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**

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**Identification Information:**

**Citation:**

**Originator:**

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

**Originator:**

**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).
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_BoundingCoordinate:
-78.62500
East_BoundingCoordinate:
-75.39900
North_BoundingCoordinate:
36.62500
South_BoundingCoordinate:
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:
Depicts the relationships between spatial data layers and desktop data tables for the North Carolina ESI data.

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.

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, socexon.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, biore.e00, breed.e00, breed_dt.e00, seasonal.e00, soc_dat.e00, soc_lut.e00, sources.e00, species.e00, and status.e00.

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.

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.

A multi-stage error checking process, described in the above Logical_Consistency_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.

A multi-stage error checking process, described in the above Completeness_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.
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:
PublicationPlace:
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:
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

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

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
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:
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

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

Detailed_Description:

Enumerated_Domain:
   Enumerated_Domain_Value: L
   Enumerated_Domain_Value_Definition: Land
   Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

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:**

<table>
<thead>
<tr>
<th>Attribute Label</th>
<th>Attribute Definition</th>
<th>Attribute Definition Source</th>
<th>Attribute Domain Values</th>
<th>Unrepresentable Domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORIGINATOR</td>
<td>Author or developer of source material or data set.</td>
<td>NOAA ESI Guidelines</td>
<td>Unrepresentable Domain</td>
<td>Acceptable values change from atlas to atlas.</td>
</tr>
<tr>
<td>DATE_PUB</td>
<td>Date of source material, publication, or date of personal communication with expert source.</td>
<td>NOAA ESI Guidelines</td>
<td>Enumerated Domain</td>
<td>YYYYMM</td>
</tr>
<tr>
<td>TITLE</td>
<td>Title of source material or data.</td>
<td>NOAA ESI Guidelines</td>
<td>Unrepresentable Domain</td>
<td>Acceptable values change from atlas to atlas.</td>
</tr>
<tr>
<td>DATA_FORMAT</td>
<td>The format of the source material.</td>
<td>NOAA ESI Guidelines</td>
<td>Unrepresentable Domain</td>
<td>Acceptable values change from atlas to atlas.</td>
</tr>
<tr>
<td>PUB_PLACE</td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>
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:
Acceptable values change from atlas to atlas.

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.

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).

Distributor:
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

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.

**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:**

**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 Information:

Originator:

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

Originator:

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:

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 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, biore.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

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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:
PublicationPlace:
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:
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:
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:
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:
**SDTS Terms Description:**

**SDTS_Point_and_Vector_Object_Type:**
Node, planar graph

**Point_and_Vector_Object_Count:**
21930

---

**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

---

**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

- **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

- **Enumerated Domain:**
  - **Enumerated Domain Value:** 3A
    - **Enumerated Domain Value Definition:** Fine- to Medium-grained Sand Beaches
    - **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

- **Enumerated Domain:**
  - **Enumerated Domain Value:** 3B
    - **Enumerated Domain Value Definition:** Scarps and Steep Slopes in Sand
    - **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

- **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
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
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:**
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:
    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).

**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.

---

**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:**


**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:
  Originator:
  Originator:
  U.S. Environmental Protection Agency, Region 4: Southeast, Atlanta, Georgia.
  Originator:
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).
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_BoundingCoordinate: -78.62500
East_BoundingCoordinate: -75.39900
North_BoundingCoordinate: 36.62500
South_BoundingCoordinate: 33.75000

Keywords:
Theme:
Theme_Keyword_Thesaurus:
ISO 19115 Topic Category
Theme_Keyword:
biodiversity

None
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
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, biore.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

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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
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](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.
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:

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:
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

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
      Enumerated_Domain_Value:
  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 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:**

---

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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).

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.

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_orProvince:
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:  

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: 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:**

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

**Originator:**

**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).
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_BoundingCoordinate: -78.62500

East_BoundingCoordinate: -75.39900

North_BoundingCoordinate: 36.62500

South_BoundingCoordinate: 33.75000

Keywords:

Theme:

Theme_Keyword_Thesaurus:
ISO 19115 Topic Category

Theme_Keyword: biota

Theme_Keyword: environment

Theme:
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
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, biorese00, 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

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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:

**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:**
  NOAA, Office of Response and Restoration

- **Contact Person:**
  Jill Petersen

- **Contact Address:**
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  **Address:**
  7600 Sand Point Way, N.E.

  **City:**
  Seattle

  **State or Province:**
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  **Postal Code:**
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- **Contact Facsimile Telephone:**
  (206) 526-6329

- **Contact Electronic Mail Address:**
  Jill.Petersen@noaa.gov

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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: 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

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

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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).

**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.

Metadata_Reference_Information:
  Metadata_Date:
    20111015
  Metadata_Review_Date:
    20111015
  Metadata_Contact:
    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:

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:

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

Originator:

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

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

**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:
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:

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:
Source_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_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_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_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:
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

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

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

**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: North Carolina ESI: MGT
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:
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:
### Attribute: PUB_PLACE
- **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: PUBLISHER
- **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: PUBLICATION
- **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: ONLINE_LINK
- **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: SCALE
- **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 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).

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 ESIViewer 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.

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:
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 Information:*

**Originator:**

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

**Originator:**

**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).
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
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 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, biore.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

**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_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:
    PublicationPlace: 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:
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:
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:
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:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2010

Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: Pickens 2010
Source_Contribution: SOCECON INFORMATION
Source_Information: 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: SOCECON INFORMATION
Source_Information: Citation_Information:
Originator: SHIPWRECKS
Publication_Date: 2010
Title: CAPE HATTERAS NATIONAL SEASHORE BEACH SHIPWRECKS
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: UNPUBLISHED
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:
Source_Currentness_Reference:
Source_Citation_Abbreviation:
Source_Contribution:
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
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 NCDENR 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 Contact:**

**Contact Information:**

**Contact Organization Primary:**

NOAA, Office of Response and Restoration

**Contact Person:**

Jill Petersen

**Contact Address:**

**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: 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

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

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:**

<table>
<thead>
<tr>
<th>Enumerated Domain Value</th>
<th>Definition</th>
<th>Domain Value Definition Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>Road, Transportation, or Bridge</td>
<td>NOAA ESI Guidelines</td>
</tr>
</tbody>
</table>

**Attribute Domain Values:**

**Enumerated Domain:**

<table>
<thead>
<tr>
<th>Enumerated Domain Value</th>
<th>Definition</th>
<th>Domain Value Definition Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>SB</td>
<td>State Border</td>
<td>NOAA ESI Guidelines</td>
</tr>
</tbody>
</table>

**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**

W1

**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:**
HNUM

**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:**
HNUM

**Attribute Definition:**
An identifier that links records in the SOC_LUT data table to records in the SOC_DAT data table. HNUM 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:
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
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).

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.

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:

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

Metadata_Extensions:
Online_Linkage:

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:**

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

**Originator:**

**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

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

**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

**Data_Quality_Information:**

**Attribute_Accuracy:**
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, Ajaja 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, 142, 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, Pipistrelle 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

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:
Allen 2009

Source_Contribution:
BIRDS INFORMATION

Source_Information:
Source_Citation:
Citation_Information:
Originator:
ALTMAN, J. (NATIONAL PARK SERVICE, CAPE LOOKOUT NATIONAL SEASHORE)

Publication_Date: 2009

Title:
AMERICAN OYSTERCATCHER (HAEMATOPUS PALLIATUS) MONITORING AT CAPE LOOKOUT NATIONAL SEASHORE

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 PUBLICATION

Source_Citation_Abbreviation:
Altman 2009, Oystercatcher

Source_Contribution:
BIRDS 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, Cape Lookout resources
Source Contribution: BIRDS INFORMATION
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: BIRDS 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:
UNPUBLISHED

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:
BIRDS 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:
BIRDS INFORMATION

Source_Information:
Source_Citation:

Citation_Information:

Originator:
FRINGELI, J. (U.S. FISH AND WILDLIFE SERVICE)

Publication_Date:
2009

Title:
MATTAMUSKEET NATIONAL WILDLIFE REFUGE RESOURCES
HOFF, MIKE (U.S. FISH AND WILDLIFE SERVICE)

Publication_Date: 2009

Title: CURRITUCK AND MACKAY ISLAND NATIONAL WILDLIFE REFUGE SPECIES AND HUMAN-USE RESOURCE DISTRIBUTION

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: Hoff 2009

Source_Contribution: BIRDS INFORMATION

Source_Information: Source_Citation:
  Citation_Information:
    Originator:
      HOWELL, DOUG AND JOE FULLER

Publication_Date: 2009

Title: WATERFOWL 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: Howell and Fuller 2009

Source_Contribution: BIRDS INFORMATION

Source_Information: Source_Citation:
NC NHP 2009

Source_Contribution:
BIRDS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:
Originator:
NORTH CAROLINA WILDLIFE RESOURCES COMMISSION (NCWRC)
Publication_Date:
2009
Title:
CWB BE

Geospatial_Data_Presentation_Form:
tabular digital data
Other_Citation_Details:
UNPUBLISHED

Type_of_Source_Media:
THUMB DRIVE
Source_Time_Period_of_Content:

Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date:
1972
Ending_Date:
2009

Source_Currentness_Reference:
DATE OF SURVEY
Source_Citation_Abbreviation:
NCWRC 2009, CWB BE
Source_Contribution:
BIRDS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:
Originator:
NORTH CAROLINA WILDLIFE RESOURCES COMMISSION (NCWRC)
Publication_Date:
2009
Title:
SHOREBIRD BE

Geospatial_Data_Presentation_Form:
tabular digital data
Other_Citation_Details:
UNPUBLISHED

Type_of_Source_Media:
THUMB DRIVE
Source_Time_Period_of_Content:

Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date:
2000
Ending_Date:
2003
Source_Currentness_Reference:
DATE OF SURVEY
Source_Citation_Abbreviation:
NCWRC 2009, SHOREBIRD BE
Source_Contribution:
BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
NPS: CAPE LOOKOUT NATIONAL SEASHORE
Publication_Date:
2008
Title:
REKN_08
Geospatial_Data_Presentation_Form:
vector digital data
Other_Citation_Details:
UNPUBLISHED
Type_of_Source_Media:
FTP SITE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date:
2008
Source_Currentness_Reference:
DATE OF SURVEY
Source_Citation_Abbreviation:
NPS 2008, REKN_08
Source_Contribution:
BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
NPS: CAPE LOOKOUT NATIONAL SEASHORE
Publication_Date:
2009
Title:
2009 WILSON'S PLOVER WINDOW CENSUS
Geospatial_Data_Presentation_Form:
HARDCOPY TEXT
Other_Citation_Details:
UNPUBLISHED
Type_of_Source_Media:
FTP SITE
Source_Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
  Beginning_Date:
    2010
  Ending_Date:
    2010

Source_Currentness_Reference:
  DATE OF COMMUNICATION

Source_Citation_Abbreviation:
  Piatak 2010

Source_Contribution:
  BIRDS 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:
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      Time_Period_Information:
        Single_Date/Time:
          Calendar_Date:
            2009
      Source_Currentness_Reference:
        DATE OF COMMUNICATION
    Source_Citation_Abbreviation:
      Rikard 2009
    Source_Contribution:
      BIRDS INFORMATION

Source_Information:
  Source_Citation:
    Citation_Information:
      Originator:
        SILVERMAN, E., M. KONEFF, K. FLEMING, J. WORTHAM (DIVISION OF MIGRATORY BIRD MANAGEMENT, U.S. FISH AND WILDLIFE SERVICE)
      Publication_Date:
        2010
      Title:
        2010 ATLANTIC COAST WINTERING SEA DUCK SURVEY
      Geospatial_Data_Presentation_Form:
        HARDCOPY TEXT
    Publication_Information:
**Publication Place:**
11510 AMERICAN HOLLY DR., LAUREL, MD 20708

**Publisher:**
DIVISION OF MIGRATORY BIRD MANAGEMENT (MBM), U.S. FISH & WILDLIFE SERVICE (USFWS)

**Online Linkage:**

**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:**
Silverman et al. 2010

**Source Contribution:**
- BIRDS INFORMATION

**Source Information:**
**Source Citation:**
- **Citation Information:**
  - **Originator:** STANTON, W. (U.S. FISH AND WILDLIFE SERVICE)
  - **Publication Date:** 2010
  - **Title:** POCOSIN LAKES NATIONAL WILDLIFE REFUGE RESOURCES
  - **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:**
Stanton 2010

**Source Contribution:**
- BIRDS INFORMATION

**Source Information:**
**Source Citation:**
- **Citation Information:**
  - **Originator:** STEWART, D. (U.S. FISH AND 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: BIRDS INFORMATION

Source Information:
Source Citation:
Citation Information:
Originator: U.S. FISH AND WILDLIFE SERVICE
Publication Date: 2005
Title: MACKAY ISLAND NATIONAL WILDLIFE REFUGE BIRD LIST
Geospatial Data Presentation Form: HARDCOPY TEXT

Publication Information:
Publication Place: KNOTTS ISLAND, NC
Publisher: U.S. FISH AND WILDLIFE SERVICE
Online Linkage: http://www.fws.gov/mackayisland/

Type of Source Media: paper
Source Time Period of Content:
Time Period Information:
Single Date/Time:
Calendar Date: 2005
Source Currentness Reference: DATE OF PUBLICATION
Source Citation Abbreviation: USFWS 2005
Source_Contribution:
BIRDS INFORMATION

Source_Information:
Source_Citation:
Citation_Information:
Originator:
U.S. FISH AND WILDLIFE SERVICE

Publication_Date:
2007

Title:
MATAMUSKEET AND SWANQUARTER NATIONAL WILDLIFE REFUGES WILDLIFE LIST

Geospatial_Data_Presentation_Form:
HARDCOPY TEXT

Publication_Information:
Publication_Date:
2007

Publication_Place:
SWAN QUARTER, NC

Publisher:
U.S. FISH AND WILDLIFE SERVICE

Online_Linkage:
http://fws.gov/mattamuskeet

Type_of_Source_Media:
paper

Source_Time_Period_of_Content:

Time_Period_Information:
Single_Date/Time:
Calendar_Date:
2007

Source_Currentness_Reference:
DATE OF PUBLICATION

Source_Citation_Abbreviation:
USFWS 2007

Source_Contribution:
BIRDS INFORMATION

Source_Information:
Source_Citation:
Citation_Information:
Originator:
U.S. FISH AND WILDLIFE SERVICE, DIVISION OF MIGRATORY BIRD MANAGEMENT

Publication_Date:
2009

Title:
2005-2009 MID-WINTER WATERFOWL SURVEYS

Geospatial_Data_Presentation_Form:
spreadsheet

Publication_Information:
Publication_Date:
2007

Publication_Place:
LAUREL, MD

Publisher:
U.S. FISH AND WILDLIFE SERVICE

Other_Citation_Details:
UNPUBLISHED

Online Linkage:
https://migbirdapps.fws.gov/

Type of Source Media:
one

Source Time Period of Content:

Time Period Information:
Range of Dates/Times:
Beginning Date:
2005
Ending Date:
2009

Source Currentness Reference:
DATE OF SURVEY

Source Citation Abbreviation:
USFWS 2009

Source Contribution:
BIRDS INFORMATION

Source Information:

Source Citation:

Citation Information:
Originator:
U.S. FISH AND WILDLIFE SERVICE, SOUTH ATLANTIC BIRD INITIATIVE OF THE ATLANTIC COAST JOINT VENTURE
Publication Date:
2010

Title:
SHOREBIRD BIRD DATA PAGE

Geospatial Data Presentation Form:
spreadsheet

Online Linkage:
http://samigbird.ncusfws.org/sasindex.html

Type of Source Media:
one

Source Time Period of Content:

Time Period Information:
Single Date/Time:
Calendar Date:
2010

Source Currentness Reference:
DATE OF PUBLICATION

Source Citation Abbreviation:
USFWS 2010

Source Contribution:
BIRDS INFORMATION

Source Information:

Source Citation:

Citation Information:
Originator:
WRIGHT, JOCELYN
Publication Date:
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.
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:
        6308
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type:
        Area point
      Point_and_Vector_Object_Count:
        6309
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type:
        Complete chain
      Point_and_Vector_Object_Count:
        24321
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type:
        Link
      Point_and_Vector_Object_Count:
        1087251
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type:
        Node, planar graph
      Point_and_Vector_Object_Count:
        22831

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

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**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
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.

Attribute: 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: 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.
**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**: 
  - **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

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**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

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**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

Enumerated_Domain:
Enumerated_Domain_Value:
  bird
Enumerated_Domain_Value_Definition:
  Bird
Enumerated_Domain_Value_Definition_Source:
  NOAA ESI Guidelines

Enumerated_Domain:
Enumerated_Domain_Value:
  bivalve
Enumerated_Domain_Value_Definition:
  Bivalve
Enumerated_Domain_Value_Definition_Source:
  NOAA ESI Guidelines

Enumerated_Domain:
Enumerated_Domain_Value:
  crab
Enumerated_Domain_Value_Definition:
  Crab
Enumerated_Domain_Value_Definition_Source:
  NOAA ESI Guidelines

Enumerated_Domain:
Enumerated_Domain_Value:
  crayfish
Enumerated_Domain_Value_Definition:
  Crayfish
Enumerated_Domain_Value_Definition_Source:
  NOAA ESI Guidelines

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
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:
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:**
-
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 = internesting; 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:
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

Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
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

Enumerated Domain:
  Enumerated Domain Value:
    T
    Enumerated Domain Value Definition:
    Threatened on federal list
    Enumerated Domain Value Definition Source:
    NOAA ESI Guidelines

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

    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:
YYYYY 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**

**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:**

Unrepresentable Domain:
Acceptable values change from atlas to atlas.

**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).

Back To Index
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
Contact Position:
GIS Manager

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Metadata Standard Name:
Content Standards for Digital Geospatial Metadata

Metadata Standard Version:
FGDC-STD-001-1998

Metadata Extensions:
Online Linkage:

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

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

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, 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; 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 source data and how these data were integrated or manipulated to create the final data set.

Lineage:
Source_Information:
Source_Citation:
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:

UNPUBLISHED

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_Date:
    1994
  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:
    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:
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:
    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_Citation_Abbreviation:
McGee 2009

Source_Contribution:
NESTS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:
 Originator:
 NATIONAL PARK SERVICE: CAPE LOOKOUT NATIONAL SEASHORE
 Publication_Date:
 2009

Title:
CWB_09

Geospatial_Data_Presentation_Form:
vector digital data

Other_Citation_Details:
UNPUBLISHED

Type_of_Source_Media:
FTP SITE

Source_Time_Period_of_Content:

Time_Period_Information:
 Single_Date/Time:
 Calendar_Date:
 2009

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:
disc

Source_Time_Period_of_Content:

Time_Period_Information:
Type of Source Media: THUMB DRIVE
Source Time Period of Content:
  Time Period Information:
    Range of Dates/Times:
      Beginning Date: 2000
      Ending Date: 2003
Source Currentness Reference: DATE OF SURVEY
Source Citation Abbreviation: NCWRC 2009, Shorebird BE
Source Contribution: NESTS INFORMATION
Source Information:
  Source Citation:
    Citation Information:
      Originator: STEWART, D. (U.S. FISH AND 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: NESTS INFORMATION
Source Information:
  Source Citation:
    Citation Information:
      Originator: U.S. FISH AND WILDLIFE SERVICE
      Publication Date: 2003
    Title: RCW_ACTIVE_2003
    Geospatial Data Presentation Form:
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.
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: Area point
  Point and Vector Object Count: 329

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

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:
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**

**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:*
North Carolina ESI: NESTS
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:
    un
    gulate

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: FEB
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: MAR
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: APR
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: MAY
Attribute Label: MAY
Attribute Definition: May
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:
Enumerated_Domain:
Enumrated_Domain_Value: X
Enumrated_Domain_Value_Definition: Present in May
Enumrated_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:
Enumrated_Domain_Value: X
Enumrated_Domain_Value_Definition: Present in June
Enumrated_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:
Enumrated_Domain_Value: X
Enumrated_Domain_Value_Definition: Present in July
Enumrated_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:
Enumrated_Domain_Value: X
Enumrated_Domain_Value_Definition: Present in August
Enumrated_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
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
**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

- **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 = internesting; 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
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:
-
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**

**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:**

T_MAMMAL

**Enumerated Domain Definition:**
Terrestrial Mammals

**Enumerated Domain Definition Source:** NOAA ESI Guidelines
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#####, 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:** SOURCES

**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).

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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.
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:**


**Originator:**

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

**Originator:**


**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
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
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_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, biore.s.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

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, Taughtogalabrus 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 mittilli; 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, Lophostomus 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, Ameirus 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, Ameirus natalis; 212, Pumpkinseed, Lepomis gibbosus; 214, Gulf kingfish, Menticirrhus littoralis; 218, Bowfin, Amia calva; 226, Crapple, Pomoxis spp.; 268, Silver seatrout, Cynoscion nothus; 271, Inland silverside, Menidia beryllina; 278, Little tunny, Euthynnus alletteratus; 283, Kilifi, 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, Spotted pinfish, Diplodus holbrooki; 350, Tomtate, Haemulon aurolineatum; 353, Golden shiner, Notemigonus crysoleucas; 356, Greater amberjack, Seriola dumerili; 357, Hogchoker, Trinectes maculatus; 378, Atlantic needlefish, Strongylocentrus undulatus; 417, Catfish, Galeichthys spp.; 464, Longnose gar, Lepisosteus osseus; 495, Gray triggerfish, Balistes capriscus; 585, Jacks, Hemicarax sp.; 648, Chubsucker, Erinnynus albescens; 785, White grunt, Haemulops leuciscus; 840, Houndfish, Tylosurus crocodilus crocodilus; 984, Bluespotted sunfish, Enneacanthus gloriosus; 985, Redbreast sunfish, Lepomis auritus; 998, Bridle shiner, Notropis bifrenatus; 999, Redfin...

**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:
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:
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, 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:
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:
SENSITIVITY OF COASTAL ENVIRONMENTS AND WILDLIFE TO SPILLED OIL: VIRGINIA

Title:

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:
Citation Information:
Originator:
NOAA (NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION), NATIONAL OCEAN SERVICE (NOS), OFFICE OF RESPONSE AND RESTORATION (OR&R), EMERGENCY RESPONSE DIVISION (ERD)
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
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
SourceInformation:
  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 Notthus (Family Sciaenidae), in North Carolina Waters
Geospatial_Data_Presentation_Form: document
Publication_Information:
  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
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
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

SDTS Terms Description:
SDTS Point and Vector Object Type: 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

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

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
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:
        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:
        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:
        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:
        Enumerated Domain Value: INVERT
        Enumerated Domain Value Definition: Invertebrates
        Enumerated Domain Value Definition Source: NOAA ESI Guidelines
  Attribute Domain Values:
**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 = '0000101')

**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

- **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 = internesting; 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

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

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:
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
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.
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).

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:
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_orProvince:
Washington
Postal_Code:
98115-6349

Contact_Voice_Telephone:
(206) 526-6944

Contact_Facsimile_Telephone:
(206) 526-6329

(206) 526-6400
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: 

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:

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

Originator:

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

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 brevirostris; 367, Eastern pondmussel, Ligumia nasuta; 377, Tidewater mucket, Leptodea ochracea; 602, Chowanoke crayfish, Orconectes virginiensis; 603, Giant swallowtail, Papilio cresphontes; 1061, Portunus spp., Portunus spp.

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:
PublicationPlace:
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
Title:
PERFORMANCE ASSESSMENT OF RETROFITTED WATER
CONTROL STRUCTURES AT MATTAMUSKEET NATIONAL
WILDLIFE REFUGE, NORTH CAROLINA

Publication Information:
Publication Place:
GREENVILLE, NORTH CAROLINA
Publisher:
DEPARTMENT OF BIOLOGY, EAST CAROLINA UNIVERSITY
Title:
1999-2009 HORSESHOE CRAB LANDINGS BY MONTH FOR ESTUARINE WATERS ONLY

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

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 Month

Source Contribution:
INVERT INFORMATION
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:
      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_Date:
            2009
         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
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

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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

---

**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

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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:** 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. 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

**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:**
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
      Enumerated Domain Value: FISH
        Enumerated Domain Value Definition: Fish
        Enumerated Domain Value Definition Source: NOAA ESI Guidelines
      Enumerated Domain Value: HABITAT
        Enumerated Domain Value Definition: Habitats and plants
        Enumerated Domain Value Definition Source: NOAA ESI Guidelines
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:**
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 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 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
Enumrated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:
Enumrated_Domain:
Enumrated_Domain_Value: REPTILE
Enumrated_Domain_Value_Definition: Reptiles and Amphibians
Enumrated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:
Enumrated_Domain:
Enumrated_Domain_Value: T_MAMMAL
Enumrated_Domain_Value_Definition: Terrestrial Mammals
Enumrated_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:
Enumrated_Domain:
Enumrated_Domain_Value: alligator
Enumrated_Domain_Value_Definition: Alligator
Enumrated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:
Enumrated_Domain:
Enumrated_Domain_Value: bird
Enumrated_Domain_Value_Definition: Bird
Enumrated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:
Enumrated_Domain:
Enumrated_Domain_Value: bivalve
Enumrated_Domain_Value_Definition: Bivalve
Enumrated_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_Value:** shrimp
  - **Enumerated_Domain_Value_Definition:** Shrimp
  - **Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

- **Enumerated_Domain_Value:** sm_mammal
  - **Enumerated_Domain_Value_Definition:** Small mammal
  - **Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

- **Enumerated_Domain_Value:** snake
  - **Enumerated_Domain_Value_Definition:** Snake
  - **Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

- **Enumerated_Domain_Value:** turtle
  - **Enumerated_Domain_Value_Definition:** Turtle
  - **Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

- **Enumerated_Domain_Value:** ungulate
  - **Enumerated_Domain_Value_Definition:** Ungulate
  - **Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines
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:*


EnumeratedDomain:
  EnumeratedDomainValue:
    BIRD
    EnumeratedDomainValueDefinition:
      Birds
    EnumeratedDomainValueDefinitionSource:
      NOAA ESI Guidelines

AttributeDomainValues:
  EnumeratedDomain:
    EnumeratedDomainValue:
      FISH
      EnumeratedDomainValueDefinition:
        Fish
      EnumeratedDomainValueDefinitionSource:
        NOAA ESI Guidelines

AttributeDomainValues:
  EnumeratedDomain:
    EnumeratedDomainValue:
      HABITAT
      EnumeratedDomainValueDefinition:
        Habitats and plants
      EnumeratedDomainValueDefinitionSource:
        NOAA ESI Guidelines

AttributeDomainValues:
  EnumeratedDomain:
    EnumeratedDomainValue:
      INVERT
      EnumeratedDomainValueDefinition:
        Invertebrates
      EnumeratedDomainValueDefinitionSource:
        NOAA ESI Guidelines

AttributeDomainValues:
  EnumeratedDomain:
    EnumeratedDomainValue:
      M_MAMMAL
      EnumeratedDomainValueDefinition:
        Marine Mammals
      EnumeratedDomainValueDefinitionSource:
        NOAA ESI Guidelines

AttributeDomainValues:
  EnumeratedDomain:
    EnumeratedDomainValue:
      REPTILE
      EnumeratedDomainValueDefinition:
        Reptiles and Amphibians
      EnumeratedDomainValueDefinitionSource:
        NOAA ESI Guidelines

AttributeDomainValues:
  EnumeratedDomain:
    EnumeratedDomainValue:
      T_MAMMAL
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
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 = internesting; 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

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

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

**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 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**

**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:
<table>
<thead>
<tr>
<th>Attribute_Label</th>
<th>DATA_FORMAT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attribute_Definition:</strong></td>
<td>The format of the source material.</td>
</tr>
<tr>
<td><strong>Attribute_Definition_Source:</strong></td>
<td>NOAA ESI Guidelines</td>
</tr>
<tr>
<td><strong>Attribute_Domain_Values:</strong></td>
<td>Unrepresentable_Domain: Acceptable values change from atlas to atlas.</td>
</tr>
</tbody>
</table>

Attribute:
<table>
<thead>
<tr>
<th>Attribute_Label</th>
<th>PUB_PLACE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attribute_Definition:</strong></td>
<td>Publication place.</td>
</tr>
<tr>
<td><strong>Attribute_Definition_Source:</strong></td>
<td>NOAA ESI Guidelines</td>
</tr>
<tr>
<td><strong>Attribute_Domain_Values:</strong></td>
<td>Unrepresentable_Domain: Acceptable values change from atlas to atlas.</td>
</tr>
</tbody>
</table>

Attribute:
<table>
<thead>
<tr>
<th>Attribute_Label</th>
<th>PUBLISHER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attribute_Definition:</strong></td>
<td>Publisher.</td>
</tr>
<tr>
<td><strong>Attribute_Definition_Source:</strong></td>
<td>NOAA ESI Guidelines</td>
</tr>
<tr>
<td><strong>Attribute_Domain_Values:</strong></td>
<td>Unrepresentable_Domain: Acceptable values change from atlas to atlas.</td>
</tr>
</tbody>
</table>

Attribute:
<table>
<thead>
<tr>
<th>Attribute_Label</th>
<th>PUBLICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attribute_Definition:</strong></td>
<td>Additional citation information.</td>
</tr>
<tr>
<td><strong>Attribute_Definition_Source:</strong></td>
<td>NOAA ESI Guidelines</td>
</tr>
<tr>
<td><strong>Attribute_Domain_Values:</strong></td>
<td>Unrepresentable_Domain: Acceptable values change from atlas to atlas.</td>
</tr>
</tbody>
</table>

Attribute:
<table>
<thead>
<tr>
<th>Attribute_Label</th>
<th>ONLINE_LINK</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attribute_Definition:</strong></td>
<td>Online computer resource URL.</td>
</tr>
<tr>
<td><strong>Attribute_Definition_Source:</strong></td>
<td>NOAA ESI Guidelines</td>
</tr>
<tr>
<td><strong>Attribute_Domain_Values:</strong></td>
<td>Unrepresentable_Domain: Acceptable values change from atlas to atlas.</td>
</tr>
</tbody>
</table>

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).

Distribution_Information:
Distributor:

Contact Information:
Contact_Person_Placeholder:
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.

---

**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:**


**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: 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:


Originator:

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

Originator:


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).
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: Environment
  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: Environmental Monitoring
  Theme_Keyword_Thesaurus: NOS Data Explorer Topic Category
  Theme_Keyword: Environmental Monitoring

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

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, biore.s00, 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

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:

Time Period Information:

Single Date/Time:

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 & 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: 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

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: Godfrey 2009

Source_Contribution: REPTILES INFORMATION

Source_Information:

Source_Citation:

Citation_Information:
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:  
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:  
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:  
Time Period Information:
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:
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:
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:

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:
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: 2992

SDTS Terms Description:
  SDTS Point and Vector Object Type: Area point
  Point and Vector Object Count: 2993

SDTS Terms Description:
  SDTS Point and Vector Object Type: Complete chain
  Point and Vector Object Count: 7109

SDTS Terms Description:
  SDTS Point and Vector Object Type: Link
  Point and Vector Object Count: 854733

SDTS Terms Description:
  SDTS Point and Vector Object Type: Node, planar graph
  Point and Vector Object Count: 6620

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

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
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: 235001183

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:
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:** HABITAT
  - **Enumerated Domain Value:** HABITAT
    - **Enumerated Domain Value Definition:** Habitats and plants
    - **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

- **Enumerated Domain:** INVERT
  - **Enumerated Domain Value:** INVERT
    - **Enumerated Domain Value Definition:** Invertebrates
    - **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

- **Enumerated Domain:** M_MAMMAL
  - **Enumerated Domain Value:** M_MAMMAL
    - **Enumerated Domain Value Definition:** Marine Mammals
    - **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

- **Enumerated Domain:** REPTILE
  - **Enumerated Domain Value:** REPTILE
    - **Enumerated Domain Value Definition:** Reptiles and Amphibians
    - **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

- **Enumerated Domain:** T_MAMMAL
  - **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

Enumerated Domain Value: bird
Enumerated Domain Value Definition: Bird
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Enumerated Domain Value: bivalve
Enumerated Domain Value Definition: Bivalve
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Enumerated Domain Value: crab
Enumerated Domain Value Definition: Crab
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Enumerated Domain Value: crayfish
Enumerated Domain Value Definition: Crayfish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Enumerated Domain Value: diadromous
Enumerated Domain Value Definition: Diadromous fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines
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:

North Carolina ESI: REPTILES

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**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: JAN
  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: FEB
  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: MAR
  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: APR
  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: MAY
  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: JUN
  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: JUL
  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
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 = internesting; 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
    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
    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:
  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:**

**Enumerated_Domain_Value_Definition:**
Birds

**Enumerated_Domain_Value_Definition_Source:**
NOAA ESI Guidelines

**Enumerated_Domain:**
- **Enumerated_Domain_Value:**

**Enumerated_Domain_Value_Definition:**
Fish

**Enumerated_Domain_Value_Definition_Source:**
NOAA ESI Guidelines

**Enumerated_Domain:**
- **Enumerated_Domain_Value:**

**Enumerated_Domain_Value_Definition:**
Habitats and Plants

**Enumerated_Domain_Value_Definition_Source:**
NOAA ESI Guidelines

**Attribute_Domain_Values:**

**Enumerated_Domain:**
- **Enumerated_Domain_Value:**

**Enumerated_Domain_Value_Definition:**

**Enumerated_Domain_Value_Definition_Source:**

**Attribute_Domain_Values:**

**Enumerated_Domain:**
- **Enumerated_Domain_Value:**

**Enumerated_Domain_Value_Definition:**

**Enumerated_Domain_Value_Definition_Source:**

**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:
**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

- **Enumerated Domain Value:** T
  - **Enumerated Domain Value Definition:** Threatened on state list
  - **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

- **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

North Carolina ESI: REPTILES
Page 43 of 49
**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.
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).

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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.

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:
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 Information:

Originator:

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

Originator:

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).
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: Environmental Monitoring

Theme_Keyword_Thesaurus: None

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: NOS Data Explorer Topic Category

Theme_Keyword: Environmental Monitoring

Place: North Carolina

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

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.

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, biore.e00, breed.e00, breed_dt.e00, seasonal.e00, soc_dat.e00, soc_lut.e00, sources.e00, species.e00, and status.e00.

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.

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: Adimay 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:
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:
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**Point and Vector Object Count:**

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

**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

**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:** 235001183

---

**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

Enumerated_Domain:
  Enumerated_Domain_Value:
    M_MAMMAL
    Enumerated_Domain_Value_Definition:
      Marine mammals
    Enumerated_Domain_Value_Definition_Source:
      NOAA ESI Guidelines

Enumerated_Domain:
  Enumerated_Domain_Value:
    REPTILE
    Enumerated_Domain_Value_Definition:
      Reptiles and Amphibians
    Enumerated_Domain_Value_Definition_Source:
      NOAA ESI Guidelines

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

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
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
Marine pelagic fish

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
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 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 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 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 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 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').
ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1;
EL_SPE_SEA = 'B0000101').

\text{Enumerated Domain Value Definition Source:}
NOAA ESI Guidelines

\text{Attribute:}
\text{Attribute Label:}
MONTH
\text{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.
\text{Attribute Definition Source:}
NOAA ESI Guidelines

\text{Attribute Domain Values:}
\text{Range Domain:}
\text{Range Domain Minimum:}
1
\text{Range Domain Maximum:}
12

\text{Attribute:}
\text{Attribute Label:}
BREED1
\text{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.
\text{Attribute Definition Source:}
NOAA ESI Guidelines

\text{Attribute Domain Values:}
\text{Enumerated Domain:}
\text{Enumerated Domain Value:}
Y
\text{Enumerated Domain Value Definition:}
Life-history stage or activity present
\text{Enumerated Domain Value Definition Source:}
NOAA ESI Guidelines

\text{Attribute Domain Values:}
\text{Enumerated Domain:}
\text{Enumerated Domain Value:}
N
\text{Enumerated Domain Value Definition:}
Life-history stage or activity not present or not reported
\text{Enumerated Domain Value Definition Source:}
NOAA ESI Guidelines

\text{Attribute Domain Values:}
\text{Enumerated Domain:}
\text{Enumerated Domain Value:}
-
\text{Enumerated Domain Value Definition:}
Breed category not used or not appropriate for record(s) in question
\text{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 = internesting; 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:*

- 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
**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 BrowseGraphic 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

**Enumerated Domain:**

**Enumerated Domain Value:**

**FISH**

**Enumerated Domain Value Definition:**

Fish

**Enumerated Domain Value Definition Source:**

NOAA ESI Guidelines

**Enumerated Domain:**

**Enumerated Domain Value:**

**HABITAT**

**Enumerated Domain Value Definition:**

Habitats and Plants

**Enumerated Domain Value Definition Source:**

NOAA ESI Guidelines

**Enumerated Domain:**

**Enumerated Domain Value:**

**INVERT**

**Enumerated Domain Value Definition:**

Invertebrates

**Enumerated Domain Value Definition Source:**

NOAA ESI Guidelines

**Enumerated Domain:**

**Enumerated Domain Value:**

**M_MAMMAL**

**Enumerated Domain Value Definition:**

Marine Mammals

**Enumerated Domain Value Definition Source:**

NOAA ESI Guidelines

**Enumerated Domain:**

**Enumerated Domain Value:**

**REPTILE**

**Enumerated Domain Value Definition:**

Reptiles and Amphibians

**Enumerated Domain Value Definition Source:**

NOAA ESI Guidelines
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

**Attribute 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).

---

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

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:**

**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_BoundingCoordinate:** -78.62500
- **East_BoundingCoordinate:** -75.39900
- **North_BoundingCoordinate:** 36.62500
- **South_BoundingCoordinate:** 33.75000

**Keywords:**

**Theme:**
- **Theme_Keyword_Thesaurus:** ISO 19115 Topic Category
- **Theme_Keyword:** biota
- **Theme_Keyword:** environment
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:
Depicts the relationships between spatial data layers and desktop data tables for the North Carolina ESI data.

**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

**Data Quality Information:**

**Attribute Accuracy:**
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
deermouse, Peromyscus leucopus buxtoni; 275, Horse, Equus caballus.

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
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:**
  - 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_orProvince:**
    - Washington
  - **Postal_Code:**

---

**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
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

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

---

**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:**
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: NAME
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: GEN_SPEC
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: ELEMENT
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: Network of Natural Heritage Program
    Codeset Source:

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

**Enumerated_Domain:**

**Enumerated_Domain_Value:**
FISH

**Enumerated_Domain_Value_Definition:**
Fish

**Enumerated_Domain_Value_Definition_Source:**
NOAA ESI Guidelines

**Enumerated_Domain:**

**Enumerated_Domain_Value:**
HABITAT

**Enumerated_Domain_Value_Definition:**
Habitats and plants

**Enumerated_Domain_Value_Definition_Source:**
NOAA ESI Guidelines

**Enumerated_Domain:**

**Enumerated_Domain_Value:**
INVERT

**Enumerated_Domain_Value_Definition:**
Invertebrates

**Enumerated_Domain_Value_Definition_Source:**
NOAA ESI Guidelines

**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:
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:
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#### | 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: Life-history stage or activity not present or not reported

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 = internesting; 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:

- North Carolina ESI: T_MAMMAL
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).

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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.

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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 Extensions:  
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: 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:**


**Originator:**

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

**Originator:**


**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).
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_BoundingCoordinate:
-78.62500
East_BoundingCoordinate:
-75.39900
North_BoundingCoordinate:
36.62500
South_BoundingCoordinate:
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, soccon.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

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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 monteviendins;
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:

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_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:
PublicationPlace:
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
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 Contact:

Contact Information:

Contact Organization Primary:
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

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
**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:** 235000002
- **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:
    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

Attribut_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value:
    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: North Carolina ESI: HABITATS
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:
  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:
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:  
  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
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

**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

**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

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**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:**

**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 = internesting; 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:**
Life-history stage or activity present

**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:**

**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:**

**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
  Enumerated_Domain:
    Enumerated_Domain_Value:
      T
    Enumerated_Domain_Value_Definition: Threatened on state list
    Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
  Enumerated_Domain:
    Enumerated_Domain_Value:
      C
    Enumerated_Domain_Value_Definition: Species of Special Concern
    Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

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
  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
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:**
YYYY

**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:**
YYYY

**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').
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).

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Downloadable Data

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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.

Metadata Reference Information:

Metadata Date:
20111015

Metadata Review Date:
20111015

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Metadata Standard Name:
Content Standards for Digital Geospatial Metadata

Metadata Standard Version:
FGDC-STD-001-1998

Metadata Extensions:
Online Linkage:

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