratory staging, and wintering sites. Note that all attribute information is stored in a series of relational files, described below and in the Overview\_Description section. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (235), element number (1), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

2350100002

*Range\_Domain\_Maximum:*

2350116203

*Attribute:*

*Attribute\_Label:*

RARNUM

*Attribute\_Definition:*

An identifier that links directly to the BIORES table or the flat format BIOFILE

table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

235000001

*Range\_Domain\_Maximum:*

235000575

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

BIO\_LUT

*Entity\_Type\_Definition:*

The data table BIO\_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below and in the Overview\_Description section. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

RARNUM

*Attribute\_Definition:*

An identifier that links records in the BIO\_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

235000001

*Range\_Domain\_Maximum:*

235000925

*Attribute:*

*Attribute\_Label:*

ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (235), element number (1), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

2350000002

*Range\_Domain\_Maximum:*

2350001183

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

BIORES

*Entity\_Type\_Definition:*

The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO\_LUT data table to other associated data tables. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

RARNUM

*Attribute\_Definition:*

An identifier that links records in the BIORES data table to records in the BIO\_LUT data table or the flat format BIOFILE data table.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

235000001

*Range\_Domain\_Maximum:*

235000925

*Attribute:**Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

CONC

*Attribute\_Definition:*

The field CONC refers to "concentration," abundance, or density values, and may contain counts of individuals for each species present at a particular site, or a term that describes relative abundance of birds at a particular site. The field may contain counts or a range of counts of individuals, pairs, or nests (XX-XX BIRDS or PAIRS or NESTS). In cases where no quantitative count information

was available, the field may contain descriptive terms such as "HIGH" or "LOW", or a concentration approximation, such as "100s". If no concentration information was available from any source, the field was populated with "-". Counts were derived from a variety of surveys and may range in date (see Lineage), but were mostly conducted from 2001-2009.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

G\_SOURCE

*Attribute\_Definition:*

Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

S\_SOURCE

*Attribute\_Definition:*

Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*



## Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

## SPECIES

*Entity\_Type\_Definition:*

The data table SPECIES identifies all species in the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness\_Report for a list of layer-specific species.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

NAME

*Attribute\_Definition:*

Species common name for the entire ESI data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

GEN\_SPEC

*Attribute\_Definition:*

Species scientific name for the entire ESI data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

## BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SUBELEMENT

*Attribute\_Definition:*

Element subgroup delineating a logical grouping of species.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

alligator

*Enumerated\_Domain\_Value\_Definition:*

Alligator

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

bird

*Enumerated\_Domain\_Value\_Definition:*

Bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

bivalve

*Enumerated\_Domain\_Value\_Definition:*

Bivalve

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

crab

*Enumerated\_Domain\_Value\_Definition:*

Crab

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

crayfish

*Enumerated\_Domain\_Value\_Definition:*

Crayfish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

diadromous

*Enumerated\_Domain\_Value\_Definition:*  
 Diadromous fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 diving  
*Enumerated\_Domain\_Value\_Definition:*  
 Diving bird  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 e\_nursery  
*Enumerated\_Domain\_Value\_Definition:*  
 Estuarine nursery fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 e\_resident  
*Enumerated\_Domain\_Value\_Definition:*  
 Estuarine resident fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 fish  
*Enumerated\_Domain\_Value\_Definition:*  
 Fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 freshwater  
*Enumerated\_Domain\_Value\_Definition:*  
 Freshwater fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 gull\_tern  
*Enumerated\_Domain\_Value\_Definition:*  
 Gull or tern  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
insect  
*Enumerated\_Domain\_Value\_Definition:*  
Insect  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
invert  
*Enumerated\_Domain\_Value\_Definition:*  
Invertebrate  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
m\_benthic  
*Enumerated\_Domain\_Value\_Definition:*  
Marine benthic fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
m\_pelagic  
*Enumerated\_Domain\_Value\_Definition:*  
Marine pelagic fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
manatee  
*Enumerated\_Domain\_Value\_Definition:*  
Manatee  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
passerine  
*Enumerated\_Domain\_Value\_Definition:*  
Passerine bird  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
pelagic

*Enumerated\_Domain\_Value\_Definition:*

Pelagic bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

pinniped

*Enumerated\_Domain\_Value\_Definition:*

Pinniped

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

plant

*Enumerated\_Domain\_Value\_Definition:*

Plant

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

raptor

*Enumerated\_Domain\_Value\_Definition:*

Raptor

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

sav

*Enumerated\_Domain\_Value\_Definition:*

Submerged aquatic vegetation

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

shorebird

*Enumerated\_Domain\_Value\_Definition:*

Shorebird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

shrimp

*Enumerated\_Domain\_Value\_Definition:*

Shrimp

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
sm\_mammal  
*Enumerated\_Domain\_Value\_Definition:*  
Small mammal  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
snake  
*Enumerated\_Domain\_Value\_Definition:*  
Snake  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
turtle  
*Enumerated\_Domain\_Value\_Definition:*  
Turtle  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
ungulate  
*Enumerated\_Domain\_Value\_Definition:*  
Ungulate  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
wading  
*Enumerated\_Domain\_Value\_Definition:*  
Wading bird  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
waterfowl  
*Enumerated\_Domain\_Value\_Definition:*  
Waterfowl  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
wetland



*Enumerated\_Domain\_Value\_Definition:*

Wetland

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

whale

*Enumerated\_Domain\_Value\_Definition:*

Whale

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

NHP

*Attribute\_Definition:*

Natural Heritage Program global ranking.

*Attribute\_Definition\_Source:*

Network of Natural Heritage Program

*Attribute\_Domain\_Values:*

*Codeset\_Domain:*

*Codeset\_Name:*

NHP Global Conservation Status Rank

*Codeset\_Source:*

Natural Heritage Program

*Attribute:*

*Attribute\_Label:*

DATE\_PUB

*Attribute\_Definition:*

Date of NHP listing.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

0

*Enumerated\_Domain\_Value\_Definition:*

Date unspecified

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

SEASONAL

*Entity\_Type\_Definition:*

The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

## SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

JAN

*Attribute\_Definition:*

January

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in January

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

FEB

*Attribute\_Definition:*

February

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in February

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

MAR

*Attribute\_Definition:*

March

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in March

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

APR

*Attribute\_Definition:*

April

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in April

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

MAY

*Attribute\_Definition:*

May

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in May

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

JUN

*Attribute\_Definition:*

June

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in June

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

JUL

*Attribute\_Definition:*

July

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in July

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

AUG

*Attribute\_Definition:*

August

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in August

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SEP

*Attribute\_Definition:*

September

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in September

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

OCT

*Attribute\_Definition:*

October

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in October

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

NOV

*Attribute\_Definition:*

November

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in November

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

DEC

*Attribute\_Definition:*

December

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in December

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g.

ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1;  
EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

BREED

*Entity\_Type\_Definition:*

The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

MONTH

*Attribute\_Definition:*

Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

12

*Attribute:*

*Attribute\_Label:*

BREED1

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then



BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M\_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T\_MAMMAL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

BREED2

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M\_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED3

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = interesting; if ELEMENT is "M\_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED4

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M\_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

BREED5

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M\_MAMMAL, HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

STATUS

*Entity\_Type\_Definition:*

The data table STATUS identifies the species that are listed as either threatened or endangered by a state, federal, or international authority. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

## STATE

*Attribute\_Definition:*

Two-letter state abbreviation.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

COUNTRY

*Attribute\_Definition:*

Three-letter country abbreviation.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

S

*Attribute\_Definition:*

State threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on state list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on state list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

F

*Attribute\_Definition:*

Federal threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

I

*Attribute\_Definition:*

International threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on international list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on international list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

S\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign state status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

F\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign federal status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

I\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign international status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*



YYYY for year and optionally MM for month  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

SOURCES

*Entity\_Type\_Definition:*

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SOURCE\_ID

*Attribute\_Definition:*

Source identifier that links records in the SOURCES data table to the items G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID and ESI\_SOURCE in the ESI, WETLANDS, and HYDRO data layers.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

ORIGINATOR

*Attribute\_Definition:*

Author or developer of source material or data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

DATE\_PUB

*Attribute\_Definition:*

Date of source material, publication, or date of personal communication with expert source.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

TITLE

*Attribute\_Definition:*

Title of source material or data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

DATA\_FORMAT

*Attribute\_Definition:*

The format of the source material.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUB\_PLACE

*Attribute\_Definition:*

Publication place.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

PUBLISHER

*Attribute\_Definition:*

Publisher.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

PUBLICATION

*Attribute\_Definition:*

Additional citation information.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

ONLINE\_LINK

*Attribute\_Definition:*

Online computer resource URL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

SCALE

*Attribute\_Definition:*

Description of the source scale.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

TIME\_PERIOD

*Attribute\_Definition:*

Date(s) of data collection that the source material is based upon.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Overview\_Description:**Entity\_and\_Attribute\_Overview:*

In addition to the geographic data layers, six relational attribute or data tables (BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS) are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, BIRDS) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO\_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the North Carolina atlas, the number is 235), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described in the Detailed\_Description sections. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure. Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN\_SPEC, S, F, NHP, DATE\_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G\_SOURCE, S\_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables (described in the Detailed\_Description sections), except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED\_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed\_Description of the BREED data table. The link to the BIOFILE may be made through the BIO\_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED\_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED\_DT is the BREED item. A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G\_SOURCE and S\_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table and this data table is NOT described in a Detailed\_Description section.

*Entity\_and\_Attribute\_Detail\_Citation:*

A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines ([http://response.restoration.noaa.gov/esi\\_guidelines](http://response.restoration.noaa.gov/esi_guidelines)).

[Back To Index](#)

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*Distribution\_Information:*

*Distributor:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:*

John Kaperick

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Address:*

*Address\_Type:*

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*Address:*

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*City:*

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*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6400

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Resource\_Description:*

Downloadable Data

*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

[Back To Index](#)

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*Metadata\_Reference\_Information:*

*Metadata\_Date:*

20111015

*Metadata\_Review\_Date:*

20111015

*Metadata\_Contact:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:*

Jill Petersen

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Position:*  
GIS Manager  
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Physical Address  
*Address:*  
7600 Sand Point Way, N.E.  
*City:*  
Seattle  
*State\_or\_Province:*  
Washington  
*Postal\_Code:*  
98115-6349  
*Contact\_Voice\_Telephone:*  
(206) 526-6944  
*Contact\_Facsimile\_Telephone:*  
(206) 526-6329  
*Contact\_Electronic\_Mail\_Address:*  
Jill.Petersen@noaa.gov

*Metadata\_Standard\_Name:*  
Content Standards for Digital Geospatial Metadata

*Metadata\_Standard\_Version:*  
FGDC-STD-001-1998

*Metadata\_Extensions:*  
*Online\_Linkage:*

[http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile\\_v2.pdf](http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile_v2.pdf)

*Profile\_Name:*  
Content Specification for Metadata in the National Coastal Data Development Center's  
Data Catalog Version 2.0

[Back To Index](#)

# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: NESTS (Nest Points)

## Metadata:

- [Identification Information](#)
  - [Data Quality Information](#)
  - [Spatial Data Organization Information](#)
  - [Spatial Reference Information](#)
  - [Entity and Attribute Information](#)
  - [Distribution Information](#)
  - [Metadata Reference Information](#)
- 

### *Identification\_Information:*

#### *Citation:*

#### *Citation\_Information:*

#### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington.

#### *Originator:*

U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia.

#### *Originator:*

Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

#### *Publication\_Date:*

201107

#### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: NESTS (Nest Points)

#### *Edition:*

Second

#### *Geospatial\_Data\_Presentation\_Form:*

vector digital data

#### *Series\_Information:*

#### *Series\_Name:*

None

#### *Issue\_Identification:*

North Carolina

#### *Publication\_Information:*

#### *Publication\_Place:*

Seattle, Washington

#### *Publisher:*

NOAA's Ocean Service, Office of Response and Restoration (OR&R), Emergency Response Division (ERD).

#### *Other\_Citation\_Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National

Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division, Seattle, Washington.

*Online\_Linkage:*

<http://response.restoration.noaa.gov/esi>

*Description:*

*Abstract:*

This data set contains sensitive biological resource data for wading birds, shorebirds, raptors, diving birds, passerine birds, and gulls and terns in North Carolina. Vector points in this data set represent bird nesting, migratory staging, 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 North 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. See also the BIRDS data layer, part of the larger North Carolina ESI database, for additional bird information.

*Purpose:*

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

*Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

1972

*Ending\_Date:*

2009

*Currentness\_Reference:*

The data were compiled during 2010-2011. The currentness dates for the data range from 1972 to 2009 and are documented in the Lineage section.

*Status:*

*Progress:*

Complete

*Maintenance\_and\_Update\_Frequency:*

None Scheduled

*Spatial\_Domain:*

*Bounding\_Coordinates:*

*West\_Bounding\_Coordinate:*

-78.62500

*East\_Bounding\_Coordinate:*

-75.39900

*North\_Bounding\_Coordinate:*

36.62500

*South\_Bounding\_Coordinate:*

33.75000

*Keywords:*

*Theme:*

*Theme\_Keyword\_Thesaurus:*

ISO 19115 Topic Category

*Theme\_Keyword:*

biota

*Theme\_Keyword:*



environment

*Theme:*

*Theme\_Keyword\_Thesaurus:*

None

*Theme\_Keyword:*

Environmental Monitoring

*Theme\_Keyword:*

ESI

*Theme\_Keyword:*

Sensitivity maps

*Theme\_Keyword:*

Coastal resources

*Theme\_Keyword:*

Oil spill planning

*Theme\_Keyword:*

Coastal Zone Management

*Theme\_Keyword:*

Wildlife

*Theme\_Keyword:*

Nest

*Theme\_Keyword:*

Bird

*Theme:*

*Theme\_Keyword\_Thesaurus:*

NOS Data Explorer Topic Category

*Theme\_Keyword:*

Environmental Monitoring

*Place:*

*Place\_Keyword\_Thesaurus:*

None

*Place\_Keyword:*

North Carolina

*Access\_Constraints:*

None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:*

datafig.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Browse\_Graphic:**Browse\_Graphic\_File\_Name:*

datafig2.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and desktop data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington; the U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia; and the Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 9.3) and SQL SERVER(R) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003). The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00, and wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio\_lut.e00, biofile.e00, biores.e00, breed.e00, breed\_dt.e00, seasonal.e00, soc\_dat.e00, soc\_lut.e00, sources.e00, species.e00, and status.e00.

*Program\_Affiliation:**Program\_Name:*

National Ocean Service Data Explorer

[Back To Index](#)*Data\_Quality\_Information:**Attribute\_Accuracy:**Attribute\_Accuracy\_Report:*

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD/DVD and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and

database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

*Completeness\_Report:*

These data represent a synthesis of expert knowledge, available hardcopy documents, survey data, maps, and digital data on bird nesting, wintering, migratory staging and other spatial/temporal concentration areas. See also the BIRDS data layer, part of the larger North Carolina ESI database, for additional bird information. These data do not necessarily represent all nest occurrences in North Carolina. The following species are included in this data set: (Species\_ID, Common Name, Scientific Name [n/a if not applicable]): 38, Herring gull, *Larus argentatus*; 45, Common tern, *Sterna hirundo*; 54, Great blue heron, *Ardea herodias*; 70, Killdeer, *Charadrius vociferus*; 76, Bald eagle, *Haliaeetus leucocephalus*; 77, Osprey, *Pandion haliaetus*; 86, Least tern, *Sterna antillarum*; 87, Little blue heron, *Egretta caerulea*; 88, Great egret, *Ardea alba*; 89, Snowy egret, *Egretta thula*; 90, Black-crowned night-heron, *Nycticorax nycticorax*; 91, Glossy ibis, *Plegadis falcinellus*; 92, Great black-backed gull, *Larus marinus*; 93, Cattle egret, *Bubulcus ibis*; 94, Tricolored heron, *Egretta tricolor*; 97, Green heron, *Butorides virescens*; 98, Laughing gull, *Larus atricilla*; 115, White ibis, *Eudocimus albus*; 118, Brown pelican, *Pelecanus occidentalis*; 120, Yellow-crowned night-heron, *Nyctanassa violacea*; 127, Sooty tern, *Onychoprion fuscatus*; 133, Black skimmer, *Rynchops niger*; 134, Gull-billed tern, *Gelochelidon nilotica*; 135, Sandwich tern, *Thalasseus sandvicensis*; 136, Caspian tern, *Hydroprogne caspia*; 137, Royal tern, *Thalasseus maximus*; 138, Forster's tern, *Sterna forsteri*; 142, Black-necked stilt, *Himantopus mexicanus*; 152, American oystercatcher, *Haematopus palliatus*; 153, Piping plover, *Charadrius melodus*; 154, Wilson's plover, *Charadrius wilsonia*; 155, Willet, *Catoptrophorus semipalmatus*; 178, Least bittern, *Ixobrychus exilis*; 193, Black tern, *Chlidonias niger*; 305, Red-cockaded woodpecker, *Picoides borealis*.

*Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy\_Report:*

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources. See the Lineage and Process\_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

ALTMAN, JON AND MICHAEL RIKARD

*Publication\_Date:*

2009

*Title:*

NATIONAL PARK SERVICE, CAPE LOOKOUT NATIONAL  
SEASHORE RESOURCES

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Altman and Rikard 2009

*Source\_Contribution:*

NESTS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

ALTMAN, JON (NATIONAL PARK SERVICE)

*Publication\_Date:*

2009

*Title:*

CAPE LOOKOUT NATIONAL SEASHORE RESOURCES

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

Altman 2009

*Source\_Contribution:*

NESTS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

AUDUBON NORTH CAROLINA

*Publication\_Date:*

2004

*Title:*

IBA\_NC (IMPORTANT BIRD AREAS OF NORTH CAROLINA)

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Other\_Citation\_Details:*

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*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2004

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

Audubon NC 2004

*Source\_Contribution:*

NESTS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

CARFIOLI, M. (NATIONAL PARK SERVICE)

*Publication\_Date:*

2009

*Title:*

CAPE HATTERAS NATIONAL SEASHORE RESOURCES

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Carfioli 2009

*Source\_Contribution:*

NESTS INFORMATION

*Source\_Information:*

*Source\_Citation:**Citation\_Information:**Originator:*

FUSSELL, J.O. III

*Publication\_Date:*

1994

*Title:*

A BIRDER'S GUIDE TO COASTAL NORTH CAROLINA

*Geospatial\_Data\_Presentation\_Form:*

HARDCOPY TEXT

*Publication\_Information:**Publication\_Place:*

CHAPEL HILL, NC

*Publisher:*

THE UNIVERSITY OF NORTH CAROLINA PRESS

*Other\_Citation\_Details:*

540 PP.

*Type\_of\_Source\_Media:*

paper

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

1994

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

Fussell 1994

*Source\_Contribution:*

NESTS INFORMATION

*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*

GOLDER, WALKER (AUDUBON NORTH CAROLINA)

*Publication\_Date:*

2004

*Title:*

IMPORTANT BIRD AREAS OF NORTH CAROLINA

*Geospatial\_Data\_Presentation\_Form:*

HARDCOPY TEXT

*Online\_Linkage:*<http://www.ncaudubon.org/>*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2004

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*  
Golder 2004

*Source\_Contribution:*  
NESTS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*  
HOFF, MIKE (U.S. FISH AND WILDLIFE SERVICE)

*Publication\_Date:*  
2009

*Title:*  
CURRITUCK AND MACKAY ISLAND NATIONAL WILDLIFE  
REFUGE SPECIES AND HUMAN-USE RESOURCES  
DISTRIBUTION

*Geospatial\_Data\_Presentation\_Form:*  
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*Other\_Citation\_Details:*  
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*Source\_Currentness\_Reference:*  
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*Source\_Citation\_Abbreviation:*  
Hoff 2009

*Source\_Contribution:*  
NESTS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*  
MCGEE, D. (NATIONAL PARK SERVICE)

*Publication\_Date:*  
2009

*Title:*  
CAPE HATTERAS NATIONAL SEASHORE BIRDS AND  
OTHER RESOURCES

*Geospatial\_Data\_Presentation\_Form:*  
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*Other\_Citation\_Details:*  
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*Type\_of\_Source\_Media:*  
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*Source\_Time\_Period\_of\_Content:*

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2009

*Source\_Currentness\_Reference:*

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*Source\_Citation\_Abbreviation:*

McGee 2009

*Source\_Contribution:*

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*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*NATIONAL PARK SERVICE: CAPE LOOKOUT NATIONAL  
SEASHORE*Publication\_Date:*

2009

*Title:*

CWB\_09

*Geospatial\_Data\_Presentation\_Form:*

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*Other\_Citation\_Details:*

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*Type\_of\_Source\_Media:*

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*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF SURVEY

*Source\_Citation\_Abbreviation:*

NPS 2009

*Source\_Contribution:*

NESTS INFORMATION

*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*NORTH CAROLINA WILDLIFE RESOURCES COMMISSION  
(NCWRC)*Publication\_Date:*

2009

*Title:*

NCWRC EAGLE DATA 2009

*Geospatial\_Data\_Presentation\_Form:*

spreadsheet

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

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*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:*



*Single\_Date/Time:*  
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2009  
*Source\_Currentness\_Reference:*  
DATE OF SURVEY  
*Source\_Citation\_Abbreviation:*  
NCWRC 2009, Eagle data  
*Source\_Contribution:*  
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*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
NORTH CAROLINA WILDLIFE RESOURCES COMMISSION  
(NCWRC)  
*Publication\_Date:*  
2009  
*Title:*  
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*Time\_Period\_Information:*  
*Range\_of\_Dates/Times:*  
*Beginning\_Date:*  
1972  
*Ending\_Date:*  
2009  
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DATE OF SURVEY  
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NCWRC 2009, CWB BE  
*Source\_Contribution:*  
NESTS INFORMATION  
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*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
NORTH CAROLINA WILDLIFE RESOURCES COMMISSION  
(NCWRC)  
*Publication\_Date:*  
2009  
*Title:*  
SHOREBIRD BE  
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*Type\_of\_Source\_Media:*  
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*Beginning\_Date:*  
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*Ending\_Date:*  
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 NCWRC 2009, Shorebird BE  
*Source\_Contribution:*  
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*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
 STEWART, D. (U.S. FISH AND WILDLIFE SERVICE)  
*Publication\_Date:*  
 2009  
*Title:*  
 NORTH CAROLINA COASTAL NATIONAL WILDLIFE  
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*Geospatial\_Data\_Presentation\_Form:*  
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 Stewart 2009  
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*Originator:*  
 U.S. FISH AND WILDLIFE SERVICE  
*Publication\_Date:*  
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*Title:*  
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*Other\_Citation\_Details:*

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*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2003

*Source\_Currentness\_Reference:*

DATE OF SURVEY

*Source\_Citation\_Abbreviation:*

USFWS 2003

*Source\_Contribution:*

NESTS INFORMATION

*Process\_Step:**Process\_Description:*

Three main sources of data were used to depict nest distribution and seasonality for this data layer: 1) personal interviews with resource experts from Audubon North Carolina, U.S. Fish and Wildlife Service (USFWS), North Carolina Wildlife Resources Commission (NCWRC), National Park Service (NPS) Cape Hatteras and Cape Lookout National Seashores, North Carolina Natural Heritage Program, 2) geospatial and tabular survey data provided by NCWRC, NPS, and USFWS, and 3) numerous published and unpublished reports. The above digital and/or hardcopy sources were compiled by the project biologist to create the NESTS 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; and/or 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 compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews are conducted to review the maps. If necessary, edits to the NESTS data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:*

201107

*Process\_Contact:**Contact\_Information:**Contact\_Organization\_Primary:**Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Person:*

Jill Petersen

*Contact\_Address:**Address\_Type:*

Physical address

*Address:*

7600 Sand Point Way, N.E.

*City:*  
 Seattle  
*State\_or\_Province:*  
 Washington  
*Postal\_Code:*  
 98115-6349  
*Contact\_Voice\_Telephone:*  
 (206) 526-6944  
*Contact\_Facsimile\_Telephone:*  
 (206) 526-6329  
*Contact\_Electronic\_Mail\_Address:*  
 Jill.Petersen@noaa.gov

[Back To Index](#)

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*Spatial\_Data\_Organization\_Information:*  
*Direct\_Spatial\_Reference\_Method:*  
 Vector  
*Point\_and\_Vector\_Object\_Information:*  
*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
 Area point  
*Point\_and\_Vector\_Object\_Count:*  
 329

[Back To Index](#)

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*Spatial\_Reference\_Information:*  
*Horizontal\_Coordinate\_System\_Definition:*  
*Geographic:*  
*Latitude\_Resolution:*  
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*Longitude\_Resolution:*  
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*Geographic\_Coordinate\_Units:*  
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*Geodetic\_Model:*  
*Horizontal\_Datum\_Name:*  
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*Ellipsoid\_Name:*  
 Geodetic Reference System 80  
*Semi-major\_Axis:*  
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*Denominator\_of\_Flattening\_Ratio:*  
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[Back To Index](#)

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*Entity\_and\_Attribute\_Information:*  
*Detailed\_Description:*  
*Entity\_Type:*  
*Entity\_Type\_Label:*  
 NESTS.PAT  
*Entity\_Type\_Definition:*  
 The NESTS.PAT table contains attribute information for the vector points in this

data set representing bird nesting, migratory staging, and roosting sites. Note that all attribute information is stored in a series of relational files, described below and in the Overview\_Description section. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (235), element number (5), and record number.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

2350500001

*Range\_Domain\_Maximum:*

2350500329

*Attribute:*

*Attribute\_Label:*

RARNUM

*Attribute\_Definition:*

An identifier that links directly to the BIORES table or the flat format BIOFILE table.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

235000006

*Range\_Domain\_Maximum:*

235000317

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

BIO\_LUT

*Entity\_Type\_Definition:*

The data table BIO\_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below and in the Overview\_Description section. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

**RARNUM***Attribute\_Definition:*

An identifier that links records in the BIO\_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

235000001

*Range\_Domain\_Maximum:*

235000925

*Attribute:**Attribute\_Label:*

ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (235), element number (5), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

2350000002

*Range\_Domain\_Maximum:*

2350001183

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

BIORES

*Entity\_Type\_Definition:*

The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO\_LUT data table to other associated data tables. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

RARNUM

*Attribute\_Definition:*

An identifier that links records in the BIORES data table to records in the BIO\_LUT data table or the flat format BIOFILE data table.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

235000001

*Range\_Domain\_Maximum:*

235000925

*Attribute:**Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

CONC

*Attribute\_Definition:*

The field CONC refers to "concentration," abundance, or density values, and may contain counts of individuals for each species present at a particular nesting or wintering site (e.g., XX BIRDS, XX NESTS). In cases where no quantitative count data were available, the field may contain descriptive terms such as "POTENTIAL". If no concentration information was available from any source, the field was populated with "-". Counts were derived from a variety of surveys, and may range in date (see Lineage) but were mostly conducted from 2001-2009.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

G\_SOURCE

*Attribute\_Definition:*

Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

S\_SOURCE

*Attribute\_Definition:*

Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*



## Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

SPECIES

*Entity\_Type\_Definition:*

The data table SPECIES identifies all species in the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness\_Report for a list of layer-specific species.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

NAME

*Attribute\_Definition:*

Species common name for the entire ESI data set.

*Attribute\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

GEN\_SPEC

*Attribute\_Definition:*

Species scientific name for the entire ESI data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SUBELEMENT

*Attribute\_Definition:*

Element subgroup delineating a logical grouping of species.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

alligator

*Enumerated\_Domain\_Value\_Definition:*

Alligator

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

bird

*Enumerated\_Domain\_Value\_Definition:*

Bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

bivalve

*Enumerated\_Domain\_Value\_Definition:*  
 Bivalve  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 crab  
*Enumerated\_Domain\_Value\_Definition:*  
 Crab  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 crayfish  
*Enumerated\_Domain\_Value\_Definition:*  
 Crayfish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 diadromous  
*Enumerated\_Domain\_Value\_Definition:*  
 Diadromous fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 diving  
*Enumerated\_Domain\_Value\_Definition:*  
 Diving bird  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 e\_nursery  
*Enumerated\_Domain\_Value\_Definition:*  
 Estuarine nursery fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 e\_resident  
*Enumerated\_Domain\_Value\_Definition:*  
 Estuarine resident fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
     *Enumerated\_Domain:*  
         *Enumerated\_Domain\_Value:*  
             fish  
         *Enumerated\_Domain\_Value\_Definition:*  
             Fish  
         *Enumerated\_Domain\_Value\_Definition\_Source:*  
             NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
     *Enumerated\_Domain:*  
         *Enumerated\_Domain\_Value:*  
             freshwater  
         *Enumerated\_Domain\_Value\_Definition:*  
             Freshwater fish  
         *Enumerated\_Domain\_Value\_Definition\_Source:*  
             NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
     *Enumerated\_Domain:*  
         *Enumerated\_Domain\_Value:*  
             gull\_tern  
         *Enumerated\_Domain\_Value\_Definition:*  
             Gull or tern  
         *Enumerated\_Domain\_Value\_Definition\_Source:*  
             NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
     *Enumerated\_Domain:*  
         *Enumerated\_Domain\_Value:*  
             insect  
         *Enumerated\_Domain\_Value\_Definition:*  
             Insect  
         *Enumerated\_Domain\_Value\_Definition\_Source:*  
             NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
     *Enumerated\_Domain:*  
         *Enumerated\_Domain\_Value:*  
             invert  
         *Enumerated\_Domain\_Value\_Definition:*  
             Invertebrate  
         *Enumerated\_Domain\_Value\_Definition\_Source:*  
             NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
     *Enumerated\_Domain:*  
         *Enumerated\_Domain\_Value:*  
             m\_benthic  
         *Enumerated\_Domain\_Value\_Definition:*  
             Marine benthic fish  
         *Enumerated\_Domain\_Value\_Definition\_Source:*  
             NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
     *Enumerated\_Domain:*  
         *Enumerated\_Domain\_Value:*  
             m\_pelagic

*Enumerated\_Domain\_Value\_Definition:*  
Marine pelagic fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
manatee  
*Enumerated\_Domain\_Value\_Definition:*  
Manatee  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
passerine  
*Enumerated\_Domain\_Value\_Definition:*  
Passerine bird  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
pelagic  
*Enumerated\_Domain\_Value\_Definition:*  
Pelagic bird  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
pinniped  
*Enumerated\_Domain\_Value\_Definition:*  
Pinniped  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
plant  
*Enumerated\_Domain\_Value\_Definition:*  
Plant  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
raptor  
*Enumerated\_Domain\_Value\_Definition:*  
Raptor  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
     *Enumerated\_Domain:*  
         *Enumerated\_Domain\_Value:*  
             sav  
         *Enumerated\_Domain\_Value\_Definition:*  
             Submerged aquatic vegetation  
         *Enumerated\_Domain\_Value\_Definition\_Source:*  
             NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
     *Enumerated\_Domain:*  
         *Enumerated\_Domain\_Value:*  
             shorebird  
         *Enumerated\_Domain\_Value\_Definition:*  
             Shorebird  
         *Enumerated\_Domain\_Value\_Definition\_Source:*  
             NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
     *Enumerated\_Domain:*  
         *Enumerated\_Domain\_Value:*  
             shrimp  
         *Enumerated\_Domain\_Value\_Definition:*  
             Shrimp  
         *Enumerated\_Domain\_Value\_Definition\_Source:*  
             NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
     *Enumerated\_Domain:*  
         *Enumerated\_Domain\_Value:*  
             sm\_mammal  
         *Enumerated\_Domain\_Value\_Definition:*  
             Small mammal  
         *Enumerated\_Domain\_Value\_Definition\_Source:*  
             NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
     *Enumerated\_Domain:*  
         *Enumerated\_Domain\_Value:*  
             snake  
         *Enumerated\_Domain\_Value\_Definition:*  
             Snake  
         *Enumerated\_Domain\_Value\_Definition\_Source:*  
             NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
     *Enumerated\_Domain:*  
         *Enumerated\_Domain\_Value:*  
             turtle  
         *Enumerated\_Domain\_Value\_Definition:*  
             Turtle  
         *Enumerated\_Domain\_Value\_Definition\_Source:*  
             NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
     *Enumerated\_Domain:*  
         *Enumerated\_Domain\_Value:*  
             ungulate



*Enumerated\_Domain\_Value\_Definition:*

Ungulate

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

wading

*Enumerated\_Domain\_Value\_Definition:*

Wading bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

waterfowl

*Enumerated\_Domain\_Value\_Definition:*

Waterfowl

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

wetland

*Enumerated\_Domain\_Value\_Definition:*

Wetland

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

whale

*Enumerated\_Domain\_Value\_Definition:*

Whale

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

NHP

*Attribute\_Definition:*

Natural Heritage Program global ranking.

*Attribute\_Definition\_Source:*

Network of Natural Heritage Program

*Attribute\_Domain\_Values:*

*Codeset\_Domain:*

*Codeset\_Name:*

NHP Global Conservation Status Rank

*Codeset\_Source:*

Natural Heritage Program

*Attribute:*

*Attribute\_Label:*

DATE\_PUB

*Attribute\_Definition:*

Date of NHP listing.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

0

*Enumerated\_Domain\_Value\_Definition:*

Date unspecified

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

SEASONAL

*Entity\_Type\_Definition:*

The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

JAN

*Attribute\_Definition:*

January

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in January

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
FEB  
*Attribute\_Definition:*  
February  
*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
X  
*Enumerated\_Domain\_Value\_Definition:*  
Present in February  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
MAR  
*Attribute\_Definition:*  
March  
*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
X  
*Enumerated\_Domain\_Value\_Definition:*  
Present in March  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
APR  
*Attribute\_Definition:*  
April  
*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
X  
*Enumerated\_Domain\_Value\_Definition:*  
Present in April  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
MAY  
*Attribute\_Definition:*  
May  
*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in May

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

JUN

*Attribute\_Definition:*

June

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in June

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

JUL

*Attribute\_Definition:*

July

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in July

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

AUG

*Attribute\_Definition:*

August

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in August

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SEP

*Attribute\_Definition:*

September

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in September

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

OCT

*Attribute\_Definition:*

October

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in October

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

NOV

*Attribute\_Definition:*

November

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in November

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

DEC

*Attribute\_Definition:*

December

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in December

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

BREED

*Entity\_Type\_Definition:*

The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters



are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

MONTH

*Attribute\_Definition:*

Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

12

*Attribute:*

*Attribute\_Label:*

BREED1

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M\_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T\_MAMMAL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED2

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M\_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED3

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = interesting; if ELEMENT is "M\_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED4

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M\_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED5

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M\_MAMMAL, HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

STATUS

*Entity\_Type\_Definition:*

The data table STATUS identifies the species that are listed as either threatened or endangered by a state, federal, or international authority. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

STATE

*Attribute\_Definition:*

Two-letter state abbreviation.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

COUNTRY

*Attribute\_Definition:*

Three-letter country abbreviation.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

S

*Attribute\_Definition:*

State threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on state list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on state list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

F

*Attribute\_Definition:*

Federal threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

I

*Attribute\_Definition:*

International threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on international list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on international list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

S\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign state status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

F\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign federal status values for each



species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

I\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign international status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

SOURCES

*Entity\_Type\_Definition:*

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship

diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SOURCE\_ID

*Attribute\_Definition:*

Source identifier that links records in the SOURCES data table to the items G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID and ESI\_SOURCE in the ESI, WETLANDS, and HYDRO data layers.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

ORIGINATOR

*Attribute\_Definition:*

Author or developer of source material or data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

DATE\_PUB

*Attribute\_Definition:*

Date of source material, publication, or date of personal communication with expert source.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

TITLE

*Attribute\_Definition:*

Title of source material or data.

*Attribute\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

DATA\_FORMAT

*Attribute\_Definition:*

The format of the source material.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

PUB\_PLACE

*Attribute\_Definition:*

Publication place.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

PUBLISHER

*Attribute\_Definition:*

Publisher.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

PUBLICATION

*Attribute\_Definition:*

Additional citation information.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

ONLINE\_LINK

*Attribute\_Definition:*

Online computer resource URL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

SCALE

*Attribute\_Definition:*

Description of the source scale.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

TIME\_PERIOD

*Attribute\_Definition:*

Date(s) of data collection that the source material is based upon.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Overview\_Description:**Entity\_and\_Attribute\_Overview:*

In addition to the geographic data layers, six relational attribute or data tables (BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS) are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, NESTS) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO\_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the North Carolina atlas, the number is 235), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described in the Detailed\_Description sections. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure. Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN\_SPEC, S, F, NHP, DATE\_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G\_SOURCE, S\_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables (described in the Detailed\_Description sections), except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED\_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed\_Description of the

BREED data table. The link to the BIOFILE may be made through the BIO\_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED\_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED\_DT is the BREED item. A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G\_SOURCE and S\_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table and this data table is NOT described in a Detailed\_Description section.

*Entity\_and\_Attribute\_Detail\_Citation:*

A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines ([http://response.restoration.noaa.gov/esi\\_guidelines](http://response.restoration.noaa.gov/esi_guidelines)).

[Back To Index](#)

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*Distribution\_Information:*

*Distributor:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:*

John Kaperick

*Contact\_Organization:*

NOAA, Office of Response and Restoration

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*State\_or\_Province:*

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*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6400

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Resource\_Description:*

Downloadable Data

*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

[Back To Index](#)*Metadata\_Reference\_Information:**Metadata\_Date:*

20111015

*Metadata\_Review\_Date:*

20111015

*Metadata\_Contact:**Contact\_Information:**Contact\_Person\_Primary:**Contact\_Person:*

Jill Petersen

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Position:*

GIS Manager

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Physical Address

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Jill.Petersen@noaa.gov

*Metadata\_Standard\_Name:*

Content Standards for Digital Geospatial Metadata

*Metadata\_Standard\_Version:*

FGDC-STD-001-1998

*Metadata\_Extensions:**Online\_Linkage:*[http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile\\_v2.pdf](http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile_v2.pdf)*Profile\_Name:*

Content Specification for Metadata in the National Coastal Data Development Center's

Data Catalog Version 2.0

[Back To Index](#)

# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: FISH (Fish Polygons)

## Metadata:

- [Identification Information](#)
  - [Data Quality Information](#)
  - [Spatial Data Organization Information](#)
  - [Spatial Reference Information](#)
  - [Entity and Attribute Information](#)
  - [Distribution Information](#)
  - [Metadata Reference Information](#)
- 

### *Identification\_Information:*

#### *Citation:*

#### *Citation\_Information:*

#### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington.

#### *Originator:*

U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia.

#### *Originator:*

Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

#### *Publication\_Date:*

201107

#### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: FISH (Fish Polygons)

#### *Edition:*

Second

#### *Geospatial\_Data\_Presentation\_Form:*

vector digital data

#### *Series\_Information:*

#### *Series\_Name:*

None

#### *Issue\_Identification:*

North Carolina

#### *Publication\_Information:*

#### *Publication\_Place:*

Seattle, Washington

#### *Publisher:*

NOAA's Ocean Service, Office of Response and Restoration (OR&R), Emergency Response Division (ERD).

#### *Other\_Citation\_Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National



Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division, Seattle, Washington.

*Online\_Linkage:*

<http://response.restoration.noaa.gov/esi>

*Description:*

*Abstract:*

This data set contains sensitive biological resource data for marine, estuarine, anadromous, and brackish/freshwater fish species in North Carolina. Vector polygons in this data set represent fish distribution, concentration areas, and spawning areas. 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 North 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.

*Purpose:*

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

*Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

1990

*Ending\_Date:*

2010

*Currentness\_Reference:*

The data were compiled during 2010-2011. The currentness dates for the data range from 1990 to 2010 and are documented in the Lineage section.

*Status:*

*Progress:*

Complete

*Maintenance\_and\_Update\_Frequency:*

None Scheduled

*Spatial\_Domain:*

*Bounding\_Coordinates:*

*West\_Bounding\_Coordinate:*

-78.62500

*East\_Bounding\_Coordinate:*

-75.39900

*North\_Bounding\_Coordinate:*

36.62500

*South\_Bounding\_Coordinate:*

33.75000

*Keywords:*

*Theme:*

*Theme\_Keyword\_Thesaurus:*

ISO 19115 Topic Category

*Theme\_Keyword:*

biota

*Theme\_Keyword:*

environment

*Theme:**Theme\_Keyword\_Thesaurus:*

None

*Theme\_Keyword:*

Environmental Monitoring

*Theme\_Keyword:*

ESI

*Theme\_Keyword:*

Sensitivity maps

*Theme\_Keyword:*

Coastal resources

*Theme\_Keyword:*

Oil spill planning

*Theme\_Keyword:*

Coastal Zone Management

*Theme\_Keyword:*

Wildlife

*Theme\_Keyword:*

Fish

*Theme:**Theme\_Keyword\_Thesaurus:*

NOS Data Explorer Topic Category

*Theme\_Keyword:*

Environmental Monitoring

*Place:**Place\_Keyword\_Thesaurus:*

None

*Place\_Keyword:*

North Carolina

*Access\_Constraints:*

None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:**Browse\_Graphic\_File\_Name:*

datafig.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:*

datafig2.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and desktop data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington; the U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia; and the Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 9.3) and SQL SERVER(R) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003). The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00, and wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio\_lut.e00, biofile.e00, biores.e00, breed.e00, breed\_dt.e00, seasonal.e00, soc\_dat.e00, soc\_lut.e00, sources.e00, species.e00, and status.e00.

*Program\_Affiliation:**Program\_Name:*

National Ocean Service Data Explorer

[Back To Index](#)

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*Data\_Quality\_Information:**Attribute\_Accuracy:**Attribute\_Accuracy\_Report:*

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD/DVD and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In

the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

*Completeness\_Report:*

These data represent a synthesis of surveys, digital data, hardcopy reports, and expert opinion. These data do not necessarily represent all fish occurrences in North Carolina. The following species are included in this data set: (Species\_ID, Common Name, Scientific Name [n/a if not applicable]): 65, Bluefish, *Pomatomus saltatrix*; 85, Alewife, *Alosa pseudoharengus*; 86, Blueback herring, *Alosa aestivalis*; 87, American shad, *Alosa sapidissima*; 89, Cunner, *Tautoglabrus adspersus*; 97, Tautog, *Tautoga onitis*; 98, American eel, *Anguilla rostrata*; 101, Shortnose sturgeon, *Acipenser brevirostrum*; 102, Atlantic sturgeon, *Acipenser oxyrinchus*; 103, Threadfin shad, *Dorosoma petenense*; 104, Striped bass, *Morone saxatilis*; 105, Hickory shad, *Alosa mediocris*; 107, Spotted seatrout, *Cynoscion nebulosus*; 108, Summer flounder, *Paralichthys dentatus*; 109, Red drum, *Sciaenops ocellatus*; 110, Black sea bass, *Centropristis striata*; 111, Southern flounder, *Paralichthys lethostigma*; 112, Gulf flounder, *Paralichthys albigutta*; 113, Bay anchovy, *Anchoa mitchilli*; 114, Florida pompano, *Trachinotus carolinus*; 115, Atlantic menhaden, *Brevoortia tyrannus*; 116, Striped mullet, *Mugil cephalus*; 117, Pinfish, *Lagodon rhomboides*; 119, Silver perch, *Bairdiella chrysoura*; 120, Pigfish, *Orthopristis chrysoptera*; 121, Spot, *Leiostomus xanthurus*; 122, Black drum, *Pogonias cromis*; 123, Atlantic croaker, *Micropogonias undulatus*; 124, Southern kingfish, *Menticirrhus americanus*; 126, King mackerel, *Scomberomorus cavalla*; 127, Spanish mackerel, *Scomberomorus maculatus*; 134, Cobia, *Rachycentron canadum*; 136, Dolphin, *Coryphaena hippurus*; 137, Sheepshead, *Archosargus probatocephalus*; 138, Weakfish, *Cynoscion regalis*; 140, Ladyfish, *Elops saurus*; 143, Tarpon, *Megalops atlanticus*; 145, White perch, *Morone americana*; 150, Scup, *Stenotomus chrysops*; 151, Northern puffer, *Sphoeroides maculatus*; 152, Yellow perch, *Perca flavescens*; 153, Northern kingfish, *Menticirrhus saxatilis*; 157, Goosefish, *Lophius americanus*; 158, Butterfish, *Peprilus triacanthus*; 160, Windowpane, *Scophthalmus aquosus*; 162, Common carp, *Cyprinus carpio*; 163, Gizzard shad, *Dorosoma cepedianum*; 173, White mullet, *Mugil curema*; 176, Yellow bullhead, *Ameiurus natalis*; 179, Largemouth bass, *Micropterus salmoides*; 181, Black crappie, *Pomoxis nigromaculatus*; 182, Bluegill, *Lepomis macrochirus*; 201, Channel catfish, *Ictalurus punctatus*; 203, Warmouth, *Lepomis gulosus*; 204, Redear sunfish, *Lepomis microlophus*; 211, Brown bullhead, *Ameiurus nebulosus*; 212, Pumpkinseed, *Lepomis gibbosus*; 214, Gulf kingfish, *Menticirrhus littoralis*; 218, Bowfin, *Amia calva*; 236, Crappie, *Pomoxis* spp.; 268, Silver seatrout, *Cynoscion nothus*; 271, Inland silverside, *Menidia beryllina*; 278, Little tunny, *Euthynnus alletteratus*; 283, Killifish, *Fundulus* spp.; 288, Atlantic tripletail, *Lobotes surinamensis*; 292, Chain pickerel, *Esox niger*; 293, Southern hake, *Urophycis floridana*; 294, Spotted hake, *Urophycis regia*; 310, Atlantic spadefish, *Chaetodipterus faber*; 311, Atlantic bonito, *Sarda sarda*; 312, Harvestfish, *Peprilus alepidotus*; 321, Atlantic cutlassfish, *Trichiurus lepturus*; 331, Sharks, n/a; 348, Spottail pinfish, *Diplodus holbrooki*; 350, Tomtate, *Haemulon aurolineatum*; 353, Golden shiner, *Notemigonus crysoleucas*; 356, Greater amberjack, *Seriola dumerili*; 366, Hogchoker, *Trinectes maculatus*; 378, Atlantic needlefish, *Strongylura marina*; 417, Catfish, *Galeichthys* spp.; 464, Longnose gar, *Lepisosteus osseus*; 495, Gray triggerfish, *Balistes capriscus*; 585, Jacks, *Hemicaranx* sp.; 648, Chubsucker, *Erimyzon* sp.; 710, Triggerfish, *Balistes* spp.; 712, Sailfish, *Istiophorus* spp.; 785, White grunt, *Haemulopsis leuciscus*; 840, Houndfish, *Tylosurus crocodilus crocodilus*; 984, Bluespotted sunfish, *Enneacanthus gloriosus*; 985, Redbreast sunfish, *Lepomis auritus*; 998, Bridle shiner, *Notropis bifrenatus*; 999, Redfin

pickerel, *Esox americanus americanus*; 1011, Forage fish, n/a; 1097, Banded drum, *Larimus fasciatus*; 1127, Swamp darter, *Etheostoma fusiforme*; 1145, Western mosquitofish, *Gambusia affinis*; 1146, Bluefin tuna, *Thunnus thynnus*; 1147, Searobins, *Prionotus* spp.; 1148, Bank sea bass, *Centropristis ocyurus*; 1149, Skates/rays, n/a; 1150, Snapper/grouper, n/a; 1151, Sunfishes, n/a.

*Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy\_Report:*

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources. See the Lineage and Process\_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

ABLE, KENNETH W. AND MICHAEL P. FAHAY

*Publication\_Date:*

1998

*Title:*

THE FIRST YEAR IN THE LIFE OF ESTUARINE FISHES IN THE MIDDLE ATLANTIC BIGHT

*Geospatial\_Data\_Presentation\_Form:*

HARDCOPY TEXT

*Publication\_Information:*

*Publication\_Place:*

NEW BRUNSWICK, NEW JERSEY

*Publisher:*

RUTGERS UNIVERSITY PRESS

*Type\_of\_Source\_Media:*

paper

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

1998

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

Able and Fahay 1998

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

AYCOCK, JEREMY (NORTH CAROLINA DIVISION OF MARINE FISHERIES)

*Publication\_Date:*

2010

*Title:*

ESI-NCDMF.GDB

*Geospatial\_Data\_Presentation\_Form:*

spreadsheet

*Publication\_Information:*

*Publication\_Place:*

MOREHEAD CITY, NORTH CAROLINA

*Publisher:*

NORTH CAROLINA DIVISION OF MARINE FISHERIES

*Other\_Citation\_Details:*

COMBINATION OF SPECIES QUERY BY TRIP TICKET WATERBODY

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

1999

*Ending\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF SURVEY

*Source\_Citation\_Abbreviation:*

Aycock 2010

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

BIANCHI, ALAN (NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES)

*Publication\_Date:*

2010

*Title:*

2000-2009 LANDINGS BY SPECIES AND WATERBODY (ESTUARY)

*Geospatial\_Data\_Presentation\_Form:*

spreadsheet

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

2000

*Ending\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF SURVEY

*Source\_Citation\_Abbreviation:*

Bianchi 2010

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

BONZEK, CHRIS (VIRGINIA INSTITUTE OF MARINE SCIENCE)

*Publication\_Date:*

2010

*Title:*

NORTHEAST AREA MONITORING AND ASSESSMENT PROGRAM SURVEY 2004 AND 2009

*Geospatial\_Data\_Presentation\_Form:*

spreadsheet

*Publication\_Information:*

*Publication\_Place:*

WASHINGTON, DC

*Publisher:*

ATLANTIC STATES MARINE FISHERIES COMMISSION

*Online\_Linkage:*

<http://www.neamap.net/>

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

2004

*Ending\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF SURVEY

*Source\_Citation\_Abbreviation:*

Bonzek 2010

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

BOYLIN, JEANNE (SOUTH CAROLINA DEPARTMENT OF NATURAL RESOURCES, MARINE RESOURCES RESEARCH

INSTITUTE)

*Publication\_Date:*

2010

*Title:*

SEAMAP\_NC.XLS

*Geospatial\_Data\_Presentation\_Form:*

spreadsheet

*Publication\_Information:*

*Publication\_Place:*

CHARLESTON, SOUTH CAROLINA

*Publisher:*

SOUTHEAST MONITORING AND ASSESSMENT  
PROGRAM, MARINE RESOURCES DIVISION, SOUTH  
CAROLINA DEPARTMENT OF NATURAL RESOURCES

*Online\_Linkage:*

<http://www.seamap.org/>

*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

1990

*Ending\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF SURVEY

*Source\_Citation\_Abbreviation:*

Boylin 2010

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

BURNS, BETH (NORTH CAROLINA DEPARTMENT OF  
ENVIRONMENT AND NATURAL RESOURCES)

*Publication\_Date:*

2010

*Title:*

SEASONALITY AND LIFE HISTORY FOR FISH IN NORTH  
CAROLINA ESTUARIES

*Geospatial\_Data\_Presentation\_Form:*

spreadsheet

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2010

*Source\_Currentness\_Reference:*



DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Burns 2010

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

CITY OF WILMINGTON STORMWATER SERVICES

*Publication\_Date:*

2010

*Title:*

THE SHORTNOSE STURGEON

*Geospatial\_Data\_Presentation\_Form:*

document

*Publication\_Information:*

*Publication\_Place:*

WILMINGTON, NORTH CAROLINA

*Publisher:*

CITY OF WILMINGTON STORMWATER SERVICES

*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2010

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

City of Wilmington 2010

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

DOCKENDORF, KEVIN (NORTH CAROLINA WILDLIFE  
RESOURCES COMMISSION)

*Publication\_Date:*

2009

*Title:*

SPECIES LIST FOR LAKE MATTAMUSKEET

*Geospatial\_Data\_Presentation\_Form:*

document

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Dockendorf 2009

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

GODWIN, CHARLES H.

*Publication\_Date:*

2004

*Title:*

PERFORMANCE ASSESSMENT OF RETROFITTED WATER CONTROL STRUCTURES AT MATTAMUSKEET NATIONAL WILDLIFE REFUGE, NORTH CAROLINA

*Geospatial\_Data\_Presentation\_Form:*

document

*Publication\_Information:*

*Publication\_Place:*

GREENVILLE, NORTH CAROLINA

*Publisher:*

DEPARTMENT OF BIOLOGY, EAST CAROLINA UNIVERSITY

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2004

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

Godwin 2004

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

LANEY, WILSON (U.S. FISH AND WILDLIFE SERVICE)

*Publication\_Date:*

2010

*Title:*

SHORTNOSE STURGEON OBSERVATIONS IN VIRGINIA AND NORTH CAROLINA

*Geospatial\_Data\_Presentation\_Form:*

document

*Other\_Citation\_Details:*

UNPUBLISHED; SOUTH ATLANTIC FISHERIES  
COORDINATION OFFICE

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2010

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Laney 2010

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

LOEFFLER, MICHAEL (NORTH CAROLINA DEPARTMENT  
OF ENVIRONMENT AND NATURAL RESOURCES)

*Publication\_Date:*

2010

*Title:*

FISH DISTRIBUTION AND ABUNDANCE FOR THE  
ROANOKE RIVER

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Publication\_Information:*

*Publication\_Place:*

N/A

*Publisher:*

N/A

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2010

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Loeffler 2010

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

MCKENNA, SEAN (NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES)

*Publication\_Date:*

2010

*Title:*

SEASONALITY FOR INVERTEBRATES IN NORTH CAROLINA ESTUARIES

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2010

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

McKenna 2010

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

MOSER, M.L. AND S.W. ROSS

*Publication\_Date:*

1995

*Title:*

HABITAT USE AND MOVEMENTS OF SHORTNOSE AND ATLANTIC STURGEONS IN THE LOWER CAPE FEAR RIVER, NORTH CAROLINA

*Geospatial\_Data\_Presentation\_Form:*

document

*Publication\_Information:*

*Publication\_Place:*

VOL 124: 225-234

*Publisher:*

TRANSACTIONS OF THE AMERICAN FISHERIES SOCIETY

*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

1995

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

Moser and Ross 1995

*Source\_Contribution:*  
FISH INFORMATION

*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
MUMFORD, DOUG (NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES)

*Publication\_Date:*  
2010

*Title:*  
RECREATIONAL LANDINGS DATA

*Geospatial\_Data\_Presentation\_Form:*  
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*Type\_of\_Source\_Media:*  
EMAIL

*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:*  
2010

*Source\_Currentness\_Reference:*  
DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*  
Mumford 2010, Landings Data

*Source\_Contribution:*  
FISH INFORMATION

*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
MUMFORD, DOUG (NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES)

*Publication\_Date:*  
2010

*Title:*  
SEASONALITY OF FISH IN NORTH CAROLINA COASTAL WATERS

*Geospatial\_Data\_Presentation\_Form:*  
spreadsheet

*Type\_of\_Source\_Media:*  
EMAIL

*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:*  
2010

*Source\_Currentness\_Reference:*  
DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*  
Mumford 2010, Seasonality Data

*Source\_Contribution:*

## FISH INFORMATION

*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*

NATURESERVE

*Publication\_Date:*

2010

*Title:*

NATURESERVE EXPLORER

*Geospatial\_Data\_Presentation\_Form:*

HARDCOPY TEXT

*Publication\_Information:**Publication\_Place:*

ARLINGTON, VIRGINIA

*Publisher:*

NATURESERVE

*Online\_Linkage:*<http://www.natureserve.org/>*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2010

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

NatureServe 2010

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*NELSON, D.M., E.A. IRLANDI, L.R. SETTLE, M.E. MONACO,  
AND L.COSTON-CLEMENTS*Publication\_Date:*

1991

*Title:*DISTRIBUTION AND ABUNDANCE OF FISHES AND  
INVERTEBRATES IN SOUTHEAST ESTUARIES*Geospatial\_Data\_Presentation\_Form:*

HARDCOPY TEXT

*Publication\_Information:**Publication\_Place:*

SILVER SPRING, MARYLAND

*Publisher:*NOAA STRATEGIC ENVIRONMENTAL ASSESSMENTS  
DIVISION*Type\_of\_Source\_Media:*

paper

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

1991

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

Nelson et al. 1991

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

NOAA (NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION), NATIONAL OCEAN SERVICE (NOS), OFFICE OF RESPONSE AND RESTORATION (OR&R), EMERGENCY RESPONSE DIVISION (ERD)

*Publication\_Date:*

2005

*Title:*

SENSITIVITY OF COASTAL ENVIRONMENTS AND WILDLIFE TO SPILLED OIL: VIRGINIA

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Publication\_Information:*

*Publication\_Place:*

SEATTLE, WA

*Publisher:*

NOAA

*Other\_Citation\_Details:*

7600 SAND POINT WAY, SEATTLE, WA 98115-6349

*Online\_Linkage:*

<http://response.restoration.noaa.gov/esi>

*Source\_Scale\_Denominator:*

24000

*Type\_of\_Source\_Media:*

CD-ROM

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2005

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

NOAA 2005

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

NOAA, NATIONAL MARINE FISHERIES SERVICE

*Publication\_Date:*

2009

*Title:*

FISHWATCH - U.S. SEAFOOD FACTS: SCUP

*Geospatial\_Data\_Presentation\_Form:*

document

*Publication\_Information:*

*Publication\_Place:*

SILVER SPRING, MARYLAND

*Publisher:*

NOAA FISHERIES SERVICE

*Online\_Linkage:*

<http://www.nmfs.noaa.gov/fishwatch/>

*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

NOAA 2009

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND  
NATURAL RESOURCES, DIVISION OF MARINE FISHERIES

*Publication\_Date:*

2010

*Title:*

STOCK STATUS OF IMPORTANT COASTAL FISHERIES IN  
NORTH CAROLINA 2010

*Geospatial\_Data\_Presentation\_Form:*

document

*Publication\_Information:*

*Publication\_Place:*

MOREHEAD CITY, NORTH CAROLINA

*Publisher:*

NORTH CAROLINA DIVISION OF MARINE FISHERIES

*Online\_Linkage:*

<http://www.ncfisheries.net/stocks/index.html>

*Type\_of\_Source\_Media:*

online



*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Range\_of\_Dates/Times:*  
*Beginning\_Date:*  
2010  
*Ending\_Date:*  
2010  
*Source\_Currentness\_Reference:*  
DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:*  
NC DENR 2010  
*Source\_Contribution:*  
FISH INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
NORTH CAROLINA NATURAL HERITAGE PROGRAM (NC  
NHP)  
*Publication\_Date:*  
2009  
*Title:*  
NC NHP ELEMENT OCCURRENCES  
*Geospatial\_Data\_Presentation\_Form:*  
vector digital data  
*Publication\_Information:*  
*Publication\_Place:*  
RALEIGH, NC  
*Publisher:*  
NORTH CAROLINA NATURAL HERITAGE PROGRAM  
*Type\_of\_Source\_Media:*  
EMAIL  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:*  
2009  
*Source\_Currentness\_Reference:*  
DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:*  
NC NHP 2009  
*Source\_Contribution:*  
FISH INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
NORTH CAROLINA WILDLIFE RESOURCES COMMISSION  
*Publication\_Date:*  
2010  
*Title:*  
HICKORY SHAD

*Geospatial\_Data\_Presentation\_Form:*

document

*Publication\_Information:*

*Publication\_Place:*

RALEIGH, NORTH CAROLINA

*Publisher:*

NORTH CAROLINA WILDLIFE RESOURCES  
COMMISSION

*Online\_Linkage:*

[http://www.ncwildlife.org/fishing/profiles/Hickory\\_shad.htm](http://www.ncwildlife.org/fishing/profiles/Hickory_shad.htm)

*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2010

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

NC WRC 2010

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

SCHWARTZ, FRANK J., GLENN W. SAFRIT, JR., JOSEPH B.  
PURIFOY, AND RAYMOND B. CHURCHILL

*Publication\_Date:*

2001

*Title:*

AGE, FOOD, SEASONAL OCCURRENCE, AND  
DISTRIBUTION OF THE SILVER TROUT, CYNOSCION  
NOTHUS (FAMILY SCIAENIDAE), IN NORTH CAROLINA  
WATERS

*Geospatial\_Data\_Presentation\_Form:*

document

*Publication\_Information:*

*Publication\_Place:*

THE JOURNAL OF THE ELISHA MITCHELL  
SCIENTIFIC SOCIETY 117(3), 2001 PP. 150-160

*Publisher:*

THE JOURNAL OF THE ELISHA MITCHELL  
SCIENTIFIC SOCIETY

*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2001

*Source\_Currentness\_Reference:*  
DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*  
Schwartz et al. 2001

*Source\_Contribution:*  
FISH INFORMATION

*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
SHEPHERD, GARY (NORTHEAST FISHERIES SCIENCE CENTER)  
*Publication\_Date:*  
2006  
*Title:*  
BLUEFISH  
*Geospatial\_Data\_Presentation\_Form:*  
document  
*Publication\_Information:*  
*Publication\_Place:*  
WOODS HOLE, MASSACHUSETTS  
*Publisher:*  
NORTHEAST FISHERIES SCIENCE CENTER  
*Online\_Linkage:*  
<http://www.nefsc.noaa.gov/sos/spsyn/op/bluefish/>

*Type\_of\_Source\_Media:*  
online

*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:*  
2006

*Source\_Currentness\_Reference:*  
DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*  
Shepherd 2006

*Source\_Contribution:*  
FISH INFORMATION

*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL  
*Publication\_Date:*  
2010  
*Title:*  
ATLANTIC SPADEFISH  
*Geospatial\_Data\_Presentation\_Form:*  
document  
*Publication\_Information:*  
*Publication\_Place:*  
CHARLESTON, SOUTH CAROLINA

*Publisher:*

SOUTH ATLANTIC FISHERY MANAGEMENT  
COUNCIL

*Online\_Linkage:*

<http://www.safmc.net/FishIDandRegs/FishGallery/AtlanticSpadefish>

*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

2010

*Ending\_Date:*

2010

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

SAFMC 2010

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

U.S. FISH AND WILDLIFE SERVICE

*Publication\_Date:*

2009

*Title:*

ROANOKE RIVER

*Geospatial\_Data\_Presentation\_Form:*

document

*Publication\_Information:*

*Publication\_Place:*

WINDSOR, NORTH CAROLINA

*Publisher:*

U.S. FISH AND WILDLIFE SERVICE, ROANOKE RIVER  
NATIONAL WILDLIFE REFUGE

*Online\_Linkage:*

<http://www.fws.gov/roanokeriver/>

*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

USFWS 2009

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

WEST, KATY (NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES)

*Publication\_Date:*

2010

*Title:*

FISH SURVEYS FROM PROGRAMS P120 P100 P115 P123 P195 P135 P913 P915 FROM 1999-2009

*Geospatial\_Data\_Presentation\_Form:*

spreadsheet

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

1999

*Ending\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

West 2010, Fish Surveys

*Source\_Contribution:*

FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

WEST, KATY (NORTH CAROLINA DIVISION OF MARINE FISHERIES)

*Publication\_Date:*

2010

*Title:*

SEASONAL RECREATIONAL AND COMMERCIAL FISH LANDINGS DATA

*Geospatial\_Data\_Presentation\_Form:*

spreadsheet

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

1999

*Ending\_Date:*

2008

*Source\_Currentness\_Reference:*

DATE OF SURVEY

*Source\_Citation\_Abbreviation:*

West 2010, Fish Landings Data

*Source\_Contribution:*

FISH INFORMATION

*Process\_Step:**Process\_Description:*

Four main sources of data were used to depict fish distribution and seasonality for this data layer: 1) personal interviews with resource experts from the North Carolina Department of Environment and Natural Resources-Division of Marine Fisheries (NCDENR-DMF), US Fish and Wildlife Service (USFWS), South Carolina Department of Natural Resources (SCDNR), North Carolina Wildlife Resources Commission (NCWRC), and the Virginia Institute of Marine Science (VIMS), 2) tabular coastal survey data including SEAMAP (Source: SCDNR) and NEAMAP (Source: VIMS), NCDENR-DMF recreational fishing surveys, NCDENR-DMF programs (100, 115, 120, 123, 135, 195, and 913), and NCDENR commercial landings data, 3) digital data from the North Carolina Natural Heritage Program, and 4) numerous published and unpublished reports. 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 compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews are conducted to review the maps. 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.

*Process\_Date:*

201107

*Process\_Contact:**Contact\_Information:**Contact\_Organization\_Primary:**Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Person:*

Jill Petersen

*Contact\_Address:**Address\_Type:*

Physical address

*Address:*

7600 Sand Point Way, N.E.

*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*  
 (206) 526-6944  
*Contact\_Facsimile\_Telephone:*  
 (206) 526-6329  
*Contact\_Electronic\_Mail\_Address:*  
 Jill.Petersen@noaa.gov

[Back To Index](#)

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*Spatial\_Data\_Organization\_Information:*  
*Direct\_Spatial\_Reference\_Method:*  
 Vector  
*Point\_and\_Vector\_Object\_Information:*  
*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
 GT-polygon composed of chains  
*Point\_and\_Vector\_Object\_Count:*  
 3084  
*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
 Area point  
*Point\_and\_Vector\_Object\_Count:*  
 3085  
*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
 Complete chain  
*Point\_and\_Vector\_Object\_Count:*  
 5581  
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 Link  
*Point\_and\_Vector\_Object\_Count:*  
 1157705  
*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
 Node,planar graph  
*Point\_and\_Vector\_Object\_Count:*  
 5462

[Back To Index](#)

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*Spatial\_Reference\_Information:*  
*Horizontal\_Coordinate\_System\_Definition:*  
*Geographic:*  
*Latitude\_Resolution:*  
 0.0000001  
*Longitude\_Resolution:*  
 0.0000001  
*Geographic\_Coordinate\_Units:*  
 Decimal degrees  
*Geodetic\_Model:*  
*Horizontal\_Datum\_Name:*  
 North American Datum of 1983  
*Ellipsoid\_Name:*

## Geodetic Reference System 80

*Semi-major\_Axis:*

6378137.000000

*Denominator\_of\_Flattening\_Ratio:*

298.257222

[Back To Index](#)*Entity\_and\_Attribute\_Information:**Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

FISH.PAT

*Entity\_Type\_Definition:*

The FISH.PAT table contains attribute information for the vector polygons in this data set representing fish distribution, concentration areas, and spawning areas. Note that all attribute information is stored in a series of relational files, described below and in the Overview\_Description section. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (235), element number (2), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

2350200002

*Range\_Domain\_Maximum:*

2350202951

*Attribute:**Attribute\_Label:*

RARNUM

*Attribute\_Definition:*

An identifier that links directly to the BIORES table or the flat format BIOFILE table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

235000576

*Range\_Domain\_Maximum:*

235000612



*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

BIO\_LUT

*Entity\_Type\_Definition:*

The data table BIO\_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below and in the Overview\_Description section. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

RARNUM

*Attribute\_Definition:*

An identifier that links records in the BIO\_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

235000001

*Range\_Domain\_Maximum:*

235000925

*Attribute:**Attribute\_Label:*

ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (235), element number (2), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

2350000002

*Range\_Domain\_Maximum:*

2350001183

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

BIORES

*Entity\_Type\_Definition:*

The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the

BIO\_LUT data table to other associated data tables. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

RARNUM

*Attribute\_Definition:*

An identifier that links records in the BIORES data table to records in the BIO\_LUT data table or the flat format BIOFILE data table.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

235000001

*Range\_Domain\_Maximum:*

235000925

*Attribute:*

*Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

CONC

*Attribute\_Definition:*

The field CONC refers to "concentration," abundance, or density values of a species at a particular location. No quantitative concentration information was available for fish, so the CONC field may contain descriptive terms for the presence of a species, such as "HIGHLY-ABUNDANT". If no concentration information was available from any source, the field was populated with "-".

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history

characteristics of each species at a given location.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

G\_SOURCE

*Attribute\_Definition:*

Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

S\_SOURCE

*Attribute\_Definition:*

Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

SPECIES

*Entity\_Type\_Definition:*

The data table SPECIES identifies all species in the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness\_Report for a list of layer-specific species.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

NAME

*Attribute\_Definition:*

Species common name for the entire ESI data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

GEN\_SPEC

*Attribute\_Definition:*

Species scientific name for the entire ESI data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SUBELEMENT

*Attribute\_Definition:*

Element subgroup delineating a logical grouping of species.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

alligator

*Enumerated\_Domain\_Value\_Definition:*

Alligator

*Enumerated\_Domain\_Value\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

bird

*Enumerated\_Domain\_Value\_Definition:*

Bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

bivalve

*Enumerated\_Domain\_Value\_Definition:*

Bivalve

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

crab

*Enumerated\_Domain\_Value\_Definition:*

Crab

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

crayfish

*Enumerated\_Domain\_Value\_Definition:*

Crayfish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

diadromous

*Enumerated\_Domain\_Value\_Definition:*

Diadromous fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

diving

*Enumerated\_Domain\_Value\_Definition:*

Diving bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*



e\_nursery  
*Enumerated\_Domain\_Value\_Definition:*  
 Estuarine nursery fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 e\_resident  
*Enumerated\_Domain\_Value\_Definition:*  
 Estuarine resident fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 fish  
*Enumerated\_Domain\_Value\_Definition:*  
 Fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 freshwater  
*Enumerated\_Domain\_Value\_Definition:*  
 Freshwater fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 gull\_tern  
*Enumerated\_Domain\_Value\_Definition:*  
 Gull or tern  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 insect  
*Enumerated\_Domain\_Value\_Definition:*  
 Insect  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 invert  
*Enumerated\_Domain\_Value\_Definition:*  
 Invertebrate  
*Enumerated\_Domain\_Value\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

m\_benthic

*Enumerated\_Domain\_Value\_Definition:*

Marine benthic fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

m\_pelagic

*Enumerated\_Domain\_Value\_Definition:*

Marine pelagic fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

manatee

*Enumerated\_Domain\_Value\_Definition:*

Manatee

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

passerine

*Enumerated\_Domain\_Value\_Definition:*

Passerine bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

pelagic

*Enumerated\_Domain\_Value\_Definition:*

Pelagic bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

pinniped

*Enumerated\_Domain\_Value\_Definition:*

Pinniped

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

plant  
*Enumerated\_Domain\_Value\_Definition:*  
 Plant  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 raptor  
*Enumerated\_Domain\_Value\_Definition:*  
 Raptor  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 sav  
*Enumerated\_Domain\_Value\_Definition:*  
 Submerged aquatic vegetation  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 shorebird  
*Enumerated\_Domain\_Value\_Definition:*  
 Shorebird  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 shrimp  
*Enumerated\_Domain\_Value\_Definition:*  
 Shrimp  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 sm\_mammal  
*Enumerated\_Domain\_Value\_Definition:*  
 Small mammal  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 snake  
*Enumerated\_Domain\_Value\_Definition:*  
 Snake  
*Enumerated\_Domain\_Value\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

turtle

*Enumerated\_Domain\_Value\_Definition:*

Turtle

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

ungulate

*Enumerated\_Domain\_Value\_Definition:*

Ungulate

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

wading

*Enumerated\_Domain\_Value\_Definition:*

Wading bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

waterfowl

*Enumerated\_Domain\_Value\_Definition:*

Waterfowl

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

wetland

*Enumerated\_Domain\_Value\_Definition:*

Wetland

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

whale

*Enumerated\_Domain\_Value\_Definition:*

Whale

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

NHP

*Attribute\_Definition:*

Natural Heritage Program global ranking.

*Attribute\_Definition\_Source:*

Network of Natural Heritage Program

*Attribute\_Domain\_Values:**Codeset\_Domain:**Codeset\_Name:*

NHP Global Conservation Status Rank

*Codeset\_Source:*

Natural Heritage Program

*Attribute:**Attribute\_Label:*

DATE\_PUB

*Attribute\_Definition:*

Date of NHP listing.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

0

*Enumerated\_Domain\_Value\_Definition:*

Date unspecified

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:*

*Entity\_Type:**Entity\_Type\_Label:*

SEASONAL

*Entity\_Type\_Definition:*

The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

## M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

JAN

*Attribute\_Definition:*

January

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in January

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

FEB

*Attribute\_Definition:*

February

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in February

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

MAR

*Attribute\_Definition:*

March

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in March

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

APR

*Attribute\_Definition:*

April

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*



X

*Enumerated\_Domain\_Value\_Definition:*

Present in April

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

MAY

*Attribute\_Definition:*

May

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in May

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

JUN

*Attribute\_Definition:*

June

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in June

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

JUL

*Attribute\_Definition:*

July

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in July

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

AUG

*Attribute\_Definition:*

August

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in August

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SEP

*Attribute\_Definition:*

September

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in September

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

OCT

*Attribute\_Definition:*

October

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in October

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

NOV

*Attribute\_Definition:*

November

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in November

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

DEC

*Attribute\_Definition:*

December

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in December

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

BREED

*Entity\_Type\_Definition:*

The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

## EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BREED data table to records in the BIoRES and SEASONAL data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

MONTH

*Attribute\_Definition:*

Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

12

*Attribute:**Attribute\_Label:*

BREED1

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M\_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T\_MAMMAL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED2

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M\_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

## BREED3

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = interesting; if ELEMENT is "M\_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED4

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M\_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED5

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M\_MAMMAL, HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:*

*Entity\_Type\_Label:*

STATUS

*Entity\_Type\_Definition:*

The data table STATUS identifies the species that are listed as either threatened or endangered by a state, federal, or international authority. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*



**M\_MAMMAL***Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

STATE

*Attribute\_Definition:*

Two-letter state abbreviation.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

COUNTRY

*Attribute\_Definition:*

Three-letter country abbreviation.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

S

*Attribute\_Definition:*

State threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on state list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on state list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

F

*Attribute\_Definition:*

Federal threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

I

*Attribute\_Definition:*

International threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on international list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on international list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

S\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign state status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

F\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign federal status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

I\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign international status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links the STATUS data table to the BIORIS and SPECIES data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

SOURCES

*Entity\_Type\_Definition:*

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SOURCE\_ID

*Attribute\_Definition:*

Source identifier that links records in the SOURCES data table to the items G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID and ESI\_SOURCE in the ESI, WETLANDS, and HYDRO data layers.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

ORIGINATOR

*Attribute\_Definition:*

Author or developer of source material or data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

DATE\_PUB

*Attribute\_Definition:*

Date of source material, publication, or date of personal communication with expert source.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

TITLE

*Attribute\_Definition:*

Title of source material or data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

DATA\_FORMAT

*Attribute\_Definition:*

The format of the source material.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

PUB\_PLACE

*Attribute\_Definition:*

Publication place.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

PUBLISHER

*Attribute\_Definition:*

Publisher.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

PUBLICATION

*Attribute\_Definition:*

Additional citation information.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

ONLINE\_LINK

*Attribute\_Definition:*

Online computer resource URL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

SCALE

*Attribute\_Definition:*

Description of the source scale.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

TIME\_PERIOD

*Attribute\_Definition:*

Date(s) of data collection that the source material is based upon.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Overview\_Description:**Entity\_and\_Attribute\_Overview:*

In addition to the geographic data layers, six relational attribute or data tables (BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS) are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, FISH) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO\_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the North Carolina atlas, the number is 235), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described in the Detailed\_Description sections. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the

ESI data structure. Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN\_SPEC, S, F, NHP, DATE\_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G\_SOURCE, S\_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables (described in the Detailed\_Description sections), except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED\_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed\_Description of the BREED data table. The link to the BIOFILE may be made through the BIO\_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED\_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED\_DT is the BREED item. A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G\_SOURCE and S\_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table and this data table is NOT described in a Detailed\_Description section.

*Entity\_and\_Attribute\_Detail\_Citation:*

A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines ([http://response.restoration.noaa.gov/esi\\_guidelines](http://response.restoration.noaa.gov/esi_guidelines)).

[Back To Index](#)

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*Distribution\_Information:*

*Distributor:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:*

John Kaperick

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Address:*

*Address\_Type:*

Physical Address

*Address:*

7600 Sand Point Way N.E.

*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*



(206) 526-6400

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Resource\_Description:*

Downloadable Data

*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

[Back To Index](#)*Metadata\_Reference\_Information:**Metadata\_Date:*

20111015

*Metadata\_Review\_Date:*

20111015

*Metadata\_Contact:**Contact\_Information:**Contact\_Person\_Primary:**Contact\_Person:*

Jill Petersen

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Position:*

GIS Manager

*Contact\_Address:**Address\_Type:*

Physical Address

*Address:*

7600 Sand Point Way, N.E.

*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6944

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(206) 526-6329

*Contact\_Electronic\_Mail\_Address:*

Jill.Petersen@noaa.gov

*Metadata\_Standard\_Name:*

Content Standards for Digital Geospatial Metadata

*Metadata\_Standard\_Version:*

FGDC-STD-001-1998

*Metadata\_Extensions:*

*Online\_Linkage:*

[http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile\\_v2.pdf](http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile_v2.pdf)

*Profile\_Name:*

Content Specification for Metadata in the National Coastal Data Development Center's  
Data Catalog Version 2.0

[Back To Index](#)

# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: INVERT (Invertebrate Polygons)

## Metadata:

- [Identification Information](#)
- [Data Quality Information](#)
- [Spatial Data Organization Information](#)
- [Spatial Reference Information](#)
- [Entity and Attribute Information](#)
- [Distribution Information](#)
- [Metadata Reference Information](#)

### *Identification\_Information:*

#### *Citation:*

#### *Citation\_Information:*

#### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington.

#### *Originator:*

U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia.

#### *Originator:*

Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

#### *Publication\_Date:*

201107

#### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: INVERT (Invertebrate Polygons)

#### *Edition:*

Second

#### *Geospatial\_Data\_Presentation\_Form:*

vector digital data

#### *Series\_Information:*

#### *Series\_Name:*

None

#### *Issue\_Identification:*

North Carolina

#### *Publication\_Information:*

#### *Publication\_Place:*

Seattle, Washington

#### *Publisher:*

NOAA's Ocean Service, Office of Response and Restoration (OR&R), Emergency Response Division (ERD).

*Other\_Citation\_Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division, Seattle, Washington.

*Online\_Linkage:*

<http://response.restoration.noaa.gov/esi>

*Description:**Abstract:*

This data set contains sensitive biological resource data for marine and estuarine invertebrate species in North Carolina. Vector polygons in this data set represent invertebrate distribution and concentration areas. 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 North 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.

*Purpose:*

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

*Time\_Period\_of\_Content:**Time\_Period\_Information:**Range\_of\_Dates/Times:**Beginning\_Date:*

1988

*Ending\_Date:*

2010

*Currentness\_Reference:*

The data were compiled during 2010-2011. The currentness dates for the data range from 1988 to 2010 and are documented in the Lineage section.

*Status:**Progress:*

Complete

*Maintenance\_and\_Update\_Frequency:*

None Scheduled

*Spatial\_Domain:**Bounding\_Coordinates:**West\_Bounding\_Coordinate:*

-78.62500

*East\_Bounding\_Coordinate:*

-75.39900

*North\_Bounding\_Coordinate:*

36.62500

*South\_Bounding\_Coordinate:*

33.75000

*Keywords:**Theme:**Theme\_Keyword\_Thesaurus:*

ISO 19115 Topic Category

*Theme\_Keyword:*

biota

*Theme\_Keyword:*

environment

*Theme:*

*Theme\_Keyword\_Thesaurus:*

None

*Theme\_Keyword:*

Environmental Monitoring

*Theme\_Keyword:*

ESI

*Theme\_Keyword:*

Sensitivity maps

*Theme\_Keyword:*

Coastal resources

*Theme\_Keyword:*

Oil spill planning

*Theme\_Keyword:*

Coastal Zone Management

*Theme\_Keyword:*

Wildlife

*Theme\_Keyword:*

Invertebrate

*Theme:*

*Theme\_Keyword\_Thesaurus:*

NOS Data Explorer Topic Category

*Theme\_Keyword:*

Environmental Monitoring

*Place:*

*Place\_Keyword\_Thesaurus:*

None

*Place\_Keyword:*

North Carolina

*Access\_Constraints:*

None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:*

datafig.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Browse\_Graphic:**Browse\_Graphic\_File\_Name:*

datafig2.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and desktop data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington, the U.S. Environmental Protection Agency Region 4: Southeast Atlanta, GA, and the Department of Homeland Security United States Coast Guard Office of Incident Management and Preparedness Washington, D.C.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 9.3) and SQL SERVER(R) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003). The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00, and wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio\_lut.e00, biofile.e00, biores.e00, breed.e00, breed\_dt.e00, seasonal.e00, soc\_dat.e00, soc\_lut.e00, sources.e00, species.e00, and status.e00.

*Program\_Affiliation:**Program\_Name:*

National Ocean Service Data Explorer

[Back To Index](#)*Data\_Quality\_Information:**Attribute\_Accuracy:**Attribute\_Accuracy\_Report:*

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD/DVD and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the

value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

*Completeness\_Report:*

These data represent a synthesis of expert knowledge, available hardcopy documents, and digital data on invertebrate distribution and concentration areas. These data do not necessarily represent all invertebrate occurrences in North Carolina. The following species are included in this data set: (Species\_ID, Common Name, Scientific Name [n/a if not applicable]): 41, Bay scallop, *Argopecten irradians*; 42, Northern quahog, *Mercenaria mercenaria*; 43, Eastern oyster, *Crassostrea virginica*; 44, Horseshoe crab, *Limulus polyphemus*; 49, Blue crab, *Callinectes sapidus*; 51, Brown shrimp, *Penaeus aztecus*; 82, Atlantic rangia, *Rangia cuneata*; 97, Grass shrimp, *Palaemonetes* spp.; 169, White shrimp, *Penaeus vannamei*; 288, Florida stone crab, *Menippe mercenaria*; 325, Pink shrimp, *Penaeus brevirrostris*; 367, Eastern pondmussel, *Ligumia nasuta*; 377, Tidewater mucket, *Leptodea ochracea*; 602, Chowanoke crayfish, *Orconectes virginienensis*; 603, Giant swallowtail, *Papilio cresphontes*; 1061, *Portunus* spp., *Portunus* spp.

*Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy\_Report:*

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources. See the Lineage and Process\_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

AYCOCK, JEREMY (NORTH CAROLINA DIVISION OF MARINE FISHERIES)

*Publication\_Date:*

2010

*Title:*

SHELLFISH.GDB

*Geospatial\_Data\_Presentation\_Form:*

spreadsheet

*Publication\_Information:*

*Publication\_Place:*

MOREHEAD CITY, NORTH CAROLINA

*Publisher:*

NORTH CAROLINA DIVISION OF MARINE FISHERIES

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

1999

*Ending\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF SURVEY

*Source\_Citation\_Abbreviation:*

Aycock 2010

*Source\_Contribution:*

INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

BAKER, MICHELLE (NATIONAL PARK SERVICE, CAPE  
HATTERAS NATIONAL SEASHORE)

*Publication\_Date:*

2009

*Title:*

NATURAL RESOURCES AT CAPE HATTERAS

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Baker 2009

*Source\_Contribution:*

INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

BONZEK, CHRIS (VIRGINIA INSTITUTE OF MARINE  
SCIENCE)

*Publication\_Date:*



2010

*Title:*NORTHEAST AREA MONITORING AND ASSESSMENT  
PROGRAM SURVEY 2004 AND 2009*Geospatial\_Data\_Presentation\_Form:*

spreadsheet

*Publication\_Information:**Publication\_Place:*

WASHINGTON DC

*Publisher:*

ATLANTIC STATES MARINE FISHERIES COMMISSION

*Online\_Linkage:*<http://www.neamap.net/>*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Range\_of\_Dates/Times:**Beginning\_Date:*

2004

*Ending\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF SURVEY

*Source\_Citation\_Abbreviation:*

Bonzek 2010

*Source\_Contribution:*

INVERT INFORMATION

*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*BOYLIN, JEANNE (SOUTH CAROLINA DEPARTMENT OF  
NATURAL RESOURCES, MARINE RESOURCES RESEARCH  
INSTITUTE)*Publication\_Date:*

2010

*Title:*

SEAMAP\_NC.XLS

*Geospatial\_Data\_Presentation\_Form:*

spreadsheet

*Publication\_Information:**Publication\_Place:*

CHARLESTON, SOUTH CAROLINA

*Publisher:*SOUTHEAST MONITORING AND ASSESSMENT  
PROGRAM, MARINE RESOURCES DIVISION, SOUTH  
CAROLINA DEPARTMENT OF NATURAL RESOURCES*Online\_Linkage:*<http://www.seamap.org/>*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Range\_of\_Dates/Times:*  
*Beginning\_Date:*  
1990  
*Ending\_Date:*  
2009  
*Source\_Currentness\_Reference:*  
DATE OF SURVEY  
*Source\_Citation\_Abbreviation:*  
Boylin 2010  
*Source\_Contribution:*  
INVERT INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
CONRAD, BRIAN (NORTH CAROLINA DIVISION OF  
MARINE FISHERIES)  
*Publication\_Date:*  
2010  
*Title:*  
MSA\_2010304.GDB  
*Geospatial\_Data\_Presentation\_Form:*  
spreadsheet  
*Other\_Citation\_Details:*  
UNPUBLISHED  
*Type\_of\_Source\_Media:*  
EMAIL  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Range\_of\_Dates/Times:*  
*Beginning\_Date:*  
1988  
*Ending\_Date:*  
2010  
*Source\_Currentness\_Reference:*  
DATE OF SURVEY  
*Source\_Citation\_Abbreviation:*  
Conrad 2010  
*Source\_Contribution:*  
INVERT INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
DOCKENDORF, KEVIN (NORTH CAROLINA WILDLIFE  
RESOURCES COMMISSION)  
*Publication\_Date:*  
2009  
*Title:*  
SPECIES LIST FOR LAKE MATTAMUSKEET

*Geospatial\_Data\_Presentation\_Form:*

document

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Dockendorf 2009

*Source\_Contribution:*

INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

GODWIN, CHARLES H.

*Publication\_Date:*

2004

*Title:*

PERFORMANCE ASSESSMENT OF RETROFITTED WATER CONTROL STRUCTURES AT MATTAMUSKEET NATIONAL WILDLIFE REFUGE, NORTH CAROLINA

*Geospatial\_Data\_Presentation\_Form:*

document

*Publication\_Information:*

*Publication\_Place:*

GREENVILLE, NORTH CAROLINA

*Publisher:*

DEPARTMENT OF BIOLOGY, EAST CAROLINA UNIVERSITY

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2004

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

Godwin 2004

*Source\_Contribution:*

INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

MCINERNY, STEPHANIE (NORTH CAROLINA DIVISION OF  
MARINE FISHERIES)

*Publication\_Date:*

2010

*Title:*

1999-2009 HORSESHOE CRAB LANDINGS BY MONTH FOR  
ESTUARINE WATERS ONLY

*Geospatial\_Data\_Presentation\_Form:*

spreadsheet

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

1999

*Ending\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF SURVEY

*Source\_Citation\_Abbreviation:*

McInerny 2010, Landings by Month

*Source\_Contribution:*

INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

MCINERNY, STEPHANIE (NORTH CAROLINA DIVISION OF  
MARINE FISHERIES)

*Publication\_Date:*

2010

*Title:*

1999-2009 HORSESHOE CRAB LANDINGS BY WATERBODY

*Geospatial\_Data\_Presentation\_Form:*

spreadsheet

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:*

1999

*Ending\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF SURVEY

*Source\_Citation\_Abbreviation:*  
McInerny 2010, Landings by Waterbody

*Source\_Contribution:*  
INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*  
MCKENNA, SEAN (NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES)

*Publication\_Date:*  
2010

*Title:*  
SEASONALITY FOR INVERTEBRATES IN NORTH CAROLINA ESTUARIES

*Geospatial\_Data\_Presentation\_Form:*  
EXPERT KNOWLEDGE

*Type\_of\_Source\_Media:*  
PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*  
*Calendar\_Date:*  
2010

*Source\_Currentness\_Reference:*  
DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*  
McKenna 2010

*Source\_Contribution:*  
INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*  
NELSON, D.M., E.A. IRLANDI, L.R. SETTLE, M.E. MONACO, AND L. COSTON-CLEMENTS

*Publication\_Date:*  
1991

*Title:*  
DISTRIBUTION AND ABUNDANCE OF FISHES AND INVERTEBRATES IN SOUTHEAST ESTUARIES

*Geospatial\_Data\_Presentation\_Form:*  
HARDCOPY TEXT

*Publication\_Information:*

*Publication\_Place:*  
SILVER SPRING, MARYLAND

*Publisher:*  
NOAA STRATEGIC ENVIRONMENTAL ASSESSMENTS DIVISION

*Type\_of\_Source\_Media:*  
paper

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

1991

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

Nelson et al. 1991

*Source\_Contribution:*

INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND  
NATURAL RESOURCES

*Publication\_Date:*

2009

*Title:*

SHRIMP

*Geospatial\_Data\_Presentation\_Form:*

document

*Publication\_Information:*

*Publication\_Place:*

MOREHEAD CITY, NORTH CAROLINA

*Publisher:*

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT  
AND NATURAL RESOURCES, DIVISION OF MARINE  
FISHERIES

*Online\_Linkage:*

<http://www.ncfisheries.net/shellfish/shrimp2.htm>

*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

NC DENR 2009

*Source\_Contribution:*

INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND  
NATURAL RESOURCES, DIVISION OF MARINE FISHERIES

*Publication\_Date:*

2010

*Title:*  
STOCK STATUS OF IMPORTANT COASTAL FISHERIES IN  
NORTH CAROLINA 2010  
*Geospatial\_Data\_Presentation\_Form:*  
document  
*Publication\_Information:*  
*Publication\_Place:*  
MOREHEAD CITY, NORTH CAROLINA  
*Publisher:*  
NORTH CAROLINA DIVISION OF MARINE FISHERIES  
*Online\_Linkage:*  
<http://www.ncfisheries.net/stocks/index.html>

*Type\_of\_Source\_Media:*  
online  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Range\_of\_Dates/Times:*  
*Beginning\_Date:*  
2010  
*Ending\_Date:*  
2010  
*Source\_Currentness\_Reference:*  
DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*  
NC DENR 2010  
*Source\_Contribution:*  
INVERT INFORMATION

*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
NORTH CAROLINA DIVISION OF MARINE FISHERIES  
*Publication\_Date:*  
2007

*Title:*  
CRAB SPAWNING SITES  
*Geospatial\_Data\_Presentation\_Form:*  
vector digital data  
*Publication\_Information:*  
*Publication\_Place:*  
MOREHEAD CITY, NORTH CAROLINA  
*Publisher:*  
NORTH CAROLINA DIVISION OF MARINE FISHERIES

*Type\_of\_Source\_Media:*  
EMAIL  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:*  
2007  
*Source\_Currentness\_Reference:*  
DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*  
 NC DMF 2007

*Source\_Contribution:*  
 INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*  
 NORTH CAROLINA NATURAL HERITAGE PROGRAM (NC NHP)

*Publication\_Date:*  
 2009

*Title:*  
 NC NHP ELEMENT OCCURRENCES

*Geospatial\_Data\_Presentation\_Form:*  
 vector digital data

*Publication\_Information:*

*Publication\_Place:*  
 RALEIGH, NC

*Publisher:*  
 NORTH CAROLINA NATURAL HERITAGE PROGRAM

*Type\_of\_Source\_Media:*  
 EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*  
 2009

*Source\_Currentness\_Reference:*  
 DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*  
 NC NHP 2009

*Source\_Contribution:*  
 INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*  
 SMITHSONIAN MARINE STATION

*Publication\_Date:*  
 2008

*Title:*  
 SPECIES INVENTORY: MENIPPE MERCENARIA

*Geospatial\_Data\_Presentation\_Form:*  
 tabular digital data

*Publication\_Information:*

*Publication\_Place:*  
 SMITHSONIAN MARINE STATION AT FORT PIERCE

*Publisher:*  
 SMITHSONIAN MARINE STATION

*Online\_Linkage:*  
[http://www.sms.si.edu/IRLSpec/Menippe\\_mercenaria.htm](http://www.sms.si.edu/IRLSpec/Menippe_mercenaria.htm)



*Type\_of\_Source\_Media:*

online

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2008

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

SMS 2008

*Source\_Contribution:*

INVERT INFORMATION

*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*

WEST, KATY (NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES)

*Publication\_Date:*

2010

*Title:*

FISH SURVEYS FROM PROGRAMS P120 P100 P115 P123 P195 P135 P913 P915 FROM 1999-2009

*Geospatial\_Data\_Presentation\_Form:*

spreadsheet

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Range\_of\_Dates/Times:**Beginning\_Date:*

1999

*Ending\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

West 2010

*Source\_Contribution:*

INVERT INFORMATION

*Process\_Step:**Process\_Description:*

Four main sources of data were used to depict invertebrate distribution and seasonality for this data layer: (1) personal interviews with resource experts from the North Carolina Department of the Environment and Natural Resources-Division of Marine Fisheries (NCDENR-DMF); (2) tabular coastal survey data from NEAMAP (NorthEast Area Monitoring and Assessment Program), SEAMAP (Southeast Area Monitoring and Assessment Program), and NCDENR-DMF programs (100, 115, 120, 123, 135, 195, and 915); (3) digital data provided by the NCDENR-DMF Shellfish Mapping Program and North Carolina Natural Heritage Program; and (4) numerous published and

unpublished reports. The above digital and/or hardcopy sources were compiled by the project biologist to create the INVERT 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; and/or (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 compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews are conducted to review the maps. If necessary, edits to the INVERT data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:*

201107

*Process\_Contact:**Contact\_Information:**Contact\_Organization\_Primary:**Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Person:*

Jill Petersen

*Contact\_Address:**Address\_Type:*

Physical address

*Address:*

7600 Sand Point Way, N.E.

*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6944

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Contact\_Electronic\_Mail\_Address:*

Jill.Petersen@noaa.gov

[Back To Index](#)

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*Spatial\_Data\_Organization\_Information:**Direct\_Spatial\_Reference\_Method:*

Vector

*Point\_and\_Vector\_Object\_Information:**SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

GT-polygon composed of chains

*Point\_and\_Vector\_Object\_Count:*

7389

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:*  
Area point

*Point\_and\_Vector\_Object\_Count:*  
7390

*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
Complete chain

*Point\_and\_Vector\_Object\_Count:*  
14151

*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
Link

*Point\_and\_Vector\_Object\_Count:*  
1385363

*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
Node,planar graph

*Point\_and\_Vector\_Object\_Count:*  
11608

[Back To Index](#)

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*Spatial\_Reference\_Information:*  
*Horizontal\_Coordinate\_System\_Definition:*  
*Geographic:*  
*Latitude\_Resolution:*  
0.0000001

*Longitude\_Resolution:*  
0.0000001

*Geographic\_Coordinate\_Units:*  
Decimal degrees

*Geodetic\_Model:*  
*Horizontal\_Datum\_Name:*  
North American Datum of 1983

*Ellipsoid\_Name:*  
Geodetic Reference System 80

*Semi-major\_Axis:*  
6378137.000000

*Denominator\_of\_Flattening\_Ratio:*  
298.257222

[Back To Index](#)

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*Entity\_and\_Attribute\_Information:*  
*Detailed\_Description:*  
*Entity\_Type:*  
*Entity\_Type\_Label:*  
INVERT.PAT

*Entity\_Type\_Definition:*  
The INVERT.PAT table contains attribute information for the vector polygons in this data set representing invertebrate distribution and concentration areas. Note that all attribute information is stored in a series of relational files, described below and in the Overview\_Description section. See the Browse\_Graphic section for a link to the entity-relationship diagram, which

describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (235), element number (7), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

2350700002

*Range\_Domain\_Maximum:*

2350712484

*Attribute:*

*Attribute\_Label:*

RARNUM

*Attribute\_Definition:*

An identifier that links directly to the BIORES table or the flat format BIOFILE table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

235000658

*Range\_Domain\_Maximum:*

235000741

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

BIO\_LUT

*Entity\_Type\_Definition:*

The data table BIO\_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below and in the Overview\_Description section. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

RARNUM

*Attribute\_Definition:*

An identifier that links records in the BIO\_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

235000001

*Range\_Domain\_Maximum:*

235000925

*Attribute:*

*Attribute\_Label:*

ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (235), element number (7), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

2350000002

*Range\_Domain\_Maximum:*

2350001183

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

BIORES

*Entity\_Type\_Definition:*

The data table BIORRES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO\_LUT data table to other associated data tables. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

RARNUM

*Attribute\_Definition:*

An identifier that links records in the BIORRES data table to records in the BIO\_LUT data table or the flat format BIOFILE data table.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

235000001

*Range\_Domain\_Maximum:*

235000925

*Attribute:**Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

CONC

*Attribute\_Definition:*

The field CONC refers to "concentration," abundance, or density values, and may contain counts of a species at a particular location. The descriptive term "HIGH" was used to describe the relative abundance of a particular invertebrate species at specific locations. In cases where no quantitative or qualitative concentration information was available, the field was populated with "-".

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

G\_SOURCE

*Attribute\_Definition:*

Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

S\_SOURCE

*Attribute\_Definition:*

Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*



Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

SPECIES

*Entity\_Type\_Definition:*

The data table SPECIES identifies all species in the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness\_Report for a list of layer-specific species.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

NAME

*Attribute\_Definition:*

Species common name for the entire ESI data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

GEN\_SPEC

*Attribute\_Definition:*

Species scientific name for the entire ESI data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SUBELEMENT

*Attribute\_Definition:*

Element subgroup delineating a logical grouping of species.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

alligator

*Enumerated\_Domain\_Value\_Definition:*

Alligator

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

bird

*Enumerated\_Domain\_Value\_Definition:*

Bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

bivalve

*Enumerated\_Domain\_Value\_Definition:*

Bivalve

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

crab

*Enumerated\_Domain\_Value\_Definition:*

Crab

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

crayfish

*Enumerated\_Domain\_Value\_Definition:*

Crayfish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

diadromous

*Enumerated\_Domain\_Value\_Definition:*

Diadromous fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

diving

*Enumerated\_Domain\_Value\_Definition:*

Diving bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

e\_nursery

*Enumerated\_Domain\_Value\_Definition:*

Estuarine nursery fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

e\_resident

*Enumerated\_Domain\_Value\_Definition:*

Estuarine resident fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

fish

*Enumerated\_Domain\_Value\_Definition:*

## Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*  
freshwater

*Enumerated\_Domain\_Value\_Definition:*  
Freshwater fish

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*  
gull\_tern

*Enumerated\_Domain\_Value\_Definition:*  
Gull or tern

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*  
insect

*Enumerated\_Domain\_Value\_Definition:*  
Insect

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*  
invert

*Enumerated\_Domain\_Value\_Definition:*  
Invertebrate

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*  
m\_benthic

*Enumerated\_Domain\_Value\_Definition:*  
Marine benthic fish

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*  
m\_pelagic

*Enumerated\_Domain\_Value\_Definition:*  
Marine pelagic fish

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

manatee

*Enumerated\_Domain\_Value\_Definition:*

Manatee

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

passerine

*Enumerated\_Domain\_Value\_Definition:*

Passerine bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

pelagic

*Enumerated\_Domain\_Value\_Definition:*

Pelagic bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

pinniped

*Enumerated\_Domain\_Value\_Definition:*

Pinniped

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

plant

*Enumerated\_Domain\_Value\_Definition:*

Plant

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

raptor

*Enumerated\_Domain\_Value\_Definition:*

Raptor

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

sav

*Enumerated\_Domain\_Value\_Definition:*

Submerged aquatic vegetation  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 shorebird  
*Enumerated\_Domain\_Value\_Definition:*  
 Shorebird  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 shrimp  
*Enumerated\_Domain\_Value\_Definition:*  
 Shrimp  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 sm\_mammal  
*Enumerated\_Domain\_Value\_Definition:*  
 Small mammal  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 snake  
*Enumerated\_Domain\_Value\_Definition:*  
 Snake  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 turtle  
*Enumerated\_Domain\_Value\_Definition:*  
 Turtle  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 ungulate  
*Enumerated\_Domain\_Value\_Definition:*  
 Ungulate  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

wading

*Enumerated\_Domain\_Value\_Definition:*

Wading bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

waterfowl

*Enumerated\_Domain\_Value\_Definition:*

Waterfowl

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

wetland

*Enumerated\_Domain\_Value\_Definition:*

Wetland

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

whale

*Enumerated\_Domain\_Value\_Definition:*

Whale

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

NHP

*Attribute\_Definition:*

Natural Heritage Program global ranking.

*Attribute\_Definition\_Source:*

Network of Natural Heritage Program

*Attribute\_Domain\_Values:**Codeset\_Domain:**Codeset\_Name:*

NHP Global Conservation Status Rank

*Codeset\_Source:*

Natural Heritage Program

*Attribute:**Attribute\_Label:*

DATE\_PUB

*Attribute\_Definition:*

Date of NHP listing.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*



*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

0

*Enumerated\_Domain\_Value\_Definition:*

Date unspecified

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

SEASONAL

*Entity\_Type\_Definition:*

The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

## Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

JAN

*Attribute\_Definition:*

January

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in January

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

FEB

*Attribute\_Definition:*

February

*Attribute\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in February

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

MAR

*Attribute\_Definition:*

March

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in March

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

APR

*Attribute\_Definition:*

April

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in April

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

MAY

*Attribute\_Definition:*

May

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in May

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

JUN

*Attribute\_Definition:*

June

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in June

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

JUL

*Attribute\_Definition:*

July

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in July

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

AUG

*Attribute\_Definition:*

August

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in August

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SEP

*Attribute\_Definition:*

September

*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
X  
*Enumerated\_Domain\_Value\_Definition:*  
Present in September  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
OCT  
*Attribute\_Definition:*  
October  
*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
X  
*Enumerated\_Domain\_Value\_Definition:*  
Present in October  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
NOV  
*Attribute\_Definition:*  
November  
*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
X  
*Enumerated\_Domain\_Value\_Definition:*  
Present in November  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
DEC  
*Attribute\_Definition:*  
December  
*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
X  
*Enumerated\_Domain\_Value\_Definition:*

Present in December

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the SEASONAL data table to records in the BIoRES and BREED data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

BREED

*Entity\_Type\_Definition:*

The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BREED data table to records in the BIoRES and SEASONAL data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

MONTH

*Attribute\_Definition:*

Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

12

*Attribute:**Attribute\_Label:*

BREED1

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M\_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T\_MAMMAL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED2



*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M\_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED3

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = interesting; if ELEMENT is "M\_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED4

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M\_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

**BREED5***Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M\_MAMMAL, HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

STATUS

*Entity\_Type\_Definition:*

The data table STATUS identifies the species that are listed as either threatened or endangered by a state, federal, or international authority. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

## Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

STATE

*Attribute\_Definition:*

Two-letter state abbreviation.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

COUNTRY

*Attribute\_Definition:*

Three-letter country abbreviation.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

S

*Attribute\_Definition:*

State threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on state list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on state list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

F

*Attribute\_Definition:*

Federal threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

I

*Attribute\_Definition:*

International threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on international list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on international list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

S\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign state status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

F\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign federal status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

I\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign international status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links the STATUS data table to the BIORRES and SPECIES data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

SOURCES

*Entity\_Type\_Definition:*

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*



*Attribute\_Label:*

SOURCE\_ID

*Attribute\_Definition:*

Source identifier that links records in the SOURCES data table to the items G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID and ESI\_SOURCE in the ESI, WETLANDS, and HYDRO data layers.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

ORIGINATOR

*Attribute\_Definition:*

Author or developer of source material or data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

DATE\_PUB

*Attribute\_Definition:*

Date of source material, publication, or date of personal communication with expert source.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

TITLE

*Attribute\_Definition:*

Title of source material or data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

DATA\_FORMAT

*Attribute\_Definition:*

The format of the source material.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUB\_PLACE

*Attribute\_Definition:*

Publication place.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUBLISHER

*Attribute\_Definition:*

Publisher.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUBLICATION

*Attribute\_Definition:*

Additional citation information.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

ONLINE\_LINK

*Attribute\_Definition:*

Online computer resource URL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

SCALE

*Attribute\_Definition:*

Description of the source scale.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

TIME\_PERIOD

*Attribute\_Definition:*

Date(s) of data collection that the source material is based upon.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Overview\_Description:**Entity\_and\_Attribute\_Overview:*

In addition to the geographic data layers, six relational attribute or data tables (BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS) are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, INVERT) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO\_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the North Carolina atlas, the number is 235), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described in the Detailed\_Description sections. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure. Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN\_SPEC, S, F, NHP, DATE\_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G\_SOURCE, S\_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables (described in the Detailed\_Description sections), except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED\_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed\_Description of the BREED data table. The link to the BIOFILE may be made through the BIO\_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED\_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to

BREED\_DT is the BREED item. A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G\_SOURCE and S\_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table and this data table is NOT described in a Detailed\_Description section.

*Entity\_and\_Attribute\_Detail\_Citation:*

A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines ([http://response.restoration.noaa.gov/esi\\_guidelines](http://response.restoration.noaa.gov/esi_guidelines)).

[Back To Index](#)

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*Distribution\_Information:*

*Distributor:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:*

John Kaperick

*Contact\_Organization:*

NOAA, Office of Response and Restoration

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*Address\_Type:*

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*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6400

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Resource\_Description:*

Downloadable Data

*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an

ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

[Back To Index](#)

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*Metadata\_Reference\_Information:*

*Metadata\_Date:*

20111015

*Metadata\_Review\_Date:*

20111015

*Metadata\_Contact:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:*

Jill Petersen

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Position:*

GIS Manager

*Contact\_Address:*

*Address\_Type:*

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*State\_or\_Province:*

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(206) 526-6329

*Contact\_Electronic\_Mail\_Address:*

Jill.Petersen@noaa.gov

*Metadata\_Standard\_Name:*

Content Standards for Digital Geospatial Metadata

*Metadata\_Standard\_Version:*

FGDC-STD-001-1998

*Metadata\_Extensions:*

*Online\_Linkage:*

[http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile\\_v2.pdf](http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile_v2.pdf)

*Profile\_Name:*

Content Specification for Metadata in the National Coastal Data Development Center's Data Catalog Version 2.0

[Back To Index](#)

# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: REPTILES (Reptile Polygons)

## Metadata:

- [Identification Information](#)
- [Data Quality Information](#)
- [Spatial Data Organization Information](#)
- [Spatial Reference Information](#)
- [Entity and Attribute Information](#)
- [Distribution Information](#)
- [Metadata Reference Information](#)

### *Identification\_Information:*

#### *Citation:*

#### *Citation\_Information:*

#### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington.

#### *Originator:*

U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia.

#### *Originator:*

Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

#### *Publication\_Date:*

201107

#### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: REPTILES (Reptile Polygons)

#### *Edition:*

Second

#### *Geospatial\_Data\_Presentation\_Form:*

vector digital data

#### *Series\_Information:*

#### *Series\_Name:*

None

#### *Issue\_Identification:*

North Carolina

#### *Publication\_Information:*

#### *Publication\_Place:*

Seattle, Washington

#### *Publisher:*

NOAA's Ocean Service, Office of Response and Restoration (OR&R), Emergency Response Division (ERD).

*Other\_Citation\_Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division, Seattle, Washington.

*Online\_Linkage:*

<http://response.restoration.noaa.gov/esi>

*Description:**Abstract:*

This data set contains sensitive biological resource data for sea turtles, estuarine turtles, and rare reptiles in North Carolina. Vector polygons in this data set represent sea turtle in-water distribution areas and nesting areas and rare species occurrences. 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 North 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.

*Purpose:*

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

*Time\_Period\_of\_Content:**Time\_Period\_Information:**Range\_of\_Dates/Times:**Beginning\_Date:*

2003

*Ending\_Date:*

2010

*Currentness\_Reference:*

The data were compiled during 2010-2011. The currentness dates for the data range from 2003 to 2010 and are documented in the Lineage section.

*Status:**Progress:*

Complete

*Maintenance\_and\_Update\_Frequency:*

None Scheduled

*Spatial\_Domain:**Bounding\_Coordinates:**West\_Bounding\_Coordinate:*

-78.62500

*East\_Bounding\_Coordinate:*

-75.39900

*North\_Bounding\_Coordinate:*

36.62500

*South\_Bounding\_Coordinate:*

33.75000

*Keywords:**Theme:**Theme\_Keyword\_Thesaurus:*

ISO 19115 Topic Category

*Theme\_Keyword:*

biota

*Theme\_Keyword:*  
environment

*Theme:*

*Theme\_Keyword\_Thesaurus:*  
None

*Theme\_Keyword:*  
Environmental Monitoring

*Theme\_Keyword:*  
ESI

*Theme\_Keyword:*  
Sensitivity maps

*Theme\_Keyword:*  
Coastal resources

*Theme\_Keyword:*  
Oil spill planning

*Theme\_Keyword:*  
Coastal Zone Management

*Theme\_Keyword:*  
Wildlife

*Theme\_Keyword:*  
Reptile

*Theme\_Keyword:*  
Shellfish

*Theme:*

*Theme\_Keyword\_Thesaurus:*  
NOS Data Explorer Topic Category

*Theme\_Keyword:*  
Environmental Monitoring

*Place:*

*Place\_Keyword\_Thesaurus:*  
None

*Place\_Keyword:*  
North Carolina

*Access\_Constraints:*

None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:*  
datafig.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the North



Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:*

datafig2.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and desktop data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington; the U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia; and the Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 9.3) and SQL SERVER(R) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003). The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00, and wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio\_lut.e00, biofile.e00, biores.e00, breed.e00, breed\_dt.e00, seasonal.e00, soc\_dat.e00, soc\_lut.e00, sources.e00, species.e00, and status.e00.

*Program\_Affiliation:*

*Program\_Name:*

National Ocean Service Data Explorer

[Back To Index](#)

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*Data\_Quality\_Information:*

*Attribute\_Accuracy:*

*Attribute\_Accuracy\_Report:*

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD/DVD and the metadata are written. After the data are delivered to NOAA, they are again subjected to a

number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

*Completeness\_Report:*

These data represent a synthesis of expert knowledge, available hardcopy documents, survey data, maps, and digital data on turtle distribution and nesting areas and rare species occurrences. These data do not necessarily represent all reptile occurrences in North Carolina. The following species are included in this data set: (Species\_ID, Common Name, Scientific Name [n/a if not applicable]): 2, Green sea turtle, *Chelonia mydas*; 3, American alligator, *Alligator mississippiensis*; 4, Kemp's ridley sea turtle, *Lepidochelys kempii*; 5, Leatherback sea turtle, *Dermochelys coriacea*; 6, Loggerhead sea turtle, *Caretta caretta*; 7, Diamondback terrapin, *Malaclemys terrapin*; 87, Sea turtle spp., *Cheloniidae* spp.; 175, Northern diamondback terrapin, *Malaclemys terrapin terrapin*; 196, Carolina water snake, *Nerodia sipedon williamengelsi*; 197, Carolina diamondback terrapin, *Malaclemys terrapin centrata*.

*Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy\_Report:*

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources. See the Lineage and Process\_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

ALTMAN, J. (NATIONAL PARK SERVICE CAPE LOOKOUT NATIONAL SEASHORE)

*Publication\_Date:*

2009

*Title:*

CAPE LOOKOUT NATIONAL SEASHORE 2009 SEA TURTLE MONITORING AND MANAGEMENT REPORT

*Geospatial\_Data\_Presentation\_Form:*

HARDCOPY TEXT

*Publication\_Information:*

*Publication\_Place:*

HARKERS ISLAND, NC

*Publisher:*

NATIONAL PARK SERVICE

*Type\_of\_Source\_Media:*

FTP SITE

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF SURVEY

*Source\_Citation\_Abbreviation:*

Altman 2009

*Source\_Contribution:*

REPTILES INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

BAKER, MICHELLE (NATIONAL PARK SERVICE, CAPE  
HATTERAS NATIONAL SEASHORE)

*Publication\_Date:*

2009

*Title:*

NATURAL RESOURCES AT CAPE HATTERAS

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Baker 2009

*Source\_Contribution:*

REPTILES INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

BRAUN-MCNEILL, JOANNE (NOAA, NATIONAL MARINE  
FISHERIES SERVICE)

*Publication\_Date:*

2009

*Title:*

DISTRIBUTION AND ABUNDANCE OF SEA TURTLES IN  
NORTH CAROLINA

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Braun-McNeill 2009

*Source\_Contribution:*

REPTILES INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

CARFIOLI, M. (NATIONAL PARK SERVICE)

*Publication\_Date:*

2009

*Title:*

CAPE HATTERAS NATIONAL SEASHORE RESOURCES

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

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*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Carfioli 2009

*Source\_Contribution:*

REPTILES INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

FRINGELI, J. (U.S. FISH &amp; WILDLIFE SERVICE)

*Publication\_Date:*

2009

*Title:*MATTAMUSKEET NATIONAL WILDLIFE REFUGE  
RESOURCES*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

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*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Fringeli 2009

*Source\_Contribution:*

REPTILES INFORMATION

*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*

GODFREY, M. (N.C. WILDLIFE RESOURCES COMMISSION)

*Publication\_Date:*

2009

*Title:*

SEA TURTLE DISTRIBUTION AND SEASONALITY

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

UNPUBLISHED

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PERSONAL COMMUNICATION

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2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Godfrey 2009

*Source\_Contribution:*

REPTILES INFORMATION

*Source\_Information:**Source\_Citation:**Citation\_Information:*

*Originator:*  
HOFF, MIKE (U.S.FISH & WILDLIFE SERVICE)

*Publication\_Date:*  
2009

*Title:*  
CURRITUCK AND MACKAY ISLAND NATIONAL WILDLIFE  
REFUGE SPECIES AND HUMAN-USE RESOURCES  
DISTRIBUTION

*Geospatial\_Data\_Presentation\_Form:*  
EXPERT KNOWLEDGE

*Other\_Citation\_Details:*  
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*Type\_of\_Source\_Media:*  
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*Source\_Time\_Period\_of\_Content:*

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*Single\_Date/Time:*

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*Source\_Currentness\_Reference:*  
DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*  
Hoff 2009

*Source\_Contribution:*  
REPTILES INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*  
NATIONAL OCEANIC AND ATMOSPHERIC  
ADMINISTRATION (NOAA)

*Publication\_Date:*  
2009

*Title:*  
BEAUFORT LAB SEA TURTLE DATA 2003-2009

*Geospatial\_Data\_Presentation\_Form:*  
spreadsheet

*Other\_Citation\_Details:*  
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*Type\_of\_Source\_Media:*  
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*Range\_of\_Dates/Times:*

*Beginning\_Date:*  
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*Ending\_Date:*  
2009

*Source\_Currentness\_Reference:*  
DATE OF SURVEY

*Source\_Citation\_Abbreviation:*  
NOAA 2009

*Source\_Contribution:*  
 REPTILES INFORMATION

*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
 NATIONAL PARK SERVICE: CAPE LOOKOUT NATIONAL  
 SEASHORE  
*Publication\_Date:*  
 2008  
*Title:*  
 NCB\_NESTS; SB\_NESTS\_08; SCB\_NESTS\_08  
*Geospatial\_Data\_Presentation\_Form:*  
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*Other\_Citation\_Details:*  
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*Type\_of\_Source\_Media:*  
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*Source\_Time\_Period\_of\_Content:*  
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*Source\_Currentness\_Reference:*  
 DATE OF SURVEY

*Source\_Citation\_Abbreviation:*  
 NPS 2008

*Source\_Contribution:*  
 REPTILES INFORMATION

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*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
 NORTH CAROLINA NATURAL HERITAGE PROGRAM (NC  
 NHP)  
*Publication\_Date:*  
 2009  
*Title:*  
 NC NHP ELEMENT OCCURRENCES  
*Geospatial\_Data\_Presentation\_Form:*  
 vector digital data  
*Publication\_Information:*  
*Publication\_Place:*  
 RALEIGH, NC  
*Publisher:*  
 NORTH CAROLINA NATURAL HERITAGE PROGRAM

*Type\_of\_Source\_Media:*  
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*Source\_Time\_Period\_of\_Content:*  
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*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*  
DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*  
NC NHP 2009

*Source\_Contribution:*  
REPTILES INFORMATION

*Source\_Information:*

*Source\_Citation:*  
*Citation\_Information:*

*Originator:*  
NORTH CAROLINA WILDLIFE RESOURCES COMMISSION

*Publication\_Date:*  
2007

*Title:*  
TURTLE CRAWL 2003, 2004, 2005, 2006, 2007

*Geospatial\_Data\_Presentation\_Form:*  
vector digital data

*Other\_Citation\_Details:*  
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*Type\_of\_Source\_Media:*  
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*Source\_Time\_Period\_of\_Content:*  
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*Beginning\_Date:*  
2003

*Ending\_Date:*  
2007

*Source\_Currentness\_Reference:*  
DATE OF SURVEY

*Source\_Citation\_Abbreviation:*  
NC WRC 2007

*Source\_Contribution:*  
REPTILES INFORMATION

*Source\_Information:*

*Source\_Citation:*  
*Citation\_Information:*

*Originator:*  
PIATAK, MICHAEL (CAPE HATTERAS NATIONAL SEASHORE)

*Publication\_Date:*  
2010

*Title:*  
BIOLOGICAL AND HUMAN USE DATA FOR CAPE HATTERAS NATIONAL SEASHORE

*Geospatial\_Data\_Presentation\_Form:*  
EXPERT KNOWLEDGE

*Type\_of\_Source\_Media:*  
PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*  
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*Range\_of\_Dates/Times:*

*Beginning\_Date:*

2010

*Ending\_Date:*

2010

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Piatak 2010

*Source\_Contribution:*

REPTILES INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

RIKARD, MICHAEL (NATIONAL PARK SERVICE, CAPE  
LOOKOUT NATIONAL SEASHORE)

*Publication\_Date:*

2009

*Title:*

CAPE LOOKOUT RESOURCES

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

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*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

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*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Rikard 2009

*Source\_Contribution:*

REPTILES INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

STEWART, D. (U.S. FISH & WILDLIFE SERVICE)

*Publication\_Date:*

2009

*Title:*

NORTH CAROLINA COASTAL NATIONAL WILDLIFE  
REFUGES

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Stewart 2009

*Source\_Contribution:*

REPTILES INFORMATION

*Process\_Step:**Process\_Description:*

Three main sources of data were used to depict reptile distribution and seasonality for this data layer: (1) personal interviews with resource experts from the National Park Service (NPS) - Cape Lookout and Cape Hatteras National Seashores, National Oceanic and Atmospheric Administration (NOAA), U.S. Fish and Wildlife Service (USFWS), North Carolina Wildlife Resources Commission (NCWRC), and National Marine Fisheries Service (NMFS); (2) digital data from NPS, NCWRC, NOAA-NMFS, and North Carolina Natural Heritage Program; and (3) published and unpublished reports. The above digital and/or hardcopy sources were compiled by the project biologist to create the REPTILES 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; and/or (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 compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews are conducted to review the maps. If necessary, edits to the REPTILES data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:*

201107

*Process\_Contact:**Contact\_Information:**Contact\_Organization\_Primary:**Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Person:*

Jill Petersen

*Contact\_Address:**Address\_Type:*

Physical address

*Address:*

7600 Sand Point Way, N.E.

*City:*

Seattle  
*State\_or\_Province:*  
 Washington  
*Postal\_Code:*  
 98115-6349  
*Contact\_Voice\_Telephone:*  
 (206) 526-6944  
*Contact\_Facsimile\_Telephone:*  
 (206) 526-6329  
*Contact\_Electronic\_Mail\_Address:*  
 Jill.Petersen@noaa.gov

[Back To Index](#)

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*Spatial\_Data\_Organization\_Information:*  
*Direct\_Spatial\_Reference\_Method:*  
 Vector  
*Point\_and\_Vector\_Object\_Information:*  
*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
 GT-polygon composed of chains  
*Point\_and\_Vector\_Object\_Count:*  
 2992  
*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
 Area point  
*Point\_and\_Vector\_Object\_Count:*  
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*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
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*Point\_and\_Vector\_Object\_Count:*  
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 Link  
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 854733  
*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
 Node,planar graph  
*Point\_and\_Vector\_Object\_Count:*  
 6620

[Back To Index](#)

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*Spatial\_Reference\_Information:*  
*Horizontal\_Coordinate\_System\_Definition:*  
*Geographic:*  
*Latitude\_Resolution:*  
 0.0000001  
*Longitude\_Resolution:*  
 0.0000001  
*Geographic\_Coordinate\_Units:*

Decimal degrees  
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*Horizontal\_Datum\_Name:*  
 North American Datum of 1983  
*Ellipsoid\_Name:*  
 Geodetic Reference System 80  
*Semi-major\_Axis:*  
 6378137.000000  
*Denominator\_of\_Flattening\_Ratio:*  
 298.257222

[Back To Index](#)

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*Entity\_and\_Attribute\_Information:*

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

REPTILES.PAT

*Entity\_Type\_Definition:*

The REPTILES.PAT table contains attribute information for the vector polygons in this data set representing sea turtle in-water distribution areas and nesting areas and rare species occurrences. Note that all attribute information is stored in a series of relational files, described below and in the Overview\_Description section. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (235), element number (6), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

2350600002

*Range\_Domain\_Maximum:*

2350604014

*Attribute:*

*Attribute\_Label:*

RARNUM

*Attribute\_Definition:*

An identifier that links directly to the BIORES table or the flat format BIOFILE table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

235000761

*Range\_Domain\_Maximum:*

235000919

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

BIO\_LUT

*Entity\_Type\_Definition:*

The data table BIO\_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below and in the Overview\_Description section. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

RARNUM

*Attribute\_Definition:*

An identifier that links records in the BIO\_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

235000001

*Range\_Domain\_Maximum:*

235000925

*Attribute:**Attribute\_Label:*

ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (235), element number (6), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

2350000002

*Range\_Domain\_Maximum:*

2350001183

*Detailed\_Description:*

*Entity\_Type:**Entity\_Type\_Label:*

BIORES

*Entity\_Type\_Definition:*

The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO\_LUT data table to other associated data tables. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

RARNUM

*Attribute\_Definition:*

An identifier that links records in the BIORES data table to records in the BIO\_LUT data table or the flat format BIOFILE data table.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

235000001

*Range\_Domain\_Maximum:*

235000925

*Attribute:**Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

CONC

*Attribute\_Definition:*

The field CONC refers to "concentration," abundance, or density values of a species at a particular location. Counts for reptiles were derived from multiple years of nest survey data. The points from all years were plotted in a GIS, then grouped into ranges (X-XX number of nests) along beach segments. In cases where no quantitative count data were available, the field may contain descriptive terms such as "HIGH" or "POTENTIAL". In cases where no quantitative or qualitative concentration information was available, the field was populated with "-".

*Attribute\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

G\_SOURCE

*Attribute\_Definition:*

Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

S\_SOURCE

*Attribute\_Definition:*

Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*



## T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

SPECIES

*Entity\_Type\_Definition:*

The data table SPECIES identifies all species in the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness\_Report for a list of layer-specific species.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

NAME

*Attribute\_Definition:*

Species common name for the entire ESI data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

GEN\_SPEC

*Attribute\_Definition:*

Species scientific name for the entire ESI data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SUBELEMENT

*Attribute\_Definition:*

Element subgroup delineating a logical grouping of species.

*Attribute\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 alligator  
*Enumerated\_Domain\_Value\_Definition:*  
 Alligator  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
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*Enumerated\_Domain\_Value:*  
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 Bird  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
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*Enumerated\_Domain\_Value\_Definition:*  
 Bivalve  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 crab  
*Enumerated\_Domain\_Value\_Definition:*  
 Crab  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 crayfish  
*Enumerated\_Domain\_Value\_Definition:*  
 Crayfish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 diadromous  
*Enumerated\_Domain\_Value\_Definition:*  
 Diadromous fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

diving

*Enumerated\_Domain\_Value\_Definition:*

Diving bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

e\_nursery

*Enumerated\_Domain\_Value\_Definition:*

Estuarine nursery fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

e\_resident

*Enumerated\_Domain\_Value\_Definition:*

Estuarine resident fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

fish

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

freshwater

*Enumerated\_Domain\_Value\_Definition:*

Freshwater fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

gull\_tern

*Enumerated\_Domain\_Value\_Definition:*

Gull or tern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

insect

*Enumerated\_Domain\_Value\_Definition:*

Insect

*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 invert  
*Enumerated\_Domain\_Value\_Definition:*  
 Invertebrate  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 m\_benthic  
*Enumerated\_Domain\_Value\_Definition:*  
 Marine benthic fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 m\_pelagic  
*Enumerated\_Domain\_Value\_Definition:*  
 Marine pelagic fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 manatee  
*Enumerated\_Domain\_Value\_Definition:*  
 Manatee  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 passerine  
*Enumerated\_Domain\_Value\_Definition:*  
 Passerine bird  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 pelagic  
*Enumerated\_Domain\_Value\_Definition:*  
 Pelagic bird  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*  
 pinniped  
*Enumerated\_Domain\_Value\_Definition:*  
 Pinniped  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 plant  
*Enumerated\_Domain\_Value\_Definition:*  
 Plant  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 raptor  
*Enumerated\_Domain\_Value\_Definition:*  
 Raptor  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 sav  
*Enumerated\_Domain\_Value\_Definition:*  
 Submerged aquatic vegetation  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 shorebird  
*Enumerated\_Domain\_Value\_Definition:*  
 Shorebird  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 shrimp  
*Enumerated\_Domain\_Value\_Definition:*  
 Shrimp  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 sm\_mammal  
*Enumerated\_Domain\_Value\_Definition:*  
 Small mammal

*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 snake

*Enumerated\_Domain\_Value\_Definition:*  
 Snake

*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 turtle

*Enumerated\_Domain\_Value\_Definition:*  
 Turtle

*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 ungulate

*Enumerated\_Domain\_Value\_Definition:*  
 Ungulate

*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 wading

*Enumerated\_Domain\_Value\_Definition:*  
 Wading bird

*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 waterfowl

*Enumerated\_Domain\_Value\_Definition:*  
 Waterfowl

*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 wetland

*Enumerated\_Domain\_Value\_Definition:*  
 Wetland

*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*



*Enumerated\_Domain\_Value:*  
whale  
*Enumerated\_Domain\_Value\_Definition:*  
Whale  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
NHP  
*Attribute\_Definition:*  
Natural Heritage Program global ranking.  
*Attribute\_Definition\_Source:*  
Network of Natural Heritage Program  
*Attribute\_Domain\_Values:*  
*Codeset\_Domain:*  
*Codeset\_Name:*  
NHP Global Conservation Status Rank  
*Codeset\_Source:*  
Natural Heritage Program

*Attribute:*

*Attribute\_Label:*  
DATE\_PUB  
*Attribute\_Definition:*  
Date of NHP listing.  
*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
YYYYMM  
*Enumerated\_Domain\_Value\_Definition:*  
YYYY for year and optionally MM for month  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
0  
*Enumerated\_Domain\_Value\_Definition:*  
Date unspecified  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
EL\_SPE  
*Attribute\_Definition:*  
Concatenation of ELEMENT and SPECIES\_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.  
*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

SEASONAL

*Entity\_Type\_Definition:*

The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Range\_Domain:*  
*Range\_Domain\_Minimum:*  
 1  
*Range\_Domain\_Maximum:*  
 N

*Attribute:*

*Attribute\_Label:*  
 JAN  
*Attribute\_Definition:*  
 January  
*Attribute\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 X  
*Enumerated\_Domain\_Value\_Definition:*  
 Present in January  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
 FEB  
*Attribute\_Definition:*  
 February  
*Attribute\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 X  
*Enumerated\_Domain\_Value\_Definition:*  
 Present in February  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
 MAR  
*Attribute\_Definition:*  
 March  
*Attribute\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 X  
*Enumerated\_Domain\_Value\_Definition:*  
 Present in March  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
APR  
*Attribute\_Definition:*  
April  
*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
X  
*Enumerated\_Domain\_Value\_Definition:*  
Present in April  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*  
*Attribute\_Label:*  
MAY  
*Attribute\_Definition:*  
May  
*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
X  
*Enumerated\_Domain\_Value\_Definition:*  
Present in May  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*  
*Attribute\_Label:*  
JUN  
*Attribute\_Definition:*  
June  
*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
X  
*Enumerated\_Domain\_Value\_Definition:*  
Present in June  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*  
*Attribute\_Label:*  
JUL  
*Attribute\_Definition:*  
July  
*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in July

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

AUG

*Attribute\_Definition:*

August

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in August

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SEP

*Attribute\_Definition:*

September

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in September

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

OCT

*Attribute\_Definition:*

October

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in October

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

NOV

*Attribute\_Definition:*

November

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in November

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

DEC

*Attribute\_Definition:*

December

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in December

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:*

*Entity\_Type\_Label:*

BREED

*Entity\_Type\_Definition:*

The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

MONTH

*Attribute\_Definition:*

Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

12

*Attribute:**Attribute\_Label:*

BREED1

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M\_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T\_MAMMAL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines



*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED2

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M\_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED3

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = interesting; if ELEMENT is "M\_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED4

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M\_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED5

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M\_MAMMAL, HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

STATUS

*Entity\_Type\_Definition:*

The data table STATUS identifies the species that are listed as either threatened or endangered by a state, federal, or international authority. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

STATE

*Attribute\_Definition:*

Two-letter state abbreviation.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

COUNTRY

*Attribute\_Definition:*

Three-letter country abbreviation.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

S

*Attribute\_Definition:*

State threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on state list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on state list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

F

*Attribute\_Definition:*

Federal threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

I

*Attribute\_Definition:*

International threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on international list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on international list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

S\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign state status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

F\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign federal status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

I\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign international status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE



*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

SOURCES

*Entity\_Type\_Definition:*

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SOURCE\_ID

*Attribute\_Definition:*

Source identifier that links records in the SOURCES data table to the items G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID and ESI\_SOURCE in the ESI, WETLANDS, and HYDRO data layers.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

ORIGINATOR

*Attribute\_Definition:*

Author or developer of source material or data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

DATE\_PUB

*Attribute\_Definition:*

Date of source material, publication, or date of personal communication with expert source.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

TITLE

*Attribute\_Definition:*

Title of source material or data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

DATA\_FORMAT

*Attribute\_Definition:*

The format of the source material.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

PUB\_PLACE

*Attribute\_Definition:*

Publication place.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

PUBLISHER

*Attribute\_Definition:*

Publisher.

*Attribute\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

PUBLICATION

*Attribute\_Definition:*

Additional citation information.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

ONLINE\_LINK

*Attribute\_Definition:*

Online computer resource URL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

SCALE

*Attribute\_Definition:*

Description of the source scale.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

TIME\_PERIOD

*Attribute\_Definition:*

Date(s) of data collection that the source material is based upon.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Overview\_Description:**Entity\_and\_Attribute\_Overview:*

In addition to the geographic data layers, six relational attribute or data tables (BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS) are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, REPTILES) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO\_LUT, or it can be linked directly using RARNUM. The ID is a unique

combination of the atlas number (for the North Carolina atlas, the number is 235), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described in the Detailed\_Description sections. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure. Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN\_SPEC, S, F, NHP, DATE\_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G\_SOURCE, S\_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables (described in the Detailed\_Description sections), except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED\_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed\_Description of the BREED data table. The link to the BIOFILE may be made through the BIO\_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED\_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED\_DT is the BREED item. A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G\_SOURCE and S\_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table and this data table is NOT described in a Detailed\_Description section.

*Entity\_and\_Attribute\_Detail\_Citation:*

A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines ([http://response.restoration.noaa.gov/esi\\_guidelines](http://response.restoration.noaa.gov/esi_guidelines)).

[Back To Index](#)

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*Distribution\_Information:*

*Distributor:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:*

John Kaperick

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Address:*

*Address\_Type:*

Physical Address

*Address:*  
7600 Sand Point Way N.E.

*City:*  
Seattle

*State\_or\_Province:*  
Washington

*Postal\_Code:*  
98115-6349

*Contact\_Voice\_Telephone:*  
(206) 526-6400

*Contact\_Facsimile\_Telephone:*  
(206) 526-6329

*Resource\_Description:*

Downloadable Data

*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

[Back To Index](#)

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*Metadata\_Reference\_Information:*

*Metadata\_Date:*  
20111015

*Metadata\_Review\_Date:*  
20111015

*Metadata\_Contact:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:*  
Jill Petersen

*Contact\_Organization:*  
NOAA, Office of Response and Restoration

*Contact\_Position:*  
GIS Manager

*Contact\_Address:*  
*Address\_Type:*  
Physical Address

*Address:*

7600 Sand Point Way, N.E.

*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6944

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Contact\_Electronic\_Mail\_Address:*

Jill.Petersen@noaa.gov

*Metadata\_Standard\_Name:*

Content Standards for Digital Geospatial Metadata

*Metadata\_Standard\_Version:*

FGDC-STD-001-1998

*Metadata\_Extensions:*

*Online\_Linkage:*

[http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile\\_v2.pdf](http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile_v2.pdf)

*Profile\_Name:*

Content Specification for Metadata in the National Coastal Data Development Center's  
Data Catalog Version 2.0

[Back To Index](#)

# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: M\_MAMMAL (Marine Mammal Polygons)

## Metadata:

- [Identification Information](#)
  - [Data Quality Information](#)
  - [Spatial Data Organization Information](#)
  - [Spatial Reference Information](#)
  - [Entity and Attribute Information](#)
  - [Distribution Information](#)
  - [Metadata Reference Information](#)
- 

### *Identification\_Information:*

#### *Citation:*

##### *Citation\_Information:*

###### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington.

###### *Originator:*

U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia.

###### *Originator:*

Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

###### *Publication\_Date:*

201107

###### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: M\_MAMMAL (Marine Mammal Polygons)

###### *Edition:*

Second

###### *Geospatial\_Data\_Presentation\_Form:*

vector digital data

###### *Series\_Information:*

###### *Series\_Name:*

None

###### *Issue\_Identification:*

North Carolina

###### *Publication\_Information:*

###### *Publication\_Place:*

Seattle, Washington

###### *Publisher:*

NOAA's Ocean Service, Office of Response and Restoration (OR&R), Emergency Response Division (ERD).

*Other\_Citation\_Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division, Seattle, Washington.

*Online\_Linkage:*

<http://response.restoration.noaa.gov/esi>

*Description:**Abstract:*

This data set contains sensitive biological resource data for whales, porpoises, dolphins, manatees, and pinnipeds in North Carolina. Vector polygons in this data set represent marine mammal distribution, concentration areas, and haul-out 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 North 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.

*Purpose:*

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

*Time\_Period\_of\_Content:**Time\_Period\_Information:**Range\_of\_Dates/Times:**Beginning\_Date:*

2009

*Ending\_Date:*

2010

*Currentness\_Reference:*

The data were compiled during 2010-2011. The currentness dates for the data range from 2009 to 2010 and are documented in the Lineage section.

*Status:**Progress:*

Complete

*Maintenance\_and\_Update\_Frequency:*

None Scheduled

*Spatial\_Domain:**Bounding\_Coordinates:**West\_Bounding\_Coordinate:*

-78.62500

*East\_Bounding\_Coordinate:*

-75.39900

*North\_Bounding\_Coordinate:*

36.62500

*South\_Bounding\_Coordinate:*

33.75000

*Keywords:**Theme:**Theme\_Keyword\_Thesaurus:*

ISO 19115 Topic Category

*Theme\_Keyword:*

biota



*Theme\_Keyword:*  
environment

*Theme:*

*Theme\_Keyword\_Thesaurus:*  
None

*Theme\_Keyword:*  
Environmental Monitoring

*Theme\_Keyword:*  
ESI

*Theme\_Keyword:*  
Sensitivity maps

*Theme\_Keyword:*  
Coastal resources

*Theme\_Keyword:*  
Oil spill planning

*Theme\_Keyword:*  
Coastal Zone Management

*Theme\_Keyword:*  
Wildlife

*Theme\_Keyword:*  
Marine Mammal

*Theme:*

*Theme\_Keyword\_Thesaurus:*  
NOS Data Explorer Topic Category

*Theme\_Keyword:*  
Environmental Monitoring

*Place:*

*Place\_Keyword\_Thesaurus:*  
None

*Place\_Keyword:*  
North Carolina

*Access\_Constraints:*

None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:*  
datafig.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

**JPEG***Browse\_Graphic:**Browse\_Graphic\_File\_Name:*

datafig2.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and desktop data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington; the U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia; and the Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 9.3) and SQL SERVER(R) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003). The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00, and wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio\_lut.e00, biofile.e00, biores.e00, breed.e00, breed\_dt.e00, seasonal.e00, soc\_dat.e00, soc\_lut.e00, sources.e00, species.e00, and status.e00.

*Program\_Affiliation:**Program\_Name:*

National Ocean Service Data Explorer

[Back To Index](#)

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*Data\_Quality\_Information:**Attribute\_Accuracy:**Attribute\_Accuracy\_Report:*

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary node, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new

ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resources at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

*Completeness\_Report:*

These data represent a synthesis of expert knowledge, available hardcopy documents, and survey data on marine mammal distribution and haul-out sites. These data do not necessarily represent all marine mammal occurrences in North Carolina. The following species are included in this data set: (Species\_ID, Common Name, Scientific Name [n/a if not applicable]): 2, Harbor seal, *Phoca vitulina*; 6, Harbor porpoise, *Phocoena phocoena*; 10, West Indian manatee, *Trichechus manatus*; 13, Humpback whale, *Megaptera novaeangliae*; 14, Gray seal, *Halichoerus grypus*; 17, Bottlenose dolphin, *Tursiops truncatus*; 18, Pygmy sperm whale, *Kogia breviceps*; 60, Short-beaked saddleback dolphin, *Delphinus delphis*; 81, North Atlantic right whale, *Eubalaena glacialis*; 82, Dwarf sperm whale, *Kogia simus*; 84, Hooded seal, *Cystophora cristata*; 85, Harp seal, *Pagophilus groenlandicus*; 86, Atlantic white-sided dolphin, *Lagenorhynchus acutus*; 100, Striped dolphin, *Stenella coeruleoalba*; 1002, Seals, n/a; 1006, Pilot whales, *Globicephala* spp..

*Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy\_Report:*

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources. See the Lineage and Process\_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

ADIMEY, NICOLE (U.S. FISH AND WILDLIFE SERVICE)

*Publication\_Date:*

2010

*Title:*

DISTRIBUTION AND ABUNDANCE OF WEST INDIAN  
MANATEE IN NORTH CAROLINA

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

## UNPUBLISHED

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2010

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Adimey 2010

*Source\_Contribution:*

M\_MAMMAL INFORMATION

*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*BAKER, MICHELLE (NATIONAL PARK SERVICE, CAPE  
HATTERAS NATIONAL SEASHORE)*Publication\_Date:*

2009

*Title:*

NATURAL RESOURCES AT CAPE HATTERAS

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Baker 2009

*Source\_Contribution:*

M\_MAMMAL INFORMATION

*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*HOHN, ALETA (NOAA, NATIONAL MARINE FISHERIES  
SERVICE)*Publication\_Date:*

2009

*Title:*DISTRIBUTION AND ABUNDANCE OF MARINE MAMMALS  
IN NORTH CAROLINA

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Hohn 2009

*Source\_Contribution:*

M\_MAMMAL INFORMATION

*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*MCLELLAN, WILLIAM (UNIVERSITY OF NORTH  
CAROLINA - WILMINGTON)*Publication\_Date:*

2009

*Title:*DISTRIBUTION AND SEASONALITY DATA FOR MARINE  
MAMMALS IN NORTH CAROLINA*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

McLellan 2009

*Source\_Contribution:*

M\_MAMMAL INFORMATION

*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*RIKARD, MICHAEL (NATIONAL PARK SERVICE, CAPE  
LOOKOUT NATIONAL SEASHORE)*Publication\_Date:*

2009

*Title:*

CAPE LOOKOUT RESOURCES

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Rikard 2009

*Source\_Contribution:*

M\_MAMMAL INFORMATION

*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*

THAYER, VICKY (NORTH CAROLINA STATE UNIVERSITY)

*Publication\_Date:*

2009

*Title:*DISTRIBUTION AND SEASONALITY DATA FOR MARINE  
MAMMALS IN NORTH CAROLINA*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Thayer 2009

*Source\_Contribution:*

M\_MAMMAL INFORMATION

*Process\_Step:**Process\_Description:*

Two main sources of data were used to depict marine mammal distribution and seasonality for this data layer: (1) personal interviews with resource experts from the National Oceanic and Atmospheric Administration (NOAA), National

Marine Fisheries Service, U.S. Fish and Wildlife Service, National Park Service - Cape Hatteras National Seashore, and University of North Carolina - Wilmington and (2) numerous published and unpublished reports. The above digital and/or hardcopy sources were compiled by the project biologist to create the M\_MAMMAL 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; and/or (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 compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews are conducted to review the maps. If necessary, edits to the M\_MAMMAL data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:*

201107

*Process\_Contact:*

*Contact\_Information:*

*Contact\_Organization\_Primary:*

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Person:*

Jill Petersen

*Contact\_Address:*

*Address\_Type:*

Physical address

*Address:*

7600 Sand Point Way, N.E.

*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6944

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Contact\_Electronic\_Mail\_Address:*

Jill.Petersen@noaa.gov

[Back To Index](#)

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*Spatial\_Data\_Organization\_Information:*

*Direct\_Spatial\_Reference\_Method:*

Vector

*Point\_and\_Vector\_Object\_Information:*

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:*

GT-polygon composed of chains

*Point\_and\_Vector\_Object\_Count:*  
2489

*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
Area point

*Point\_and\_Vector\_Object\_Count:*  
2490

*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
Complete chain

*Point\_and\_Vector\_Object\_Count:*  
4253

*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
Link

*Point\_and\_Vector\_Object\_Count:*  
866624

*SDTS\_Terms\_Description:*  
*SDTS\_Point\_and\_Vector\_Object\_Type:*  
Node,planar graph

*Point\_and\_Vector\_Object\_Count:*  
4199

[Back To Index](#)

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*Spatial\_Reference\_Information:*

*Horizontal\_Coordinate\_System\_Definition:*

*Geographic:*

*Latitude\_Resolution:*  
0.0000001

*Longitude\_Resolution:*  
0.0000001

*Geographic\_Coordinate\_Units:*  
Decimal degrees

*Geodetic\_Model:*

*Horizontal\_Datum\_Name:*  
North American Datum of 1983

*Ellipsoid\_Name:*  
Geodetic Reference System 80

*Semi-major\_Axis:*  
6378137.000000

*Denominator\_of\_Flattening\_Ratio:*  
298.257222

[Back To Index](#)

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*Entity\_and\_Attribute\_Information:*

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*  
M\_MAMMAL.PAT

*Entity\_Type\_Definition:*

The M\_MAMMAL.PAT table contains attribute information for the vector polygons in this data set representing marine mammal distribution, concentration



areas, and haul-out sites. Note that all attribute information is stored in a series of relational files, described below and in the Overview\_Description section. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (235), element number (4), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*  
NOAA

*Attribute\_Domain\_Values:*  
*Range\_Domain:*

*Range\_Domain\_Minimum:*  
2350400002

*Range\_Domain\_Maximum:*  
2350402430

*Attribute:*

*Attribute\_Label:*  
RARNUM

*Attribute\_Definition:*

An identifier that links directly to the BIORES table or the flat format BIOFILE table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*  
NOAA

*Attribute\_Domain\_Values:*  
*Range\_Domain:*

*Range\_Domain\_Minimum:*  
235000742

*Range\_Domain\_Maximum:*  
235000759

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*  
BIO\_LUT

*Entity\_Type\_Definition:*

The data table BIO\_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below and in the Overview\_Description section. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

RARNUM

*Attribute\_Definition:*

An identifier that links records in the BIO\_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

235000001

*Range\_Domain\_Maximum:*

235000925

*Attribute:**Attribute\_Label:*

ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (235), element number (4), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

2350000002

*Range\_Domain\_Maximum:*

2350001183

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

BIORES

*Entity\_Type\_Definition:*

The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO\_LUT data table to other associated data tables. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

RARNUM

*Attribute\_Definition:*

An identifier that links records in the BIORES data table to records in the BIO\_LUT data table or the flat format BIOFILE data table.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:*

*Range\_Domain\_Minimum:*

235000001

*Range\_Domain\_Maximum:*

235000925

*Attribute:*

*Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

CONC

*Attribute\_Definition:*

The field CONC refers to "concentration," abundance, or density values, and may contain counts of a species at a particular location. No quantitative concentration information was available for marine mammals, so the CONC field may contain descriptive terms for the presence of a species, such as "COMMON", "HIGH", "LOW", or "OCCASIONAL ". If no concentration information was available from any source, the field was populated with "-".

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

G\_SOURCE

*Attribute\_Definition:*

Geographic source identifier that links records in the BIORES data table to

records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

S\_SOURCE

*Attribute\_Definition:*

Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

SPECIES

*Entity\_Type\_Definition:*

The data table SPECIES identifies all species in the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness\_Report for a list of layer-specific species.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

NAME

*Attribute\_Definition:*

Species common name for the entire ESI data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

GEN\_SPEC

*Attribute\_Definition:*

Species scientific name for the entire ESI data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SUBELEMENT

*Attribute\_Definition:*

Element subgroup delineating a logical grouping of species.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

alligator

*Enumerated\_Domain\_Value\_Definition:*

Alligator

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

bird

*Enumerated\_Domain\_Value\_Definition:*

Bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

bivalve

*Enumerated\_Domain\_Value\_Definition:*



Bivalve  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 crab  
*Enumerated\_Domain\_Value\_Definition:*  
 Crab  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 crayfish  
*Enumerated\_Domain\_Value\_Definition:*  
 Crayfish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 diadromous  
*Enumerated\_Domain\_Value\_Definition:*  
 Diadromous fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 diving  
*Enumerated\_Domain\_Value\_Definition:*  
 Diving bird  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 e\_nursery  
*Enumerated\_Domain\_Value\_Definition:*  
 Estuarine nursery fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 e\_resident  
*Enumerated\_Domain\_Value\_Definition:*  
 Estuarine resident fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

fish

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

freshwater

*Enumerated\_Domain\_Value\_Definition:*

Freshwater fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

gull\_tern

*Enumerated\_Domain\_Value\_Definition:*

Gull or tern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

insect

*Enumerated\_Domain\_Value\_Definition:*

Insect

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

invert

*Enumerated\_Domain\_Value\_Definition:*

Invertebrate

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

m\_benthic

*Enumerated\_Domain\_Value\_Definition:*

Marine benthic fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

m\_pelagic

*Enumerated\_Domain\_Value\_Definition:*

Marine pelagic fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 manatee  
*Enumerated\_Domain\_Value\_Definition:*  
 Manatee  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 passerine  
*Enumerated\_Domain\_Value\_Definition:*  
 Passerine bird  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 pelagic  
*Enumerated\_Domain\_Value\_Definition:*  
 Pelagic bird  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 pinniped  
*Enumerated\_Domain\_Value\_Definition:*  
 Pinniped  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 plant  
*Enumerated\_Domain\_Value\_Definition:*  
 Plant  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 raptor  
*Enumerated\_Domain\_Value\_Definition:*  
 Raptor  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

sav

*Enumerated\_Domain\_Value\_Definition:*

Submerged aquatic vegetation

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

shorebird

*Enumerated\_Domain\_Value\_Definition:*

Shorebird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

shrimp

*Enumerated\_Domain\_Value\_Definition:*

Shrimp

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

sm\_mammal

*Enumerated\_Domain\_Value\_Definition:*

Small mammal

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

snake

*Enumerated\_Domain\_Value\_Definition:*

Snake

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

turtle

*Enumerated\_Domain\_Value\_Definition:*

Turtle

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

ungulate

*Enumerated\_Domain\_Value\_Definition:*

Ungulate

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

wading

*Enumerated\_Domain\_Value\_Definition:*

Wading bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

waterfowl

*Enumerated\_Domain\_Value\_Definition:*

Waterfowl

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

wetland

*Enumerated\_Domain\_Value\_Definition:*

Wetland

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

whale

*Enumerated\_Domain\_Value\_Definition:*

Whale

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

NHP

*Attribute\_Definition:*

Natural Heritage Program global ranking.

*Attribute\_Definition\_Source:*

Network of Natural Heritage Program

*Attribute\_Domain\_Values:*

*Codeset\_Domain:*

*Codeset\_Name:*

NHP Global Conservation Status Rank

*Codeset\_Source:*

Natural Heritage Program

*Attribute:*

*Attribute\_Label:*

DATE\_PUB

*Attribute\_Definition:*

Date of NHP listing.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

0

*Enumerated\_Domain\_Value\_Definition:*

Date unspecified

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

SEASONAL

*Entity\_Type\_Definition:*

The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

JAN

*Attribute\_Definition:*

January

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in January

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*



FEB

*Attribute\_Definition:*

February

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in February

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

MAR

*Attribute\_Definition:*

March

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in March

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

APR

*Attribute\_Definition:*

April

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in April

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

MAY

*Attribute\_Definition:*

May

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in May

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

JUN

*Attribute\_Definition:*

June

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in June

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

JUL

*Attribute\_Definition:*

July

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in July

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

AUG

*Attribute\_Definition:*

August

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in August

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SEP

*Attribute\_Definition:*

September

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in September

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

OCT

*Attribute\_Definition:*

October

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in October

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

NOV

*Attribute\_Definition:*

November

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in November

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

DEC

*Attribute\_Definition:*

December

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in December

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the SEASONAL data table to records in the BIoRES and BREED data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

BREED

*Entity\_Type\_Definition:*

The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BREED data table to records in the BIoRES and SEASONAL data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g.

ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1;  
EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

MONTH

*Attribute\_Definition:*

Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

12

*Attribute:*

*Attribute\_Label:*

BREED1

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M\_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T\_MAMMAL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED2

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M\_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED3

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = interesting; if ELEMENT is "M\_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

BREED4

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M\_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED5

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M\_MAMMAL, HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

STATUS

*Entity\_Type\_Definition:*

The data table STATUS identifies the species that are listed as either threatened or endangered by a state, federal, or international authority. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*



Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

STATE

*Attribute\_Definition:*

Two-letter state abbreviation.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

COUNTRY

*Attribute\_Definition:*

Three-letter country abbreviation.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

S

*Attribute\_Definition:*

State threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on state list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on state list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

F

*Attribute\_Definition:*

Federal threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

I

*Attribute\_Definition:*

International threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on international list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on international list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

S\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign state status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

F\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign federal status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

I\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign international status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

SOURCES

*Entity\_Type\_Definition:*

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the

ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SOURCE\_ID

*Attribute\_Definition:*

Source identifier that links records in the SOURCES data table to the items G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID and ESI\_SOURCE in the ESI, WETLANDS, and HYDRO data layers.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

ORIGINATOR

*Attribute\_Definition:*

Author or developer of source material or data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

DATE\_PUB

*Attribute\_Definition:*

Date of source material, publication, or date of personal communication with expert source.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

TITLE

*Attribute\_Definition:*

Title of source material or data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

DATA\_FORMAT

*Attribute\_Definition:*

The format of the source material.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUB\_PLACE

*Attribute\_Definition:*

Publication place.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUBLISHER

*Attribute\_Definition:*

Publisher.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUBLICATION

*Attribute\_Definition:*

Additional citation information.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

ONLINE\_LINK

*Attribute\_Definition:*

Online computer resource URL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

SCALE

*Attribute\_Definition:*

Description of the source scale.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

TIME\_PERIOD

*Attribute\_Definition:*

Date(s) of data collection that the source material is based upon.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Overview\_Description:*

*Entity\_and\_Attribute\_Overview:*

In addition to the geographic data layers, six relational attribute or data tables (BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS) are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, M\_MAMMAL) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO\_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the North Carolina atlas, the number is 235), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described in the Detailed\_Description sections. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure. Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN\_SPEC, S, F, NHP, DATE\_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G\_SOURCE, S\_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables (described in the Detailed\_Description sections), except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED\_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed\_Description of the BREED data table. The link to the BIOFILE may be made through the BIO\_LUT,



using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED\_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED\_DT is the BREED item. A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G\_SOURCE and S\_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table and this data table is NOT described in a Detailed\_Description section.

*Entity\_and\_Attribute\_Detail\_Citation:*

A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines ([http://response.restoration.noaa.gov/esi\\_guidelines](http://response.restoration.noaa.gov/esi_guidelines)).

[Back To Index](#)

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*Distribution\_Information:*

*Distributor:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:*

John Kaperick

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Address:*

*Address\_Type:*

Physical Address

*Address:*

7600 Sand Point Way N.E.

*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6400

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Resource\_Description:*

Downloadable Data

*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

[Back To Index](#)

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*Metadata\_Reference\_Information:*

*Metadata\_Date:*

20111015

*Metadata\_Review\_Date:*

20111015

*Metadata\_Contact:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:*

Jill Petersen

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Position:*

GIS Manager

*Contact\_Address:*

*Address\_Type:*

Physical Address

*Address:*

7600 Sand Point Way, N.E.

*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6944

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Contact\_Electronic\_Mail\_Address:*

Jill.Petersen@noaa.gov

*Metadata\_Standard\_Name:*

Content Standards for Digital Geospatial Metadata

*Metadata\_Standard\_Version:*

FGDC-STD-001-1998

*Metadata\_Extensions:*

*Online\_Linkage:*

[http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile\\_v2.pdf](http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile_v2.pdf)

*Profile\_Name:*

Content Specification for Metadata in the National Coastal Data Development Center's Data Catalog Version 2.0

# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: T\_MAMMAL (Terrestrial Mammal Polygons)

## Metadata:

- [Identification Information](#)
- [Data Quality Information](#)
- [Spatial Data Organization Information](#)
- [Spatial Reference Information](#)
- [Entity and Attribute Information](#)
- [Distribution Information](#)
- [Metadata Reference Information](#)

### *Identification\_Information:*

#### *Citation:*

##### *Citation\_Information:*

##### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington.

##### *Originator:*

U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia.

##### *Originator:*

Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

##### *Publication\_Date:*

201107

##### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: T\_MAMMAL (Terrestrial Mammal Polygons)

##### *Edition:*

Second

##### *Geospatial\_Data\_Presentation\_Form:*

vector digital data

##### *Series\_Information:*

##### *Series\_Name:*

None

##### *Issue\_Identification:*

North Carolina

##### *Publication\_Information:*

##### *Publication\_Place:*

Seattle, Washington

##### *Publisher:*

NOAA's Ocean Service, Office of Response and Restoration (OR&R), Emergency Response Division (ERD).

*Other\_Citation\_Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division, Seattle, Washington.

*Online\_Linkage:*

<http://response.restoration.noaa.gov/esi>

*Description:**Abstract:*

This data set contains sensitive biological resource data for terrestrial mammals in North Carolina. Vector polygons in this data set represent terrestrial mammal distribution. 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 North 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.

*Purpose:*

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

*Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2009

*Currentness\_Reference:*

The data were compiled during 2010-2011. The currentness date for the data is 2009 and is documented in the Lineage section.

*Status:**Progress:*

Complete

*Maintenance\_and\_Update\_Frequency:*

None Scheduled

*Spatial\_Domain:**Bounding\_Coordinates:**West\_Bounding\_Coordinate:*

-78.62500

*East\_Bounding\_Coordinate:*

-75.39900

*North\_Bounding\_Coordinate:*

36.62500

*South\_Bounding\_Coordinate:*

33.75000

*Keywords:**Theme:**Theme\_Keyword\_Thesaurus:*

ISO 19115 Topic Category

*Theme\_Keyword:*

biota

*Theme\_Keyword:*

environment

*Theme:*

*Theme\_Keyword\_Thesaurus:*

None

*Theme\_Keyword:*

Environmental Monitoring

*Theme\_Keyword:*

ESI

*Theme\_Keyword:*

Sensitivity maps

*Theme\_Keyword:*

Coastal resources

*Theme\_Keyword:*

Oil spill planning

*Theme\_Keyword:*

Coastal Zone Management

*Theme\_Keyword:*

Wildlife

*Theme\_Keyword:*

Terrestrial Mammal

*Theme:**Theme\_Keyword\_Thesaurus:*

NOS Data Explorer Topic Category

*Theme\_Keyword:*

Environmental Monitoring

*Place:**Place\_Keyword\_Thesaurus:*

None

*Place\_Keyword:*

North Carolina

*Access\_Constraints:*

None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:**Browse\_Graphic\_File\_Name:*

datafig.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Browse\_Graphic:**Browse\_Graphic\_File\_Name:*

datafig2.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and desktop data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington; the U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia; and the Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 9.3) and SQL SERVER(R) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003). The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00, and wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio\_lut.e00, biofile.e00, biores.e00, breed.e00, breed\_dt.e00, seasonal.e00, soc\_dat.e00, soc\_lut.e00, sources.e00, species.e00, and status.e00.

*Program\_Affiliation:*

*Program\_Name:*

National Ocean Service Data Explorer

[Back To Index](#)

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*Data\_Quality\_Information:*

*Attribute\_Accuracy:*

*Attribute\_Accuracy\_Report:*

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD/DVD and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is

added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

*Completeness\_Report:*

These data represent a synthesis of expert knowledge and digital data on terrestrial mammal distribution. These data do not necessarily represent all terrestrial mammal occurrences in North Carolina. The following species are included in this data set: (Species\_ID, Common Name, Scientific Name [n/a if not applicable]): 8, Northern river otter, *Lontra canadensis*; 37, Muskrat, *Ondatra zibethicus*; 38, Mink, *Mustela vison*; 274, Buxton Woods white-footed deer mouse, *Peromyscus leucopus buxtoni*; 275, Horse, *Equus caballus*.

*Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy\_Report:*

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources. See the Lineage and Process\_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

BAKER, MICHELLE (NATIONAL PARK SERVICE, CAPE HATTERAS NATIONAL SEASHORE)

*Publication\_Date:*

2009

*Title:*

NATURAL RESOURCES AT CAPE HATTERAS

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Baker 2009

*Source\_Contribution:*

T\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

FRINGELI, J. (U.S. FISH & WILDLIFE SERVICE)

*Publication\_Date:*

2009

*Title:*

MATTAMUSKEET NATIONAL WILDLIFE REFUGE  
RESOURCES

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Fringeli 2009

*Source\_Contribution:*

T\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

HOFF, MIKE (U.S. FISH & WILDLIFE SERVICE)

*Publication\_Date:*

2009

*Title:*

CURRITUCK AND MACKAY ISLAND NATIONAL WILDLIFE  
REFUGE SPECIES AND HUMAN-USE RESOURCES  
DISTRIBUTION

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*



*Calendar\_Date:*  
2009

*Source\_Currentness\_Reference:*  
DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*  
Hoff 2009

*Source\_Contribution:*  
T\_MAMMAL INFORMATION

*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
NORTH CAROLINA NATURAL HERITAGE PROGRAM (NC  
NHP)

*Publication\_Date:*  
2009

*Title:*  
NC NHP ELEMENT OCCURRENCES

*Geospatial\_Data\_Presentation\_Form:*  
vector digital data

*Publication\_Information:*  
*Publication\_Place:*  
RALEIGH, NC

*Publisher:*  
NORTH CAROLINA NATURAL HERITAGE PROGRAM

*Type\_of\_Source\_Media:*  
EMAIL

*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:*  
2009

*Source\_Currentness\_Reference:*  
DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*  
NC NHP 2009

*Source\_Contribution:*  
T\_MAMMAL INFORMATION

*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
RIKARD, MICHAEL (NATIONAL PARK SERVICE, CAPE  
LOOKOUT NATIONAL SEASHORE)

*Publication\_Date:*  
2009

*Title:*  
CAPE LOOKOUT RESOURCES

*Geospatial\_Data\_Presentation\_Form:*  
EXPERT KNOWLEDGE

*Other\_Citation\_Details:*  
UNPUBLISHED

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Rikard 2009

*Source\_Contribution:*

T\_MAMMAL INFORMATION

*Process\_Step:**Process\_Description:*

Two main sources of data were used to depict terrestrial mammal distribution and seasonality for this data layer: (1) personal interviews with resource experts from U.S. Fish and Wildlife Service (USFWS) and National Park Service (NPS) and (2) digital data provided by the North Carolina Natural Heritage Program (NC NHP). The above digital and/or hardcopy sources were compiled by the project biologist to create the T\_MAMMAL 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; and/or (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 compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews are conducted to review the maps. If necessary, edits to the T\_MAMMAL data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:*

201107

*Process\_Contact:**Contact\_Information:**Contact\_Organization\_Primary:**Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Person:*

Jill Petersen

*Contact\_Address:**Address\_Type:*

Physical address

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7600 Sand Point Way, N.E.

*City:*

Seattle

*State\_or\_Province:*

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*Postal\_Code:*

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*Contact\_Voice\_Telephone:*

(206) 526-6944

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Contact\_Electronic\_Mail\_Address:*

Jill.Petersen@noaa.gov

[Back To Index](#)

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*Spatial\_Data\_Organization\_Information:**Direct\_Spatial\_Reference\_Method:*

Vector

*Point\_and\_Vector\_Object\_Information:**SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

GT-polygon composed of chains

*Point\_and\_Vector\_Object\_Count:*

590

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Area point

*Point\_and\_Vector\_Object\_Count:*

591

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Complete chain

*Point\_and\_Vector\_Object\_Count:*

1884

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Link

*Point\_and\_Vector\_Object\_Count:*

96117

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Node,planar graph

*Point\_and\_Vector\_Object\_Count:*

1868

[Back To Index](#)

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*Spatial\_Reference\_Information:**Horizontal\_Coordinate\_System\_Definition:**Geographic:**Latitude\_Resolution:*

0.0000001

*Longitude\_Resolution:*

0.0000001

*Geographic\_Coordinate\_Units:*

Decimal degrees

*Geodetic\_Model:**Horizontal\_Datum\_Name:*

North American Datum of 1983

*Ellipsoid\_Name:*  
Geodetic Reference System 80  
*Semi-major\_Axis:*  
6378137.000000  
*Denominator\_of\_Flattening\_Ratio:*  
298.257222

[Back To Index](#)

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*Entity\_and\_Attribute\_Information:*

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*  
T\_MAMMAL.PAT

*Entity\_Type\_Definition:*

The T\_MAMMAL.PAT table contains attribute information for the vector polygons in this data set representing terrestrial mammal distribution. Note that all attribute information is stored in a series of relational files, described below and in the Overview\_Description section. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (235), element number (9), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*  
2350900002

*Range\_Domain\_Maximum:*  
2350901183

*Attribute:*

*Attribute\_Label:*

RARNUM

*Attribute\_Definition:*

An identifier that links directly to the BIORES table or the flat format BIOFILE table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*  
235000920

*Range\_Domain\_Maximum:*

235000925

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

BIO\_LUT

*Entity\_Type\_Definition:*

The data table BIO\_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below and in the Overview\_Description section. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

RARNUM

*Attribute\_Definition:*

An identifier that links records in the BIO\_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

235000001

*Range\_Domain\_Maximum:*

235000925

*Attribute:**Attribute\_Label:*

ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (235), element number (9), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

2350000002

*Range\_Domain\_Maximum:*

2350001183

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

BIORES

*Entity\_Type\_Definition:*

The data table BIORES contains both biological attribute data and items

necessary for linking vector objects in the biological data layers via the BIO\_LUT data table to other associated data tables. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
RARNUM

*Attribute\_Definition:*  
An identifier that links records in the BIORES data table to records in the BIO\_LUT data table or the flat format BIOFILE data table.

*Attribute\_Definition\_Source:*  
NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*  
235000001

*Range\_Domain\_Maximum:*  
235000925

*Attribute:*

*Attribute\_Label:*  
SPECIES\_ID

*Attribute\_Definition:*  
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*  
1

*Range\_Domain\_Maximum:*  
N

*Attribute:*

*Attribute\_Label:*  
CONC

*Attribute\_Definition:*  
The field CONC refers to "concentration," abundance, or density values. No quantitative or qualitative concentration information was available for terrestrial mammals, so the field was populated with "-".

*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*  
SEASON\_ID

*Attribute\_Definition:*  
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

G\_SOURCE

*Attribute\_Definition:*

Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

S\_SOURCE

*Attribute\_Definition:*

Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the



BIORES data table to records in the SPECIES and STATUS data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

SPECIES

*Entity\_Type\_Definition:*

The data table SPECIES identifies all species in the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness\_Report for a list of layer-specific species.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

NAME

*Attribute\_Definition:*

Species common name for the entire ESI data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

GEN\_SPEC

*Attribute\_Definition:*

Species scientific name for the entire ESI data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

## HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SUBELEMENT

*Attribute\_Definition:*

Element subgroup delineating a logical grouping of species.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

alligator

*Enumerated\_Domain\_Value\_Definition:*

Alligator

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

bird

*Enumerated\_Domain\_Value\_Definition:*

Bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

bivalve

*Enumerated\_Domain\_Value\_Definition:*

Bivalve

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

crab

*Enumerated\_Domain\_Value\_Definition:*

Crab

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

crayfish

*Enumerated\_Domain\_Value\_Definition:*

Crayfish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

diadromous

*Enumerated\_Domain\_Value\_Definition:*

Diadromous fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

diving

*Enumerated\_Domain\_Value\_Definition:*

Diving bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

e\_nursery

*Enumerated\_Domain\_Value\_Definition:*

Estuarine nursery fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

e\_resident

*Enumerated\_Domain\_Value\_Definition:*

Estuarine resident fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

fish

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

freshwater

*Enumerated\_Domain\_Value\_Definition:*

Freshwater fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

gull\_tern

*Enumerated\_Domain\_Value\_Definition:*

Gull or tern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

insect

*Enumerated\_Domain\_Value\_Definition:*

Insect

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

invert

*Enumerated\_Domain\_Value\_Definition:*

Invertebrate

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

m\_benthic

*Enumerated\_Domain\_Value\_Definition:*

Marine benthic fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

m\_pelagic

*Enumerated\_Domain\_Value\_Definition:*

Marine pelagic fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

manatee

*Enumerated\_Domain\_Value\_Definition:*

Manatee

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

passerine

*Enumerated\_Domain\_Value\_Definition:*

Passerine bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

pelagic

*Enumerated\_Domain\_Value\_Definition:*

Pelagic bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

pinniped

*Enumerated\_Domain\_Value\_Definition:*

Pinniped

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

plant

*Enumerated\_Domain\_Value\_Definition:*

Plant

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

raptor

*Enumerated\_Domain\_Value\_Definition:*

Raptor

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

sav

*Enumerated\_Domain\_Value\_Definition:*

Submerged aquatic vegetation

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

shorebird

*Enumerated\_Domain\_Value\_Definition:*

Shorebird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

shrimp

*Enumerated\_Domain\_Value\_Definition:*

Shrimp

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

sm\_mammal

*Enumerated\_Domain\_Value\_Definition:*

Small mammal

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

snake

*Enumerated\_Domain\_Value\_Definition:*

Snake

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

turtle

*Enumerated\_Domain\_Value\_Definition:*

Turtle

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

ungulate

*Enumerated\_Domain\_Value\_Definition:*

Ungulate

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

wading

*Enumerated\_Domain\_Value\_Definition:*

Wading bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

waterfowl

*Enumerated\_Domain\_Value\_Definition:*

Waterfowl

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

wetland

*Enumerated\_Domain\_Value\_Definition:*

Wetland

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

whale

*Enumerated\_Domain\_Value\_Definition:*

Whale

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

NHP

*Attribute\_Definition:*



Natural Heritage Program global ranking.

*Attribute\_Definition\_Source:*

Network of Natural Heritage Program

*Attribute\_Domain\_Values:*

*Codeset\_Domain:*

*Codeset\_Name:*

NHP Global Conservation Status Rank

*Codeset\_Source:*

Natural Heritage Program

*Attribute:*

*Attribute\_Label:*

DATE\_PUB

*Attribute\_Definition:*

Date of NHP listing.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

0

*Enumerated\_Domain\_Value\_Definition:*

Date unspecified

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

SEASONAL

*Entity\_Type\_Definition:*

The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

JAN

*Attribute\_Definition:*

January

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in January

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

FEB

*Attribute\_Definition:*

February

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in February

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

MAR

*Attribute\_Definition:*

March

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in March

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

APR

*Attribute\_Definition:*

April

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in April

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

MAY

*Attribute\_Definition:*

May

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in May

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

JUN

*Attribute\_Definition:*

June

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in June

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

JUL

*Attribute\_Definition:*

July

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in July

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

AUG

*Attribute\_Definition:*

August

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in August

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SEP

*Attribute\_Definition:*

September

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in September

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

OCT

*Attribute\_Definition:*

October

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in October

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

NOV

*Attribute\_Definition:*

November

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in November

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

DEC

*Attribute\_Definition:*

December

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in December

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g.

ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1;

EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

BREED

*Entity\_Type\_Definition:*

The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BREED data table to records in the BIoRES and SEASONAL data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

MONTH

*Attribute\_Definition:*

Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

12

*Attribute:**Attribute\_Label:*

BREED1

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M\_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T\_MAMMAL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:*



*Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

BREED2

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M\_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

BREED3

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = interesting; if ELEMENT is "M\_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED4

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M\_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED5

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M\_MAMMAL, HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

## STATUS

*Entity\_Type\_Definition:*

The data table STATUS identifies the species that are listed as either threatened or endangered by a state, federal, or international authority. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

STATE

*Attribute\_Definition:*

Two-letter state abbreviation.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

COUNTRY

*Attribute\_Definition:*

Three-letter country abbreviation.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

S

*Attribute\_Definition:*

State threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on state list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on state list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

F

*Attribute\_Definition:*

Federal threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

I

*Attribute\_Definition:*

International threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on international list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on international list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

S\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign state status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

F\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign federal status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

I\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign international status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*



Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*

SOURCES

*Entity\_Type\_Definition:*

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

SOURCE\_ID

*Attribute\_Definition:*

Source identifier that links records in the SOURCES data table to the items G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID and ESI\_SOURCE in the ESI, WETLANDS, and HYDRO data layers.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*

ORIGINATOR

*Attribute\_Definition:*

Author or developer of source material or data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

DATE\_PUB

*Attribute\_Definition:*

Date of source material, publication, or date of personal communication with expert source.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

TITLE

*Attribute\_Definition:*

Title of source material or data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

DATA\_FORMAT

*Attribute\_Definition:*

The format of the source material.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUB\_PLACE

*Attribute\_Definition:*

Publication place.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUBLISHER

*Attribute\_Definition:*

Publisher.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUBLICATION

*Attribute\_Definition:*

Additional citation information.

*Attribute\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

ONLINE\_LINK

*Attribute\_Definition:*

Online computer resource URL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

SCALE

*Attribute\_Definition:*

Description of the source scale.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

TIME\_PERIOD

*Attribute\_Definition:*

Date(s) of data collection that the source material is based upon.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Overview\_Description:**Entity\_and\_Attribute\_Overview:*

In addition to the geographic data layers, six relational attribute or data tables (BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS) are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, T\_MAMMAL) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO\_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the North Carolina atlas, the number is 235), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described in the Detailed\_Description sections. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure. Due to the complexity of the relational database model, the data

items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN\_SPEC, S, F, NHP, DATE\_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G\_SOURCE, S\_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables (described in the Detailed\_Description sections), except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED\_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed\_Description of the BREED data table. The link to the BIOFILE may be made through the BIO\_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED\_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED\_DT is the BREED item. A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G\_SOURCE and S\_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table and this data table is NOT described in a Detailed\_Description section.

*Entity\_and\_Attribute\_Detail\_Citation:*

A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines ([http://response.restoration.noaa.gov/esi\\_guidelines](http://response.restoration.noaa.gov/esi_guidelines)).

[Back To Index](#)

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*Distribution\_Information:*

*Distributor:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:*

John Kaperick

*Contact\_Organization:*

NOAA, Office of Response and Restoration

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*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6400

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Resource\_Description:*

Downloadable Data

*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

[Back To Index](#)*Metadata\_Reference\_Information:**Metadata\_Date:*

20111015

*Metadata\_Review\_Date:*

20111015

*Metadata\_Contact:**Contact\_Information:**Contact\_Person\_Primary:**Contact\_Person:*

Jill Petersen

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Position:*

GIS Manager

*Contact\_Address:**Address\_Type:*

Physical Address

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*State\_or\_Province:*

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*Contact\_Electronic\_Mail\_Address:*

Jill.Petersen@noaa.gov

*Metadata\_Standard\_Name:*

Content Standards for Digital Geospatial Metadata

*Metadata\_Standard\_Version:*

FGDC-STD-001-1998

*Metadata\_Extensions:*

*Online\_Linkage:*

[http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile\\_v2.pdf](http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile_v2.pdf)

*Profile\_Name:*

Content Specification for Metadata in the National Coastal Data Development Center's  
Data Catalog Version 2.0

[Back To Index](#)

# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: HABITATS (Habitat Polygons)

## Metadata:

- [Identification Information](#)
- [Data Quality Information](#)
- [Spatial Data Organization Information](#)
- [Spatial Reference Information](#)
- [Entity and Attribute Information](#)
- [Distribution Information](#)
- [Metadata Reference Information](#)

### *Identification\_Information:*

#### *Citation:*

##### *Citation\_Information:*

##### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington.

##### *Originator:*

U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia.

##### *Originator:*

Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

##### *Publication\_Date:*

201107

##### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: North Carolina: HABITATS (Habitat Polygons)

##### *Edition:*

Second

##### *Geospatial\_Data\_Presentation\_Form:*

vector digital data

##### *Series\_Information:*

##### *Series\_Name:*

None

##### *Issue\_Identification:*

North Carolina

##### *Publication\_Information:*

##### *Publication\_Place:*

Seattle, Washington

##### *Publisher:*

NOAA's Ocean Service, Office of Response and Restoration (OR&R), Emergency Response Division (ERD).

*Other\_Citation\_Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division, Seattle, Washington.

*Online\_Linkage:*

<http://response.restoration.noaa.gov/esi>

*Description:**Abstract:*

This data set contains sensitive biological resource data for submerged aquatic vegetation (SAV) and rare plants in North Carolina. Vector polygons in the data set represent the SAV and rare plants. 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 North 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.

*Purpose:*

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

*Time\_Period\_of\_Content:**Time\_Period\_Information:**Range\_of\_Dates/Times:**Beginning\_Date:*

1981

*Ending\_Date:*

2009

*Currentness\_Reference:*

The data were compiled during 2010-2011. The currentness dates for the data range from 1981 to 2009 and are documented in the Lineage section.

*Status:**Progress:*

Complete

*Maintenance\_and\_Update\_Frequency:*

None Scheduled

*Spatial\_Domain:**Bounding\_Coordinates:**West\_Bounding\_Coordinate:*

-78.62500

*East\_Bounding\_Coordinate:*

-75.39900

*North\_Bounding\_Coordinate:*

36.62500

*South\_Bounding\_Coordinate:*

33.75000

*Keywords:**Theme:**Theme\_Keyword\_Thesaurus:*

ISO 19115 Topic Category

*Theme\_Keyword:*

biota

*Theme\_Keyword:*



environment

*Theme:*

*Theme\_Keyword\_Thesaurus:*

None

*Theme\_Keyword:*

Environmental Monitoring

*Theme\_Keyword:*

ESI

*Theme\_Keyword:*

Sensitivity maps

*Theme\_Keyword:*

Coastal resources

*Theme\_Keyword:*

Oil spill planning

*Theme\_Keyword:*

Coastal Zone Management

*Theme\_Keyword:*

Wildlife

*Theme\_Keyword:*

Habitat

*Theme:*

*Theme\_Keyword\_Thesaurus:*

NOS Data Explorer Topic Category

*Theme\_Keyword:*

Environmental Monitoring

*Place:*

*Place\_Keyword\_Thesaurus:*

None

*Place\_Keyword:*

North Carolina

*Access\_Constraints:*

None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:*

datafig.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Browse\_Graphic:**Browse\_Graphic\_File\_Name:*

datafig2.jpg

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and desktop data tables for the North Carolina ESI data.

*Browse\_Graphic\_File\_Type:*

JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington; the U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia; and the Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 9.3) and SQL SERVER(R) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003). The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00, and wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio\_lut.e00, biofile.e00, biores.e00, breed.e00, breed\_dt.e00, seasonal.e00, soc\_dat.e00, soc\_lut.e00, sources.e00, species.e00, and status.e00.

*Program\_Affiliation:**Program\_Name:*

National Ocean Service Data Explorer

[Back To Index](#)

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*Data\_Quality\_Information:**Attribute\_Accuracy:**Attribute\_Accuracy\_Report:*

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD/DVD and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the

value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

*Completeness\_Report:*

These data represent a synthesis of expert knowledge, available hardcopy documents, and digital data on submerged aquatic vegetation (SAV) and rare plants distribution. These data do not necessarily represent all habitat occurrences in North Carolina. The following species are included in this data set: (Species\_ID, Common Name, Scientific Name [n/a if not applicable]): 42, Woolly beachheather, *Hudsonia tomentosa*; 111, Seashore paspalum, *Paspalum vaginatum*; 144, Carolina grasswort, *Lilaeopsis carolinensis*; 145, Seabeach amaranth, *Amaranthus pumilus*; 203, Low nutrush, *Scleria verticillata*; 206, Saltmarsh spikerush, *Eleocharis halophila*; 208, Godfrey's sandwort, *Minuartia godfreyi*; 609, Submerged aquatic vegetation, n/a; 663, Beaked spikerush, *Eleocharis rostellata*; 936, Carolina bishopweed, *Ptilimnium ahlesii*; 937, Dune bluecurls, *Trichostema species 1*; 938, Fragrant beaksedge, *Rhynchospora odorata*; 940, Cypress panicgrass, *Dichanthelium dichotomum* var. *dichotomum*; 941, Moundlily yucca, *Yucca gloriosa*; 942, Virginia pinweed, *Lechea maritima* var. *virginica*; 943, Sand spikerush, *Eleocharis montevidensis*; 944, Spreading sandwort, *Arenaria lanuginosa* var. *lanuginosa*; 945, Winged primrose-willow, *Ludwigia alata*; 946, Gulf Coast spikerush, *Eleocharis cellulosa*; 947, Florida adder's-mouth orchid, *Malaxis spicata*; 948, Fourangle flatsedge, *Cyperus tetragonus*; 949, Georgia frostweed, *Helianthemum georgianum*; 950, Clustered pellitory, *Parietaria praetermissa*; 951, Nerved witchgrass, *Dichanthelium aciculare* var. *aciculare*.

*Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy\_Report:*

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources. See the Lineage and Process\_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

ALTMAN, JON (NATIONAL PARK SERVICE)

*Publication\_Date:*

2009

*Title:*

CAPE LOOKOUT NATIONAL SEASHORE RESOURCES

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

Altman 2009

*Source\_Contribution:*

HABITATS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

CARFIOLI, M. (NATIONAL PARK SERVICE)

*Publication\_Date:*

2009

*Title:*

CAPE HATTERAS NATIONAL SEASHORE RESOURCES

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Carfioli 2009

*Source\_Contribution:*

HABITATS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

NATIONAL PARK SERVICE, CAPE LOOKOUT NATIONAL  
SEASHORE

*Publication\_Date:*

2009

*Title:*  
 SBA\_2009  
*Geospatial\_Data\_Presentation\_Form:*  
 vector digital data  
*Other\_Citation\_Details:*  
 UNPUBLISHED  
*Type\_of\_Source\_Media:*  
 EMAIL  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
 Calendar\_Date:  
 2009  
*Source\_Currentness\_Reference:*  
 DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:*  
 NPS 2009  
*Source\_Contribution:*  
 HABITATS INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
 NORTH CAROLINA DIVISION OF MARINE FISHERIES  
*Publication\_Date:*  
 2009  
*Title:*  
 SAV\_MOSAIC\_1981\_MAY2009  
*Geospatial\_Data\_Presentation\_Form:*  
 vector digital data  
*Publication\_Information:*  
*Publication\_Place:*  
 MOREHEAD CITY, NORTH CAROLINA  
*Publisher:*  
 NORTH CAROLINA DIVISION OF MARINE FISHERIES  
 - HABITAT PROTECTION SECTION  
*Type\_of\_Source\_Media:*  
 online  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Range\_of\_Dates/Times:*  
*Beginning\_Date:*  
 1981  
*Ending\_Date:*  
 2008  
*Source\_Currentness\_Reference:*  
 DATE OF SURVEY  
*Source\_Citation\_Abbreviation:*  
 NC DMF 2009  
*Source\_Contribution:*  
 HABITATS INFORMATION  
*Source\_Information:*

*Source\_Citation:**Citation\_Information:**Originator:*NORTH CAROLINA NATURAL HERITAGE PROGRAM (NC  
NHP)*Publication\_Date:*

2009

*Title:*

NC NHP ELEMENT OCCURRENCES

*Geospatial\_Data\_Presentation\_Form:*

vector digital data

*Publication\_Information:**Publication\_Place:*

RALEIGH, NC

*Publisher:*

NORTH CAROLINA NATURAL HERITAGE PROGRAM

*Type\_of\_Source\_Media:*

EMAIL

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:*

NC NHP 2009

*Source\_Contribution:*

HABITATS INFORMATION

*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*RIKARD, MICHAEL (NATIONAL PARK SERVICE, CAPE  
LOOKOUT NATIONAL SEASHORE)*Publication\_Date:*

2009

*Title:*

CAPE LOOKOUT RESOURCES

*Geospatial\_Data\_Presentation\_Form:*

EXPERT KNOWLEDGE

*Other\_Citation\_Details:*

UNPUBLISHED

*Type\_of\_Source\_Media:*

PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:*

2009

*Source\_Currentness\_Reference:*

DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:*

Rikard 2009

*Source\_Contribution:*

HABITATS INFORMATION

*Process\_Step:**Process\_Description:*

Two main sources of data were used to depict habitat distribution and seasonality for this data layer: (1) personal interviews with resource experts from National Park Service (NPS) Cape Hatteras and Cape Lookout National Seashores, and (2) digital data sets provided by the North Carolina Natural Heritage Program and the North Carolina Division of Marine Fisheries. The above digital and/or hardcopy sources were compiled by the project biologist to create the HABITATS 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; and/or (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 compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews are conducted to review the maps. If necessary, edits to the HABITATS data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:*

201107

*Process\_Contact:**Contact\_Information:**Contact\_Organization\_Primary:**Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Person:*

Jill Petersen

*Contact\_Address:**Address\_Type:*

Physical address

*Address:*

7600 Sand Point Way, N.E.

*City:*

Seattle

*State\_or\_Province:*

Washington

*Postal\_Code:*

98115-6349

*Contact\_Voice\_Telephone:*

(206) 526-6944

*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Contact\_Electronic\_Mail\_Address:*

Jill.Petersen@noaa.gov

*Spatial\_Data\_Organization\_Information:**Direct\_Spatial\_Reference\_Method:*

Vector

*Point\_and\_Vector\_Object\_Information:**SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

GT-polygon composed of chains

*Point\_and\_Vector\_Object\_Count:*

5368

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Area point

*Point\_and\_Vector\_Object\_Count:*

5369

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Complete chain

*Point\_and\_Vector\_Object\_Count:*

5762

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Link

*Point\_and\_Vector\_Object\_Count:*

460173

*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:*

Node,planar graph

*Point\_and\_Vector\_Object\_Count:*

5716

[Back To Index](#)*Spatial\_Reference\_Information:**Horizontal\_Coordinate\_System\_Definition:**Geographic:**Latitude\_Resolution:*

0.0000001

*Longitude\_Resolution:*

0.0000001

*Geographic\_Coordinate\_Units:*

Decimal degrees

*Geodetic\_Model:**Horizontal\_Datum\_Name:*

North American Datum of 1983

*Ellipsoid\_Name:*

Geodetic Reference System 80

*Semi-major\_Axis:*

6378137.000000

*Denominator\_of\_Flattening\_Ratio:*

298.257222

[Back To Index](#)



*Entity\_and\_Attribute\_Information:**Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

HABITATS.PAT

*Entity\_Type\_Definition:*

The HABITATS.PAT table contains attribute information for the vector polygons in this data set representing submerged aquatic vegetation (SAV) and rare plants. Note that all attribute information is stored in a series of relational files, described below and in the Overview\_Description section. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (235), element number (3), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

2350300002

*Range\_Domain\_Maximum:*

2350305369

*Attribute:**Attribute\_Label:*

RARNUM

*Attribute\_Definition:*

An identifier that links directly to the BIORES table or the flat format BIOFILE table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

235000613

*Range\_Domain\_Maximum:*

235000657

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

BIO\_LUT

*Entity\_Type\_Definition:*

The data table BIO\_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table.

Note that all attribute information is stored in a series of relational files, described below and in the Overview\_Description section. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
RARNUM

*Attribute\_Definition:*

An identifier that links records in the BIO\_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*  
NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

235000001

*Range\_Domain\_Maximum:*

235000925

*Attribute:*

*Attribute\_Label:*  
ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (235), element number (3), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:*  
NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

2350000002

*Range\_Domain\_Maximum:*

2350001183

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*  
BIORES

*Entity\_Type\_Definition:*

The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO\_LUT data table to other associated data tables. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

## RARNUM

*Attribute\_Definition:*

An identifier that links records in the BIORES data table to records in the BIO\_LUT data table or the flat format BIOFILE data table.

*Attribute\_Definition\_Source:*

NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

235000001

*Range\_Domain\_Maximum:*

235000925

*Attribute:**Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

CONC

*Attribute\_Definition:*

The field CONC refers to "concentration," abundance, or density value of a habitat at a particular location. There was limited quantitative information available for a few rare plant occurrences so the CONC field may contain counts (e.g., X PLANTS). When quantitative concentration information was not available for habitats, the CONC field may contain descriptive terms for the presence of a species, such as "HIGH" or "LOW". In cases where no quantitative or qualitative information was available on concentrations of submerged aquatic vegetation, the field was populated with "-".

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

G\_SOURCE

*Attribute\_Definition:*

Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

S\_SOURCE

*Attribute\_Definition:*

Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

SPECIES

*Entity\_Type\_Definition:*

The data table SPECIES identifies all species in the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness\_Report for a list of layer-specific species.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

NAME

*Attribute\_Definition:*

Species common name for the entire ESI data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

GEN\_SPEC

*Attribute\_Definition:*

Species scientific name for the entire ESI data set.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 INVERT  
*Enumerated\_Domain\_Value\_Definition:*  
 Invertebrates  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 M\_MAMMAL  
*Enumerated\_Domain\_Value\_Definition:*  
 Marine Mammals  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 REPTILE  
*Enumerated\_Domain\_Value\_Definition:*  
 Reptiles and Amphibians  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 T\_MAMMAL  
*Enumerated\_Domain\_Value\_Definition:*  
 Terrestrial Mammals  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute:*  
*Attribute\_Label:*  
 SUBELEMENT  
*Attribute\_Definition:*  
 Element subgroup delineating a logical grouping of species.  
*Attribute\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 alligator  
*Enumerated\_Domain\_Value\_Definition:*  
 Alligator  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*



bird  
*Enumerated\_Domain\_Value\_Definition:*  
 Bird  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 bivalve  
*Enumerated\_Domain\_Value\_Definition:*  
 Bivalve  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 crab  
*Enumerated\_Domain\_Value\_Definition:*  
 Crab  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 crayfish  
*Enumerated\_Domain\_Value\_Definition:*  
 Crayfish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 diadromous  
*Enumerated\_Domain\_Value\_Definition:*  
 Diadromous fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 diving  
*Enumerated\_Domain\_Value\_Definition:*  
 Diving bird  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 e\_nursery  
*Enumerated\_Domain\_Value\_Definition:*  
 Estuarine nursery fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

e\_resident

*Enumerated\_Domain\_Value\_Definition:*

Estuarine resident fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

fish

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

freshwater

*Enumerated\_Domain\_Value\_Definition:*

Freshwater fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

gull\_tern

*Enumerated\_Domain\_Value\_Definition:*

Gull or tern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

insect

*Enumerated\_Domain\_Value\_Definition:*

Insect

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

invert

*Enumerated\_Domain\_Value\_Definition:*

Invertebrate

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

m\_benthic  
*Enumerated\_Domain\_Value\_Definition:*  
 Marine benthic fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 m\_pelagic  
*Enumerated\_Domain\_Value\_Definition:*  
 Marine pelagic fish  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 manatee  
*Enumerated\_Domain\_Value\_Definition:*  
 Manatee  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 passerine  
*Enumerated\_Domain\_Value\_Definition:*  
 Passerine bird  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 pelagic  
*Enumerated\_Domain\_Value\_Definition:*  
 Pelagic bird  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 pinniped  
*Enumerated\_Domain\_Value\_Definition:*  
 Pinniped  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 plant  
*Enumerated\_Domain\_Value\_Definition:*  
 Plant  
*Enumerated\_Domain\_Value\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

raptor

*Enumerated\_Domain\_Value\_Definition:*

Raptor

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

sav

*Enumerated\_Domain\_Value\_Definition:*

Submerged aquatic vegetation

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

shorebird

*Enumerated\_Domain\_Value\_Definition:*

Shorebird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

shrimp

*Enumerated\_Domain\_Value\_Definition:*

Shrimp

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

sm\_mammal

*Enumerated\_Domain\_Value\_Definition:*

Small mammal

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

snake

*Enumerated\_Domain\_Value\_Definition:*

Snake

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

turtle

*Enumerated\_Domain\_Value\_Definition:*

Turtle

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

ungulate

*Enumerated\_Domain\_Value\_Definition:*

Ungulate

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

wading

*Enumerated\_Domain\_Value\_Definition:*

Wading bird

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

waterfowl

*Enumerated\_Domain\_Value\_Definition:*

Waterfowl

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

wetland

*Enumerated\_Domain\_Value\_Definition:*

Wetland

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

whale

*Enumerated\_Domain\_Value\_Definition:*

Whale

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

NHP

*Attribute\_Definition:*

Natural Heritage Program global ranking.

*Attribute\_Definition\_Source:*

Network of Natural Heritage Program

*Attribute\_Domain\_Values:**Codeset\_Domain:**Codeset\_Name:*

NHP Global Conservation Status Rank

*Codeset\_Source:*

Natural Heritage Program

*Attribute:**Attribute\_Label:*

DATE\_PUB

*Attribute\_Definition:*

Date of NHP listing.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

0

*Enumerated\_Domain\_Value\_Definition:*

Date unspecified

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

SEASONAL

*Entity\_Type\_Definition:*

The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

ELEMENT

*Attribute\_Definition:*

Major categories of biological data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

BIRD

*Enumerated\_Domain\_Value\_Definition:*

Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

FISH

*Enumerated\_Domain\_Value\_Definition:*

Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

HABITAT

*Enumerated\_Domain\_Value\_Definition:*

Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

INVERT

*Enumerated\_Domain\_Value\_Definition:*

Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

JAN

*Attribute\_Definition:*

January

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines



*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in January

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

FEB

*Attribute\_Definition:*

February

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in February

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

MAR

*Attribute\_Definition:*

March

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in March

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

APR

*Attribute\_Definition:*

April

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in April

*Enumerated\_Domain\_Value\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

MAY

*Attribute\_Definition:*

May

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in May

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

JUN

*Attribute\_Definition:*

June

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in June

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

JUL

*Attribute\_Definition:*

July

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in July

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

AUG

*Attribute\_Definition:*

August

*Attribute\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in August

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SEP

*Attribute\_Definition:*

September

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in September

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

OCT

*Attribute\_Definition:*

October

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in October

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

NOV

*Attribute\_Definition:*

November

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

X

*Enumerated\_Domain\_Value\_Definition:*

Present in November

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
DEC

*Attribute\_Definition:*  
December

*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*  
X

*Enumerated\_Domain\_Value\_Definition:*  
Present in December

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
EL\_SPE\_SEA

*Attribute\_Definition:*  
Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.

*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*  
E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*  
BREED

*Entity\_Type\_Definition:*

The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.

*Entity\_Type\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL

data tables.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

MONTH

*Attribute\_Definition:*

Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

12

*Attribute:*

*Attribute\_Label:*

BREED1

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M\_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T\_MAMMAL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

BREED2

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M\_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

BREED3

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if

ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = interesting; if ELEMENT is "M\_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

BREED4

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M\_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

BREED5

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M\_MAMMAL, HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

Y

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

N

*Enumerated\_Domain\_Value\_Definition:*

Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

-

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:*

STATUS

*Entity\_Type\_Definition:*

The data table STATUS identifies the species that are listed as either threatened



or endangered by a state, federal, or international authority. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
ELEMENT

*Attribute\_Definition:*  
Major categories of biological data.

*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
BIRD

*Enumerated\_Domain\_Value\_Definition:*  
Birds

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
FISH

*Enumerated\_Domain\_Value\_Definition:*  
Fish

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
HABITAT

*Enumerated\_Domain\_Value\_Definition:*  
Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
INVERT

*Enumerated\_Domain\_Value\_Definition:*  
Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*  
Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

REPTILE

*Enumerated\_Domain\_Value\_Definition:*

Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:*

Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:**Attribute\_Label:*

STATE

*Attribute\_Definition:*

Two-letter state abbreviation.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:*

COUNTRY

*Attribute\_Definition:*

Three-letter country abbreviation.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

S

*Attribute\_Definition:*

State threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on state list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on state list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

F

*Attribute\_Definition:*

Federal threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:*

## NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

I

*Attribute\_Definition:*

International threatened or endangered status.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

E

*Enumerated\_Domain\_Value\_Definition:*

Endangered on international list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

T

*Enumerated\_Domain\_Value\_Definition:*

Threatened on international list

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

C

*Enumerated\_Domain\_Value\_Definition:*

Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute:**Attribute\_Label:*

S\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign state status values for each species, if used.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*  
 YYYY for year and optionally MM for month  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
 F\_DATE  
*Attribute\_Definition:*  
 Publication date of source material used to assign federal status values for each species, if used.  
*Attribute\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 YYYYMM  
*Enumerated\_Domain\_Value\_Definition:*  
 YYYY for year and optionally MM for month  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
 I\_DATE  
*Attribute\_Definition:*  
 Publication date of source material used to assign international status values for each species, if used.  
*Attribute\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 YYYYMM  
*Enumerated\_Domain\_Value\_Definition:*  
 YYYY for year and optionally MM for month  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
 EL\_SPE  
*Attribute\_Definition:*  
 Concatenation of ELEMENT and SPECIES\_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.  
*Attribute\_Definition\_Source:*  
 NOAA ESI Guidelines  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:*  
 E#####  
*Enumerated\_Domain\_Value\_Definition:*  
 Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:*  
NOAA ESI Guidelines

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*  
SOURCES

*Entity\_Type\_Definition:*

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*  
SOURCE\_ID

*Attribute\_Definition:*

Source identifier that links records in the SOURCES data table to the items G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID and ESI\_SOURCE in the ESI, WETLANDS, and HYDRO data layers.

*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:*

1

*Range\_Domain\_Maximum:*

N

*Attribute:*

*Attribute\_Label:*  
ORIGINATOR

*Attribute\_Definition:*

Author or developer of source material or data set.

*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*  
DATE\_PUB

*Attribute\_Definition:*

Date of source material, publication, or date of personal communication with expert source.

*Attribute\_Definition\_Source:*  
NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*

YYYYMM

*Enumerated\_Domain\_Value\_Definition:*

YYYY for year and optionally MM for month  
*Enumerated\_Domain\_Value\_Definition\_Source:*  
 NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:*

TITLE

*Attribute\_Definition:*

Title of source material or data.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

DATA\_FORMAT

*Attribute\_Definition:*

The format of the source material.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUB\_PLACE

*Attribute\_Definition:*

Publication place.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUBLISHER

*Attribute\_Definition:*

Publisher.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

PUBLICATION

*Attribute\_Definition:*

Additional citation information.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

ONLINE\_LINK

*Attribute\_Definition:*

Online computer resource URL.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

SCALE

*Attribute\_Definition:*

Description of the source scale.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:*

TIME\_PERIOD

*Attribute\_Definition:*

Date(s) of data collection that the source material is based upon.

*Attribute\_Definition\_Source:*

NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Acceptable values change from atlas to atlas.

*Overview\_Description:*

*Entity\_and\_Attribute\_Overview:*

In addition to the geographic data layers, six relational attribute or data tables (BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS) are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, HABITATS) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO\_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the North Carolina atlas, the number is 235), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described in the Detailed\_Description sections. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure. Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN\_SPEC, S, F,



NHP, DATE\_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G\_SOURCE, S\_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables (described in the Detailed\_Description sections), except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED\_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed\_Description of the BREED data table. The link to the BIOFILE may be made through the BIO\_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED\_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED\_DT is the BREED item. A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G\_SOURCE and S\_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table and this data table is NOT described in a Detailed\_Description section.

*Entity\_and\_Attribute\_Detail\_Citation:*

A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines ([http://response.restoration.noaa.gov/esi\\_guidelines](http://response.restoration.noaa.gov/esi_guidelines)).

[Back To Index](#)

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*Contact\_Facsimile\_Telephone:*

(206) 526-6329

*Resource\_Description:*

## Downloadable Data

*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

[Back To Index](#)*Metadata\_Reference\_Information:**Metadata\_Date:*

20111015

*Metadata\_Review\_Date:*

20111015

*Metadata\_Contact:**Contact\_Information:**Contact\_Person\_Primary:**Contact\_Person:*

Jill Petersen

*Contact\_Organization:*

NOAA, Office of Response and Restoration

*Contact\_Position:*

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*Metadata\_Standard\_Name:*

Content Standards for Digital Geospatial Metadata

*Metadata\_Standard\_Version:*

FGDC-STD-001-1998

*Metadata\_Extensions:*

*Online\_Linkage:*

[http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile\\_v2.pdf](http://www.ncddc.noaa.gov/metadata-standards/documents/ncddcmdprofile_v2.pdf)

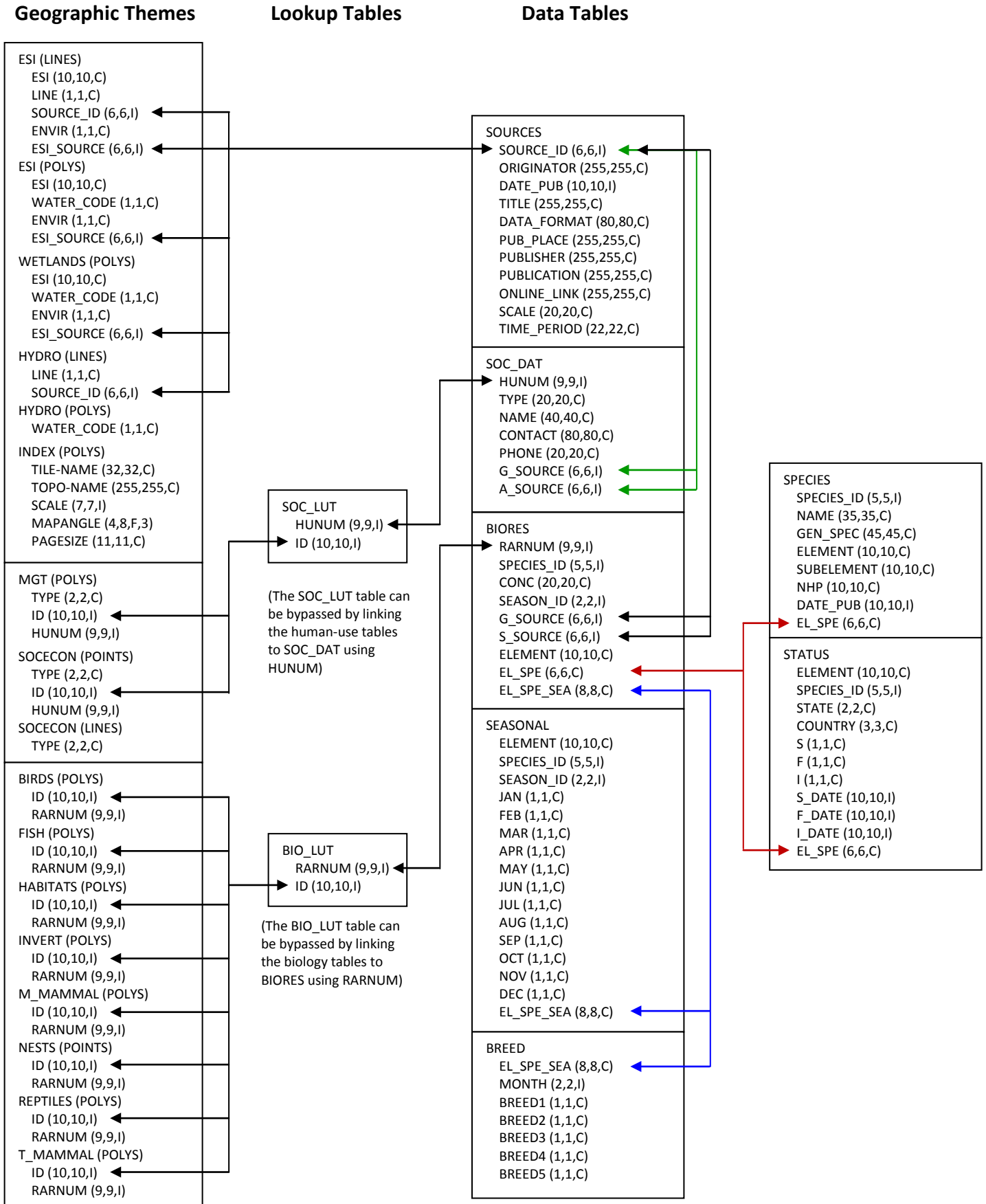
*Profile\_Name:*

Content Specification for Metadata in the National Coastal Data Development Center's  
Data Catalog Version 2.0

[Back To Index](#)

# North Carolina ESI – July 2011

## Entity Relationship Diagram for the Relational Data Tables



# North Carolina ESI – July 2011

## Entity Relationship Diagram for the Desktop / Flat File Approach

