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

Metadata:

- Identification Information
- Data Quality Information
- Spatial Data Organization Information
- Spatial Reference Information
- Entity and Attribute Information
- Distribution Information
- Metadata Reference Information

Identification Information:

Citation:

Citation Information:

Originator:


Publication Date: 200604

Title:

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

Edition: First

Geospatial Data Presentation Form: Vector digital data

Series Information:

Series Name: None

Issue Identification: Hudson River

Publication Information:

Publication Place: Seattle, Washington

Publisher:


Other Citation Details:

Description:

Abstract:
This data set contains vector lines and polygons representing coastal hydrography used in the creation of the Environmental Sensitivity Index (ESI) for the Hudson River. 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 the Hudson River. 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: 1942
Ending_Date: 2005

Currentness_Reference:
The data were compiled during 2005. The currentness dates for the data range from 1942 to 2005 and are documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_BoundingCoordinate: -74.05800
East_BoundingCoordinate: -73.62500
North_BoundingCoordinate: 42.75000
South_BoundingCoordinate: 40.87500

Keywords:

Theme:

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: Hydrography

Place:

Place_Keyword_Thesaurus: None
Place_Keyword: Hudson River

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 Hudson River 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, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington and the Department of Homeland Security, U.S. Coast Guard, Office of Response Plans & Preparedness Division, 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 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

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, reptiles.e00, rvrmiles.e00, sensitiv.e00, socecon.e00, staging.e00, t_mammal.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

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-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.

**Completeness_Report:**
These data represent linear and polygonal hydrography for the Hudson River.

**Positional_Accuracy:**

**Horizontal_Positional_Accuracy_Report:**
The HYDRO 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 U.S. Geological Survey (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:**
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYS DEC)

**Publication_Date:** 2000

**Title:**
NEW YORK STATE LARGE SCALE HYDROGRAPHY SURFACE WATER AREAS BY SUB-BASIN

**Geospatial_Data_Presentation_Form:** DIGITAL VECTOR DATA

**Other_Citation_Details:** NYS DEC, ALBANY, NY

**Type_of_Source_Media:** ONLINE

**Source_Time_Period_of_Content:**

**Time_Period_Information:**

**Range_of_Dates/Times:**

**Beginning_Date:** 1942

**Ending_Date:** 1994

**Source_Currentness_Reference:** DATE OF PUBLICATION

**Source_Citation_Abbreviation:** NONE

**Source_Contribution:** HYDRO INFORMATION

**Source_Information:**

**Source_Citation:**

**Citation_Information:**

**Originator:** RESEARCH PLANNING, INC. (RPI)

**Publication_Date:** 2005

**Title:** GENERATED INDEX ARCS

**Geospatial_Data_Presentation_Form:** VECTOR DIGITAL DATA

**Other_Citation_Details:** UNPUBLISHED

**Source_Scale_Denominator:** 24,000

**Type_of_Source_Media:** DISC

**Source_Time_Period_of_Content:**

**Time_Period_Information:**

**Single_Date/Time:**

**Calendar_Date:** 2005
The shoreline was derived primarily from digital coastline data originating from the NYS Department of Environmental Conservation, Albany, NY. Minor gaps and/or changes in this data set were digitized from digital raster graphics (DRGs). In some cases, gross shoreline changes were sketched by Research Planning, Inc. during ESI classification overflights and digitized from the hardcopy field maps.

The above digital and/or hardcopy sources were compiled to create the HYDRO 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 is 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:** 200602  
**Process_Contact:**  
**Contact Thông tin:**  
**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:** 3303  
**SDTS Terms Description:**  
  **SDTS Point and Vector Object Type:** Area point  
  **Point and Vector Object Count:** 3303  
**SDTS Terms Description:**  
  **SDTS Point and Vector Object Type:** Complete chain  
  **Point and Vector Object Count:** 5301  
**SDTS Terms Description:**  
  **SDTS Point and Vector Object Type:** Link  
  **Point and Vector Object Count:** 164611  
**SDTS Terms Description:**  
  **SDTS Point and Vector Object Type:** Label Point  
  **Point and Vector Object Count:** 22  
**SDTS Terms Description:**  
  **SDTS Point and Vector Object Type:** Node, planar graph  
  **Point and Vector Object Count:** 5302

**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 1927
Ellipsoid Name: Clark 1866
Semi-major Axis: 6378206.400000
Denominator of Flattening Ratio: 294.978698

Entity and Attribute Information:
Overview Description:
In addition to the geographic data layers, one 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. The entity-relationship diagram describes the relationships between the attribute tables in the ESI data structure.

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: Research Planning, Inc.

Attribute:
Attribute Label: LINE
Attribute Definition: Type of geographic feature.
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
Enumerated Domain:
  Enumerated Domain Value: B
  Enumerated Domain Value Definition: Breakwater
  Enumerated Domain Value Definition Source: Research Planning, Inc.
Enumerated Domain:
  Enumerated Domain Value: H
  Enumerated Domain Value Definition: Hydrography
  Enumerated Domain Value Definition Source: Research Planning, Inc.
Enumerated Domain:
  Enumerated Domain Value: I
  Enumerated Domain Value Definition: Index
  Enumerated Domain Value Definition Source: Research Planning, Inc.
Enumerated Domain:
  Enumerated Domain Value: S
  Enumerated Domain Value Definition: Shoreline
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
Attribute Label: SOURCE_ID
Attribute Definition:
Spatial data source for the data layer lines that link to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:
  Range_Domain_Minimum: 1
  Range_Domain_Maximum: N

Detailed_Description:

Entity_Type:
  Entity_Type_Label: HYDRO.PAT
  Entity_Type_Definition:
    The HYDRO.PAT table contains attribute information for the vector polygons representing polygonal hydrography features in the HYDRO data layer.
    Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: WATER_CODE
  Attribute_Definition: Specifies a polygon as either water or land.
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: L
      Enumerated_Domain_Value_Definition: Land
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
      Enumerated_Domain:
        Enumerated_Domain_Value: W
        Enumerated_Domain_Value_Definition: Water
        Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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:** Research Planning, Inc.

**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 in the ESI and HYDRO data layers.
- **Attribute_Definition_Source:** Research Planning, Inc.
- **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:** Research Planning, Inc.
- **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:** Research Planning, Inc.
- **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:** Research Planning, Inc.

**Attribute:**
- **Attribute_Label:** TITLE
- **Attribute_Definition:** Title of source material or data.
- **Attribute_Definition_Source:** Research Planning, Inc.
- **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:** Research Planning, Inc.
- **Attribute_Domain_Values:**
  - **Unrepresentable_Domain:** Acceptable values change from atlas to atlas.

**Attribute:**
- **Attribute_Label:** PUBLICATION
- **Attribute_Definition:** Additional citation information.
- **Attribute_Definition_Source:** Research Planning, Inc.
- **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: Research Planning, Inc.
  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: Research Planning, Inc.
  Attribute_Domain_Values:
    Unrepresentable_Domain: Acceptable values change from atlas to atlas.

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: ESI Atlas for the Hudson River
  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 a wider community of GIS/mapping users. Distribution formats
  include a 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 are also included on
  the distribution CDs 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: 200604
Metadata_Review_Date: 200604
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

Generated by mp version 2.8.21 on Sat May 13 16:31:31 2006
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: ESI (Environmental Sensitivity Index Shoreline Types - Lines and Polygons)

Metadata also available as - [Parseable text] - [SGML]

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:
Publication_Date: 200604
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: ESI (Environmental Sensitivity Index Shoreline Types - Lines and Polygons)
Edition: First
Geospatial_Data_Presentation_Form: Vector digital data
Series_Information:
Series_Name: None
Issue_Identification: Hudson River
Publication_Information:
Publication_Place: Seattle, Washington
Publisher:
Other_Citation_Details:
Description:

Abstract:
This data set contains vector lines and polygons representing the shoreline and coastal habitats for the Hudson River, classified according to the Environmental Sensitivity Index (ESI) classification system. This data set comprises a portion of the ESI data for the Hudson River. 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 (Wetland Polygons) data layer, part of the larger Hudson River 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: 1942
      Ending_Date: 2005
  Currentness_Reference:
The data were compiled during 2005. The currentness dates for the data range from 1942 to 2005 and are documented in the Lineage section.

Status:
  Progress: Complete
  Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:
  Bounding_Coordinates:
    West_BoundingCoordinate: -74.05800
    East_BoundingCoordinate: -73.62500
    North_BoundingCoordinate: 42.75000
    South_BoundingCoordinate: 40.87500

Keywords:
  Theme:
    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
  Place:
    Place_Keyword_Thesaurus: None
    Place_Keyword: Hudson River

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 Hudson River 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, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington and the Department of Homeland Security, U.S. Coast Guard, Office of Response Plans & Preparedness Division, 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 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

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, reptiles.e00, rvrmiles.e00, sensitiv.e00, socecon.e00, staging.e00, t_mammal.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

**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-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.

Completeness_Report:
These data represent coastal shorelines and habitats classified according to the Environmental Sensitivity Index (ESI) classification system. See also the WETLANDS (Wetland Polygons) data layer, part of the larger Hudson River ESI database, for additional ESI information.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:
The ESI data set 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 U.S. Geological Survey (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 data source and how these data were integrated or manipulated to create the final data set.

Lineage:

Source_Information:
Source_Citation:
Citation.Information:
Originator: NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION (NJDEP)
Publication_Date: 1996
Title: NJDEP COASTLINE OF NEW JERSEY
Geospatial_Data_Presentation_Form: DIGITAL VECTOR DATA
Other_Citation_Details: NJDEP, TRENTON, NJ
Source_Scale_Denominator: 24000
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1986
Source_Currentness_Reference: DATE OF CREATION
Source_Citation_Abbreviation: NONE
Source_Contribution: ESI INFORMATION

Source_Information:
Source_Citation:
Citation.Information:
Originator: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYS DEC)
Publication_Date: 2000
Title: NEW YORK STATE LARGE SCALE HYDROGRAPHY SURFACE WATER AREAS BY SUB-BASIN
Geospatial_Data_Presentation_Form: DIGITAL VECTOR DATA
Other_Citation_Details: NYS DEC, ALBANY, NY
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
The shoreline habitats of the Hudson River were mapped during overflights and ground surveys conducted by an experienced coastal geologist in May 2005. The overflights were conducted at elevations of 400-600 feet and slow air speed. During this work, the ESI shoreline classification was denoted directly onto the shoreline depicted on 1:24,000-scale U.S. Geological Survey (USGS) topographic maps. Where appropriate, revisions to the existing shoreline were made and, where necessary, multiple habitats were described for each shoreline segment.
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 classifications are digitized from the scanned and registered hardcopy field maps. 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 is 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: 200602
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: 226

SDTS_Terms_Description:
  SDTS_Point_and_Vector_Object_Type: Area point
  Point_and_Vector_Object_Count: 226

SDTS_Terms_Description:
  SDTS_Point_and_Vector_Object_Type: Complete chain
  Point_and_Vector_Object_Count: 2007

SDTS_Terms_Description:
  SDTS_Point_and_Vector_Object_Type: Link
  Point_and_Vector_Object_Count: 89910

SDTS_Terms_Description:
  SDTS_Point_and_Vector_Object_Type: Node, planar graph
  Point_and_Vector_Object_Count: 1944
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 1927
    Ellipsoid_Name: Clark 1866
    Semi-major_Axis: 6378206.400000
    Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
  Overview_Description:
    Entity_and_Attribute_Overview:
      In addition to the geographic data layers, one 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. The entity-relationship diagram describes the relationships between the attribute tables in the ESI data structure.
  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: Research Planning, Inc.
    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: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:

  Enumerated Domain Value: 1A
  Enumerated Domain Value Definition: Exposed Rocky Shores
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:

  Enumerated Domain Value: 1B
  Enumerated Domain Value Definition: Exposed, Solid Man-made Structures
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:

  Enumerated Domain Value: 3B
  Enumerated Domain Value Definition: Scarps and Steep Slopes in Sand
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:

  Enumerated Domain Value: 4
  Enumerated Domain Value Definition: Coarse-grained Sand Beaches
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:

  Enumerated Domain Value: 5
  Enumerated Domain Value Definition: Mixed Sand and Gravel Beaches
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:

  Enumerated Domain Value: 6A
  Enumerated Domain Value Definition: Gravel Beaches
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:

  Enumerated Domain Value: 6B
  Enumerated Domain Value Definition: Riprap
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:

  Enumerated Domain Value: 7
  Enumerated Domain Value Definition: Exposed Tidal Flats
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:

  Enumerated Domain Value: 8A
  Enumerated Domain Value Definition: Sheltered Rocky Shores
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:

  Enumerated Domain Value: 8B
  Enumerated Domain Value Definition: Sheltered, Solid Man-made Structures
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:

  Enumerated Domain Value: 8C
  Enumerated Domain Value Definition: Sheltered Riprap
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:

  Enumerated Domain Value: 8D
  Enumerated Domain Value Definition: Sheltered Rocky Rubble Shores
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
  Enumerated_Domain_Value: 9A
  Enumerated_Domain_Value_Definition: Sheltered Tidal Flats
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
  Enumerated_Domain_Value: 9B
  Enumerated_Domain_Value_Definition: Vegetated Low Banks
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
  Enumerated_Domain_Value: 10B
  Enumerated_Domain_Value_Definition: Freshwater Marshes
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
  Enumerated_Domain_Value: U
  Enumerated_Domain_Value_Definition: Unranked
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: LINE
  Attribute_Definition: Type of geographic feature.
  Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: B
    Enumerated_Domain_Value_Definition: Breakwater
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

  Enumerated_Domain:
    Enumerated_Domain_Value: F
    Enumerated_Domain_Value_Definition: Flat
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

  Enumerated_Domain:
    Enumerated_Domain_Value: H
    Enumerated_Domain_Value_Definition: Hydrography
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

  Enumerated_Domain:
    Enumerated_Domain_Value: S
    Enumerated_Domain_Value_Definition: Shoreline
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: SOURCE_ID
  Attribute_Definition: Source identifier that links to records in the SOURCES data table.
  Attribute_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Estuarine
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: U
Enumerated_Domain_Value_Definition: Unranked
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.

Attribute:

Attribute_Label: ESI
Attribute_Definition: The item ESI contains values representing the ESI polygon type.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 7
Enumerated_Domain_Value_Definition: Exposed Tidal Flats
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: 9A
Enumerated_Domain_Value_Definition: Sheltered Tidal Flats
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: U
Enumerated_Domain_Value_Definition: Unranked
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: WATER_CODE
Attribute_Definition: Specifies a polygon as either water or land.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: L
Enumerated_Domain_Value_Definition: Land
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: W
Enumerated_Domain_Value_Definition: Water
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ENVIR
Attribute_Definition: Type of regional environment.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated Domain:
  Enumerated Domain Value: E
  Enumerated Domain Value Definition: Estuarine
  Enumerated Domain Value Definition Source: Research Planning, Inc.
Enumerated Domain:
  Enumerated Domain Value: U
  Enumerated Domain Value Definition: Unranked
  Enumerated Domain Value Definition Source: Research Planning, Inc.

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: Research Planning, Inc.

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 in the ESI and HYDRO data layers.
  Attribute Definition Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

Attribute Domain Values:
  Enumerated Domain:
    Enumerated Domain Value: YYYYMM
    Enumerated Domain Value Definition: YYY for year and optionally MM for month
    Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
  Attribute Label: TITLE
  Attribute Definition: Title of source material or data.
  Attribute Definition Source: Research Planning, Inc.
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: Research Planning, Inc.
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: PUBLICATION
Attribute_Definition: Additional citation information.
Attribute_Definition_Source: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

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: ESI Atlas for the Hudson River

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 a wider community of GIS/mapping users. Distribution formats include a 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 are also included on the distribution CDs 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: 200604
Metadata_Review_Date: 200604

Contact_Information:
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

Generated by mp version 2.8.21 on Sat May 13 15:54:32 2006
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: WETLANDS (Environmental Sensitivity Index Wetland Types - Polygons)

Metadata also available as - [Parseable text] - [SGML]

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:**

**Publication_Date:** 200604

**Title:**
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: WETLANDS (Environmental Sensitivity Index Wetland Types - Polygons)

**Edition:** First

**Geospatial_Data_Presentation_Form:** Vector digital data

**Series_Information:**

**Series_Name:** None

**Issue_Identification:** Hudson River

**Publication_Information:**

**Publication_PLACE:** Seattle, Washington

**Publisher:**

**Other_Citation_Details:**

Description:

Abstract:
This data set contains vector polygons representing coastal wetland habitats for the Hudson River classified according to the Environmental Sensitivity Index (ESI) classification system. This data set comprises a portion of the ESI data for the Hudson River. 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 (ESI Shoreline Types - Lines and Polygons), part of the larger Hudson River ESI database, for additional wetland habitat 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: 1998
   Ending_Date: 2004

Currentness_Reference:
The data were compiled during 2005. The currentness dates for the data ranges from 1998 to 2004 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:
   West_BoundingCoordinate: -74.05800
   East_BoundingCoordinate: -73.62500
   North_BoundingCoordinate: 42.75000
   South_BoundingCoordinate: 40.87500

Keywords:

Theme:
   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: Wetlands
   Theme_Keyword: Wildlife
   Theme_Keyword: Coastal wetlands

Place:
   Place_Keyword_Thesaurus: None
   Place_Keyword: Hudson River

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 Hudson River 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, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington and the Department of Homeland Security, U.S. Coast Guard, Office of Response Plans & Preparedness Division, 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 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

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, reptiles.e00, rvmiles.e00, sensitiv.e00, socecon.e00, staging.e00, t_mammal.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biore, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

**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-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.

**Completeness_Report:**

These data represent coastal wetland habitats classified according to the Environmental Sensitivity Index (ESI) classification system. See also the ESI data layer (ESI Shoreline Types - Lines and Polygons), part of the larger Hudson River ESI database, for additional wetland information.

**Positional_Accuracy:**

**Horizontal_Positional_Accuracy:**

**Horizontal_Positional_Accuracy_Report:**

The WETLANDS data set was developed from pre-existing digital sources and reflects the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set.

**Lineage:**

**Source_Information:**

**Source_Citation:**

**Citation_Information:**

**Originator:**

FRED MUSHACKE, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYS DEC)

**Publication_Date:** 2004

**Title:** HUDSON RIVER ESTUARY PHRAGMITES

**Geospatial_Data_Presentation_Form:** VECTOR DIGITAL DATA

**Other_Citation_Details:** NYS DEC, EAST SETAUKET, NY

**Type_of_Source_Media:** CD-ROM

**Source_Time_Period_of_Content:**

**Time_Period_Information:**

**Single_Date/Time:**

**Calendar_Date:** 199809

**Source_Currentness_Reference:** DATE OF SURVEY

**Source_Citation_Abbreviation:** NONE

**Source_Contribution:** WETLANDS INFORMATION

**Source_Information:**

**Source_Citation:**

**Citation_Information:**

**Originator:**

FRED MUSHACKE, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYS DEC)

**Publication_Date:** 2004

**Title:** HUDSON RIVER ESTUARY SHORELINE

**Geospatial_Data_Presentation_Form:** VECTOR DIGITAL DATA

**Other_Citation_Details:** NYS DEC, EAST SETAUKET, NY

**Type_of_Source_Media:** CD-ROM

**Source_Time_Period_of_Content:**

**Time_Period_Information:**

**Single_Date/Time:**

**Calendar_Date:** 1998
The WETLANDS data layer was created from digital data provided by the New York State Department of Environmental Conservation (NYS DEC) for the lower Hudson River, upper Hudson River, upper Hudson River Phragmites, and Sub-aquatic Vegetation. These data were combined and clipped with the HYDRO layer from this atlas. The existing classification schemes for these layers were collapsed to the ESI classification scheme found in NOAA Technical Memorandum NOS OR&R 11: Environmental Sensitivity Index Guidelines: Version 3.0: March 2002.

To create the WETLANDS data layer, review maps were plotted at 1:24,000 scale for verification of polygonal 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 were plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews was conducted to review the maps. If necessary, edits to the WETLANDS data layer were made based on the recommendations of the resource experts, and final hardcopy maps and digital data were created.

Process_Date: 200602
Process_Contact:

ContactInformation:
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: 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: 1260
SDTS_Terms_Description:
  SDTS_Point_and_Vector_Object_Type: Area point
  Point_and_Vector_Object_Count: 1260
SDTS_Terms_Description:
  SDTS_Point_and_Vector_Object_Type: Complete chain
  Point_and_Vector_Object_Count: 3490
SDTS_Terms_Description:
  SDTS_Point_and_Vector_Object_Type: Link
  Point_and_Vector_Object_Count: 60715
SDTS_Terms_Description:
  SDTS_Point_and_Vector_Object_Type: Node, planar graph
  Point_and_Vector_Object_Count: 3210

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 1927
  Ellipsoid_Name: Clark 1866
  Semi-major_Axis: 6378206.400000
  Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Detailed_Description:
Entity_Type:
  Entity_Type_Label: WETLANDS.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: Research Planning, Inc.
Attribute:
Attribute_Label: ESI
Attribute_Definition: The item ESI contains values representing the ESI polygon type.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: 10A
  Enumerated_Domain_Value_Definition: Salt- and Brackish-water marshes
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
  Enumerated_Domain_Value: 10B
  Enumerated_Domain_Value_Definition: Freshwater Marshes
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
  Enumerated_Domain_Value: 10D
  Enumerated_Domain_Value_Definition: Scrub-shrub Wetlands
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
  Enumerated_Domain_Value: U
  Enumerated_Domain_Value_Definition: Unranked
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: ESI Atlas for the Hudson River

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 a wider community of GIS/mapping users. Distribution formats include a 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 are also included on the distribution CDs 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:** 200604
- **Metadata_Review_Date:** 200604

**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

Generated by mp version 2.8.21 on Tue May 16 16:24:35 2006
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: 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:

Publication Date: 200604
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: BIRDS (Bird Polygons)

Edition: First
Geospatial Data Presentation Form: Vector digital data
Series Information:
Series Name: None
Issue Identification: Hudson River

Publication Information:
Publication Place: Seattle, Washington
Publisher:

Other Citation Details:

Description:
Abstract:
This data set contains sensitive biological resource data for wading birds, shorebirds, waterfowl, raptors, diving birds, passerine birds, and gulls and terns in the Hudson River. 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 Environmental Sensitivity Index (ESI) data for the Hudson River. 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:** 1986
- **Ending_Date:** 2006

**Currentness_Reference:**
The biological data were compiled during 2005. The currentness dates for the data range from 1986 to 2006 and are documented in the Lineage section.

**Status:**
- **Progress:** Complete
- **Maintenance_and_Update_Frequency:** None Scheduled

**Spatial_Domain:**
- **Bounding_Coordinates:**
  - **West_Bounding_Coordinate:** -74.05800
  - **East_Bounding_Coordinate:** -73.62500
  - **North_Bounding_Coordinate:** 42.75000
  - **South_Bounding_Coordinate:** 40.87500

**Keywords:**
- **Theme:**
  - **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:** Bird

- **Place:**
  - **Place_Keyword_Thesaurus:** None
  - **Place_Keyword:** Hudson River

**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 Hudson River 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, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington and the Department of Homeland Security, U.S. Coast Guard, Office of Response Plans & Preparedness Division, 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 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

The Spatial_Data_Organization_Information section refers only to the source files in the ARC export format. The following files are included in that data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, rvrmiles.e00, sensitiv.e00, soccon.e00, staging.e00, t_mammal.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biore, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

**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-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 "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. These data do not necessarily represent all bird occurrences in the Hudson River. 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; 5, Horned grebe, Podiceps auritus; 8, Double-crested cormorant, Phalacrocorax auritus; 12, Canada goose, Branta canadensis; 13, Brant, Branta bernicla; 16, Mallard, Anas platyrhynchos; 17, Northern pintail, Anas acuta; 18, Green-winged teal, Anas crecca; 21, Canvasback, Aythya valisineria; 22, Greater scaup, Aythya marila; 23, Lesser scaup, Aythya affinis; 24, Common goldeneye, Bucephala clangula; 26, Bufflehead, Bucephala albeola; 28, Harlequin duck, Histrionicus histrionicus; 32, Common merganser, Mergus merganser; 33, Red-breasted merganser, Mergus serrator; 34, American coot, Fulica americana; 38, Herring gull, Larus argentatus; 40, Ring-billed gull, Larus delawarensis; 54, Great blue heron, Ardea herodias; 55, Whimbrel, Numenius phaeopus; 56, Spotted sandpiper, Actitis macularia; 58, Greater yellowlegs, Tringa melanoleuca; 59, Lesser yellowlegs, Tringa flavipes; 61, Pectoral sandpiper, Calidris melanotos; 63, Dunlin, Calidris alpina; 64, Short-billed dowitcher, Limnodromus griseus; 69, Semipalmated plover, Charadrius semipalmatus; 73, Ruddy turnstone, Arenaria interpres; 76, Bald eagle, Haliaeetus leucocephalus; 77, Osprey, Pandion haliaetus; 88, Great egret, Ardea alba; 89, Snowy egret, Egretta thula; 90, Black-crowned night-heron, Nycticorax nycticorax; 92, Great black-backed gull, Larus marinus; 97, Green heron, Butorides virescens; 107, Peregrine falcon, Falco peregrinus; 120, Yellow-crowned night-heron, Nyctanassa violacea; 124, Redhead, Aythya americana; 148, Ruddy duck, Oxyura jamaicensis; 150, Black rail, Laterallus jamaicensis; 156, Semipalmated sandpiper, Calidris pusilla; 162, Gadwall, Anas strepera; 166, Song sparrow, Melospiza melodia; 174, Golden eagle, Aquila chrysaetos; 176, Short-eared owl, Asio flammeus; 177, Bank swallow, Riparia riparia; 178, Least bittern, Ixobrychus exilis; 179, Pied-billed grebe, Podilymbus podiceps; 181, Northern harrier, Circus cyaneus; 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; 192, Common moorhen, Gallinula chloropus; 195, American woodcock, Scolopax minor; 196, Common snipe, Gallinago gallinago; 198, Hooded merganser, Lophodytes cucullatus; 214, Solitary sandpiper, Tringa solitaria; 216, Belted kingfisher, Ceryle alcyon; 218, Red-shouldered hawk, Buteo lineatus; 219, Sharp-shinned hawk, Accipiter striatus; 220, Merlin, Falco columbarius; 221, Cooper's hawk, Accipiter cooperii; 225, Marsh wren, Cistothorus palustris; 226, Red-winged blackbird, Agelaius phoeniceus; 229, Swamp sparrow, Melospiza georgiana; 234, Purple sandpiper, Calidris maritima; 240, Northern goshawk, Accipiter gentilis; 277, Seaside sparrow, Ammodramus maritimus; 278, Saltmarsh sharp-tailed sparrow,
Ammodramus caudacutus; 334, Yellow warbler, Dendroica petechia; 393, Lesser black-backed gull, Larus fuscus; 515, Common sandpiper, Actitis hypoleucos; 535, Green-backed heron, Butorides striatus; 583, Northern oriole, Icterus galbula; 598, Grasshopper sparrow, Ammodramus savannarum; 605, Vesper sparrow, Poecetes gramineus; 647, Ovenbird, Seiurus aurocapillus; 716, Gray catbird, Dumetella Carolinensis; 717, Woodthrush, Hylocichla mustelina; 722, Common yellowthroat, Geothlypis trichas; 736, Henslow's sparrow, Ammodramus henslowii; 748, American goldfinch, Carduelis tristis; 764, Downy woodpecker, Picoides pubescens; 777, Northern flicker, Colaptes auratus; 811, Willow flycatcher, Empidonax traillii; 830, Canada warbler, Wilsonia canadensis; 831, Eastern kingbird, Tyrannus tyrannus; 832, Northern cardinal, Cardinalis cardinalis; 833, Blue-gray gnatcatcher, Polioptila caerulea; 834, Blue-winged warbler, Vermivora pinus; 835, Bobolink, Dolichonyx oryzivorus; 836, Cerulean warbler, Dendroica cerulea; 837, Common grackle, Quiscalus quiscula; 838, Fish crow, Corvus ossifragus; 839, Golden-winged warbler, Vermivora chrysoptera; 840, Hooded warbler, Wilsonia citrina; 841, Red-headed woodpecker, Melanerpes erythrocephalus; 842, Veery, Catharus fusciscens; 843, White-eyed vireo, Vireo griseus; 1002, Shorebirds, n/a; 1003, Waterfowl, n/a; 1004, Wading birds, n/a; 1005, Raptors, n/a; 1018, Swallows, Hirundininae.

Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Most of the spatial components of the biological data layers are 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. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. 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.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: AUDUBON SOCIETY OF WESTCHESTER COUNTY
Publication_Date: 2000
Title: GUIDE TO BIRDS OF WESTCHESTER COUNTY
Geospatial_Data_Presentation_Form: TABULAR DIGITAL DATA
Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2000
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Contribution_Abbreviation: NONE
Source_Contribution: BIRD INFORMATION

Source_Information:

Source_Citation:
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 of New York, Hudsonia Ltd., and the New York Department of Environmental Conservation; (2) digital polygon data provided by the New York State Natural Heritage Program and the New Jersey Department of Environmental Protection; and (3) numerous published and unpublished reports, including Hudson River Significant Tidal Habitats and New York State Breeding Bird Atlas.

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 a biology 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 is conducted to review the maps. If necessary, edits to the BIRDS data
layer are made based on the recommendations of the resource experts, and final
hardcopy maps and digital data are created.

Process_Date: 200602
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: 1188
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Area point
      Point_and_Vector_Object_Count: 1188
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Complete chain
      Point_and_Vector_Object_Count: 2511
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Link
      Point_and_Vector_Object_Count: 92447
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Node, planar graph
      Point_and_Vector_Object_Count: 1926

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 1927
    Ellipsoid_Name: Clark 1866
    Semi-major_Axis: 6378206.400000
    Denominator_of_Flattening_Ratio: 294.978698
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 Hudson River atlas, the number is 52), 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 below in detail. 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 below, 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 detail below.

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. 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: Research Planning, Inc.

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 (52), 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: 520100002
  Range_Domain_Maximum: 520101609

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: 52000001
  Range_Domain_Maximum: 52000231

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. 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: Research Planning, Inc.

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: 52000001
  Range_Domain_Maximum: 52000231

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 (52), 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: 520100002
    Range_Domain_Maximum: 520900415

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: Research Planning, Inc.

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: 052000001
      Range_Domain_Maximum: 052000231

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: Research Planning, Inc.
  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, or a term that describes relative abundance of birds at a particular site. The field may contain counts of individuals (XX IND) or pairs of breeding birds (XX PRS). In cases where no quantitative count data were available, the field may contain descriptive terms, such as "HIGH" or "COMMON". If no concentration information was available from any source, the field is populated with ".". Counts were derived from a variety of surveys, and may range in date (see Lineage).
  Attribute_Definition_Source: Research Planning, Inc.
  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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: BIRD
  Enumerated_Domain_Value_Definition: Birds
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: FISH
  Enumerated_Domain_Value_Definition: Fish
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: HABITAT
  Enumerated_Domain_Value_Definition: Habitats and Plants
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
  Enumerated_Domain_Value: INVERT
  Enumerated_Domain_Value_Definition: Invertebrates
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: M_MAMMAL
    Enumerated_Domain_Value_Definition: Marine Mammals
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: REPTILE
    Enumerated_Domain_Value_Definition: Reptiles and Amphibians
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: T_MAMMAL
    Enumerated_Domain_Value_Definition: Terrestrial Mammals
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

Attribute:
Attribute_Label: GEN_SPEC
Attribute_Definition: Species scientific name for the entire ESI data set.
Attribute_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: BIRD
    Enumerated_Domain_Value_Definition: Birds
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: FISH
Attribute_Definition: Fish
Attribute_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: HABITAT
Attribute_Definition: Habitats and Plants
Attribute_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
       Enumerated_Domain_Value: M_MAMMAL
       Enumerated_Domain_Value_Definition: Marine Mammals
       Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
       Enumerated_Domain_Value: T_MAMMAL
       Enumerated_Domain_Value_Definition: Terrestrial Mammals
       Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
   Attribute_Label: SUBELEMENT
   Attribute_Definition: Element subgroup delineating a logical grouping of species.
   Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
       Enumerated_Domain_Value: amphibian
       Enumerated_Domain_Value_Definition: Amphibian
       Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
       Enumerated_Domain_Value: bat
       Enumerated_Domain_Value_Definition: Bat
       Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
       Enumerated_Domain_Value: bivalve
       Enumerated_Domain_Value_Definition: Bivalve
       Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
       Enumerated_Domain_Value: crab
       Enumerated_Domain_Value_Definition: Crab
       Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
       Enumerated_Domain_Value: diadromous
       Enumerated_Domain_Value_Definition: Diadromous fish
       Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
       Enumerated_Domain_Value: diving
       Enumerated_Domain_Value_Definition: Diving bird
       Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: e_nursery
    Enumerated_Domain_Value_Definition: Estuarine nursery fish
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: e_resident
    Enumerated_Domain_Value_Definition: Estuarine resident
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: fav
    Enumerated_Domain_Value_Definition: Floating aquatic vegetation
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: freshwater
    Enumerated_Domain_Value_Definition: Freshwater fish
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: gull_tern
    Enumerated_Domain_Value_Definition: Gull or tern
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: m_benthic
    Enumerated_Domain_Value_Definition: Marine benthic fish
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: m_pelagic
    Enumerated_Domain_Value_Definition: Marine pelagic fish
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: passerine
    Enumerated_Domain_Value_Definition: Passerine bird
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: pinniped
    Enumerated_Domain_Value_Definition: Pinniped
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: plant
    Enumerated_Domain_Value_Definition: Plant
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
  Enumerated_Domain_Value: raptor
  Enumerated_Domain_Value_Definition: Raptor
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: sav
  Enumerated_Domain_Value_Definition: Submerged aquatic vegetation
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: shorebird
  Enumerated_Domain_Value_Definition: Shorebird
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: sm_mammal
  Enumerated_Domain_Value_Definition: Small mammal
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: turtle
  Enumerated_Domain_Value_Definition: Turtle
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: wading
  Enumerated_Domain_Value_Definition: Wading bird
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: waterfowl
  Enumerated_Domain_Value_Definition: Waterfowl
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: wetland
  Enumerated_Domain_Value_Definition: Wetland
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 0
Enumerated_Domain_Value_Definition: Date unspecified
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

Attribute:

Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and Plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: JAN
Attribute_Definition: January
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in January
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
  Attribute_Label: FEB
  Attribute_Definition: February
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in February
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: MAR
  Attribute_Definition: March
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in March
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: APR
  Attribute_Definition: April
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in April
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: MAY
  Attribute_Definition: May
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in May
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: JUN
  Attribute_Definition: June
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in June
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: JUL
  Attribute_Definition: July
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
Hudson River: BIRDS (Bird Polygons)

Enumerated_DOMAIN_VALUE: X
Enumerated_DOMAIN_VALUE_DEFINITION: Present in July
Enumerated_DOMAIN_VALUE_DEFINITION_SOURCE: Research Planning, Inc.

Attribute:
Attribute_LABEL: AUG
Attribute_DEFINITION: August
Attribute_DEFINITION_SOURCE: Research Planning, Inc.
Attribute_DOMAIN_VALUES:
Enumerated_DOMAIN:
Enumerated_DOMAIN_VALUE: X
Enumerated_DOMAIN_VALUE_DEFINITION: Present in August
Enumerated_DOMAIN_VALUE_DEFINITION_SOURCE: Research Planning, Inc.

Attribute:
Attribute_LABEL: SEP
Attribute_DEFINITION: September
Attribute_DEFINITION_SOURCE: Research Planning, Inc.
Attribute_DOMAIN_VALUES:
Enumerated_DOMAIN:
Enumerated_DOMAIN_VALUE: X
Enumerated_DOMAIN_VALUE_DEFINITION: Present in September
Enumerated_DOMAIN_VALUE_DEFINITION_SOURCE: Research Planning, Inc.

Attribute:
Attribute_LABEL: OCT
Attribute_DEFINITION: October
Attribute_DEFINITION_SOURCE: Research Planning, Inc.
Attribute_DOMAIN_VALUES:
Enumerated_DOMAIN:
Enumerated_DOMAIN_VALUE: X
Enumerated_DOMAIN_VALUE_DEFINITION: Present in October
Enumerated_DOMAIN_VALUE_DEFINITION_SOURCE: Research Planning, Inc.

Attribute:
Attribute_LABEL: NOV
Attribute_DEFINITION: November
Attribute_DEFINITION_SOURCE: Research Planning, Inc.
Attribute_DOMAIN_VALUES:
Enumerated_DOMAIN:
Enumerated_DOMAIN_VALUE: X
Enumerated_DOMAIN_VALUE_DEFINITION: Present in November
Enumerated_DOMAIN_VALUE_DEFINITION_SOURCE: Research Planning, Inc.

Attribute:
Attribute_LABEL: DEC
Attribute_DEFINITION: December
Attribute_DEFINITION_SOURCE: Research Planning, Inc.
Attribute_DOMAIN_VALUES:
Enumerated_DOMAIN:
Enumerated_DOMAIN_VALUE: X
Enumerated_DOMAIN_VALUE_DEFINITION: Present in December
Enumerated_DOMAIN_VALUE_DEFINITION_SOURCE: Research Planning, Inc.

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:** Research Planning, Inc.

**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:* Research Planning, Inc.

**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:* Research Planning, Inc.

**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:* Research Planning, Inc.

**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:* Research Planning, Inc.

**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:* Research Planning, Inc.

**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 elements.

**Attribute Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**

- **Enumerated Domain:**
  - **Enumerated Domain Value:** Y
  - **Enumerated Domain Value Definition:** Life-history stage or activity present
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

- **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:** Research Planning, Inc.

- **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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**Attribute Domain Values:**

- **Enumerated Domain:**
  - **Enumerated Domain Value:** Y
  - **Enumerated Domain Value Definition:** Life-history stage or activity present
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

- **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:** Research Planning, Inc.

- **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:** Research Planning, Inc.

**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_Domain_Values:**

**Enumerated_Domain:**

- **Enumerated_Domain_Value:** Y
  - **Enumerated_Domain_Value_Definition:** Life-history stage or activity present
  - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

- **Enumerated_Domain_Value:** N
  - **Enumerated_Domain_Value_Definition:** Life-history stage or activity not present or not reported
  - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

- **Enumerated_Domain_Value:** -
  - **Enumerated_Domain_Value_Definition:** Breed category not used or not appropriate for record(s) in question
  - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**Attribute:**

**Attribute_Label:** BREED4

**Attribute_Domain_Values:**

**Enumerated_Domain:**

- **Enumerated_Domain_Value:** Y
  - **Enumerated_Domain_Value_Definition:** Life-history stage or activity present
  - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

- **Enumerated_Domain_Value:** N
  - **Enumerated_Domain_Value_Definition:** Life-history stage or activity not present or not reported
  - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

- **Enumerated_Domain_Value:** -
  - **Enumerated_Domain_Value_Definition:** Breed category not used or not appropriate for record(s) in question
  - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**Attribute:**

**Attribute_Label:** BREED5

**Attribute_Domain_Values:**

**Enumerated_Domain:**

- **Enumerated_Domain_Value:** Y
  - **Enumerated_Domain_Value_Definition:** Life-history stage or activity present
  - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

- **Enumerated_Domain_Value:** N
  - **Enumerated_Domain_Value_Definition:** Life-history stage or activity not present or not reported
  - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

- **Enumerated_Domain_Value:** -
  - **Enumerated_Domain_Value_Definition:** Breed category not used or not appropriate for record(s) in question
  - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.
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: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: Y
Enumerated Domain Value Definition: Life-history stage or activity present
Enumerated Domain Value Definition Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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 in the ESI and HYDRO data layers.

Attribute Definition Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.
Attribute:
Attribute Label: TITLE
Attribute Definition: Title of source material or data.
Attribute Definition Source: Research Planning, Inc.
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: Research Planning, Inc.
Attribute Domain Values:
Unrepresentable Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute Label: PUBLICATION
Attribute Definition: Additional citation information.
Attribute Definition Source: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.
Attribute Domain Values:
Unrepresentable Domain: Acceptable values change from atlas to atlas.
Detailed Description:
Entity Type:
Entity Type Label: STATUS
Entity Type Definition:
The data table STATUS identifies the species that are listed as 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: Research Planning, Inc.
Attribute Label: ELEMENT
Attribute Definition: Major categories of biological data.
Attribute Definition Source: Research Planning, Inc.

Attribute Domain Values:
  Enumerated Domain:
  Enumerated Domain Value: BIRD
  Enumerated Domain Value Definition: Birds
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
  Enumerated Domain:
  Enumerated Domain Value: FISH
  Enumerated Domain Value Definition: Fish
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
  Enumerated Domain:
  Enumerated Domain Value: HABITAT
  Enumerated Domain Value Definition: Habitats and Plants
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
  Enumerated Domain:
  Enumerated Domain Value: INVERT
  Enumerated Domain Value Definition: Invertebrates
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
  Enumerated Domain:
  Enumerated Domain Value: M_MAMMAL
  Enumerated Domain Value Definition: Marine Mammals
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
  Enumerated Domain:
  Enumerated Domain Value: REPTILE
  Enumerated Domain Value Definition: Reptiles and Amphibians
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
  Enumerated Domain:
  Enumerated Domain Value: T_MAMMAL
  Enumerated Domain Value Definition: Terrestrial Mammals
  Enumerated Domain Value Definition Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.  
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: Research Planning, Inc.

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: Research Planning, Inc.  
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: Research Planning, Inc.

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: Research Planning, Inc.  
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: Research Planning, Inc.
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:** Research Planning, Inc.

**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:** Research Planning, Inc.

---

**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:** ESI Atlas for the Hudson River

**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 a wider community of GIS/mapping users. Distribution formats include a 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 are also included on the distribution CDs 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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**Metadata Reference Information:**

**Metadata Date:** 200604
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: FISH (Fish Polygons)

Metadata also available as - [Parseable text] - [SGML]

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:


Publication Date: 200604

Title: Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: FISH (Fish Polygons)

Edition: First

Geospatial Data Presentation Form: Vector digital data

Series Information:

Series Name: None

Issue Identification: Hudson River

Publication Information:

Publication Place: Seattle, Washington

Publisher:


Other Citation Details:


Description:

Abstract:
This data set contains sensitive biological resource data for marine, estuarine, anadromous, and freshwater fish species in the Hudson River. 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 Environmental Sensitivity Index (ESI) data for the Hudson River. 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: 2005

Currentness_Reference:
The biological data were compiled during 2005. The currentness dates for the data range from 1990 to 2005 and are documented in the Lineage section.

Status:
  Progress: Complete
  Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:
  Bounding_Coordinates:
    West_BoundingCoordinate: -74.05800
    East_BoundingCoordinate: -73.62500
    North_BoundingCoordinate: 42.75000
    South_BoundingCoordinate: 40.87500

Keywords:
  Theme:
    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: Fish

Place:
  Place_Keyword_Thesaurus: None
  Place_Keyword: Hudson River

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 Hudson River 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, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington and the Department of Homeland Security, U.S. Coast Guard, Office of Response Plans & Preparedness Division, 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 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

The Spatial_Data_Organization_Information section refers only to the source files in the ARC export format. The following files are included in that data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, rvrmiles.e00, sensitiv.e00, socecon.e00, staging.e00, t_mammal.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

**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-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 "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, digital data, survey data, and hardcopy reports and maps. These data do not necessarily represent all fish occurrences in the Hudson River. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 65, Bluefish, Pomatomus saltatrix; 84, Rainbow smelt, Osmerus mordax; 85, Alewife, Alosa pseudoharengus; 86, Blueback herring, Alosa aestivalis; 87, American shad, Alosa sapidissima; 88, Winter flounder, Pleuronectes americanus; 91, Threespine stickleback, Gasterosteus aculeatus; 92, Fourspine stickleback, Apeltes quadracus; 97, Tautog, Tautoga onitis; 98, American eel, Anguilla rostrata; 99, Atlantic tomcod, Microgadus tomcod; 101, Shortnose sturgeon, Acipenser brevirostrum; 102, Atlantic sturgeon, Acipenser oxyrinchus; 104, Striped bass, Morone saxatilis; 108, Summer flounder, Paralichthys dentatus; 113, Bay anchovy, Anchoa mitchilli; 115, Atlantic menhaden, Brevoortia tyrannus; 116, Striped mullet, Mugil cephalus; 145, White perch, Morone americana; 152, Yellow perch, Perca flavescens; 162, Common carp, Cyprinus carpio; 168, Spottail shiner, Notropis hudsonius; 173, White mullet, Mugil curema; 179, Largemouth bass, Micropterus salmoides; 180, Smallmouth bass, Micropterus dolomieu; 182, Bluegill, Lepomis macrochirus; 188, Walleye, Stizostedion vitreum vitreum; 201, Channel catfish, Ictalurus punctatus; 211, Brown bullhead, Ameiurus nebulosus; 212, Pumpkinseed, Lepomis gibbosus; 283, Killifish, Fundulus spp.; 335, Silversides, n/a; 353, Golden shiner, Notemigonus crysoleucas; 366, Hogchoker, Trinectes maculatus; 482, Northern pike, Esox lucius; 506, White catfish, Ameiurus catus; 604, Weakfish, Cynoscion squamipinnis; 824, Northern hog sucker, Hypentelium nigricans; 891, Central mudminnow, Umbra limi; 986, Tessellated darter, Etheostoma dolomieu; 997, American brook lamprey, Lampetra appendix; 998, Bridle shiner, Notropis bifrenatus; 1029, Gobies, n/a.

Positional Accuracy:
Horizontal Positional Accuracy:
Horizontal Positional Accuracy Report:
Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Most of the spatial components of the biological data layers are 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. See the Lineage and Process Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. 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.

Lineage:
Source Information:
Source Citation:
  Citation Information:
    Originator: ASA ANALYSIS & COMMUNICATION, INC.
    Publication Date: 2005
    Title: 2003 YEAR CLASS REPORT FOR THE HUDSON RIVER
           ESTUARY MONITORING PROGRAM
    Geospatial Data Presentation Form: HARDCOPY TEXT
    Other Citation Details: ASA ANALYSIS & COMMUNICATION, INC.,
                            WASHINGTONVILLE, NEW YORK
  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: NONE
    Source Contribution: FISH INFORMATION

Source Information:
Source Citation:
  Citation Information:
    Originator: BYRON YOUNG, NEW YORK STATE DEPARTMENT OF
                ENVIRONMENTAL CONSERVATION (NYS DEC)
    Publication Date: 2005
    Title: DISTRIBUTION AND ABUNDANCE OF FISH IN THE HUDSON
           RIVER
    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: 2005
    Source Currentness Reference: DATE OF COMMUNICATION
    Source Citation Abbreviation: NONE
    Source Contribution: FISH INFORMATION

Source Information:
Source Citation:
  Citation Information:
    Originator: CHUCK NEIDER, HUDSON RIVER NERR, NEW YORK STATE
                DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYS DEC)
    Publication Date: 2005
    Title: DISTRIBUTION AND ABUNDANCE OF WILDLIFE ALONG THE
           HUDSON RIVER
    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: 2005
Source Currentness Reference: DATE OF COMMUNICATION
Source Citation Abbreviation: NONE
Source Contribution: FISH INFORMATION
Source Information:
Source Citation:
  Citation Information:
    Originator: KATHY HATTALA, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYS DEC)
  Publication Date: 2005
  Title: DISTRIBUTION AND ABUNDANCE OF FINFISH AND BOAT LAUNCHES IN THE HUDSON RIVER
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: 2005
Source Currentness Reference: DATE OF COMMUNICATION
Source Citation Abbreviation: NONE
Source Contribution: FISH INFORMATION
Source Information:
Source Citation:
  Citation Information:
    Originator: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)
  Publication Date: 1994
  Title: DISTRIBUTION AND ABUNDANCE OF FISHES AND INVERTEBRATES IN MID-ATLANTIC ESTUARIES
Geospatial Data Presentation Form: HARDCOPY TEXT
Other Citation Details: NOAA/NOS STRATEGIC ENVIRONMENTAL ASSESSMENT DIVISION, SILVER SPRING, MD
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: NONE
Source Contribution: FISH INFORMATION
Source Information:
Source Citation:
  Citation Information:
Originator: NEW YORK DEPARTMENT OF STATE (DOS)
Publication_Date: 1990
Title: HUDSON RIVER SIGNIFICANT TIDAL HABITATS
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details:
NY DOS, DIVISION OF COASTAL RESOURCES AND
WATERFRONT REVITALIZATION AND THE NATURE
CONVERSANCY (TNC), ALBANY, NY

Type_of_Source_Media: PAPER
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1990
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION

Source_Information:
Source_Citation:
Citation_Information:
Originator: NEW YORK STATE NATURAL HERITAGE PROGRAM
(NYS NHP)
Publication_Date: 2005
Title: NHP CONCENTRATION AREAS
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details:
The NATURE CONSERVANCY (TNC) AND THE NYS
DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
ALBANY, NY
Source_Scale_Denominator: 24,000
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: NONE
Source_Contribution: FISH INFORMATION

Source_Information:
Source_Citation:
Citation_Information:
Originator: U.S. FISH AND WILDLIFE SERVICE (USFWS)
Publication_Date: 1997
Title:
SIGNIFICANT HABITATS AND HABITAT COMPLEXES OF THE
NEW YORK BIGHT WATERSHED
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details:
SOUTHERN NEW ENGLAND - NEW YORK BIGHT COASTAL
ECOSYSTEMS PROGRAM, CHARLESTOWN, RHODE ISLAND

Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Three main sources of data were used to depict fish distribution and seasonality for this data layer: (1) personal interviews with resource experts from the New York State Department of Environmental Conservation, (2) digital polygon data from the New York Natural Heritage Program, and (3) hardcopy reports, including Significant Habitats and Habitat Complexes of the New York Bight Watershed (USFWS), Hudson River Significant Tidal Habitats (New York Coastal Program), and Year Class Reports for the Hudson River Estuary Monitoring Program (ASA Analysis & Communication).

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 a biology 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 is 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: 200602
Process Contact:

Contact Information:

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: 236

SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 236

SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 530

SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 94823

SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 484

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 1927
   Ellipsoid_Name: Clark 1866
   Semi-major_Axis: 6378206.400000
   Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview:
In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, FISH) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Hudson River atlas, the number is 52), 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 below in detail. 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, DÉC, 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 below, 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 detail below.

**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. 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: Research Planning, Inc.*

*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 (52), 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: 520200002*

    *Range_Domain_Maximum: 520200256*

*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:***
**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. 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:** Research Planning, Inc.

**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:** 52000001
- **Range_Domain_Maximum:** 52000231

**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 (52), 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:** 520100002
- **Range_Domain_Maximum:** 520900415

**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:** Research Planning, Inc.

**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: 
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: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
  Range_Domain_Minimum: 052000001
  Range_Domain_Maximum: 052000231

Attribute: 
Attribute_Label: CONC
Attribute_Definition: The field CONC refers to "concentration," abundance, or density values of a species at a particular location. The concentration field may contain a descriptive term, such as "HIGH" or "RARE", or a numerical value referring to an approximate number of individuals, such as "1000S". If no concentration information was available from any source, the field is populated with ".".
Attribute_Definition_Source: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.
Attribute: ELEMENT
Attribute Definition: Major categories of biological data.
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
Enumerated Domain:
  Enumerated Domain Value: BIRD
  Enumerated Domain Value Definition: Birds
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
  Enumerated Domain Value: FISH
  Enumerated Domain Value Definition: Fish
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
  Enumerated Domain Value: HABITAT
  Enumerated Domain Value Definition: Habitats and Plants
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
  Enumerated Domain Value: INVERT
  Enumerated Domain Value Definition: Invertebrates
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
  Enumerated Domain Value: M_MAMMAL
  Enumerated Domain Value Definition: Marine Mammals
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
  Enumerated Domain Value: REPTILE
  Enumerated Domain Value Definition: Reptiles and Amphibians
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
  Enumerated Domain Value: T_MAMMAL
  Enumerated Domain Value Definition: Terrestrial Mammals
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute: 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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: BIRD
  Enumerated_Domain_Value_Definition: Birds
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: FISH
  Enumerated_Domain_Value_Definition: Fish
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: HABITAT
  Enumerated_Domain_Value_Definition: Habitats and Plants
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: INVERT
  Enumerated_Domain_Value_Definition: Invertebrates
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: M_MAMMAL
  Enumerated_Domain_Value_Definition: Marine Mammals
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: REPTILE
  Enumerated_Domain_Value_Definition: Reptiles and Amphibians
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: T_MAMMAL
  Enumerated_Domain_Value_Definition: Terrestrial Mammals
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SUBELEMENT
Attribute_Definition: Element subgroup delineating a logical grouping of species.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: amphibian
  Enumerated_Domain_Value_Definition: Amphibian
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
  Enumerated_Domain_Value: bat
  Enumerated_Domain_Value_Definition: Bat
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: bivalve
  Enumerated_Domain_Value_Definition: Bivalve
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: crab
  Enumerated_Domain_Value_Definition: Crab
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: diadromous
  Enumerated_Domain_Value_Definition: Diadromous fish
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: diving
  Enumerated_Domain_Value_Definition: Diving bird
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: e_nursery
  Enumerated_Domain_Value_Definition: Estuarine nursery fish
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: e_resident
  Enumerated_Domain_Value_Definition: Estuarine resident
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: fav
  Enumerated_Domain_Value_Definition: Floating aquatic vegetation
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: freshwater
  Enumerated_Domain_Value_Definition: Freshwater fish
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: gull_tern
  Enumerated_Domain_Value_Definition: Gull or tern
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain_Value: m_benthic
Enumerated_Domain_Value_Definition: Marine benthic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: m_pelagic
    Enumerated_Domain_Value_Definition: Marine pelagic fish
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: passerine
    Enumerated_Domain_Value_Definition: Passerine bird
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: pinniped
    Enumerated_Domain_Value_Definition: Pinniped
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: plant
    Enumerated_Domain_Value_Definition: Plant
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: raptor
    Enumerated_Domain_Value_Definition: Raptor
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: sav
    Enumerated_Domain_Value_Definition: Submerged aquatic vegetation
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: shorebird
    Enumerated_Domain_Value_Definition: Shorebird
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: sm_mammal
    Enumerated_Domain_Value_Definition: Small mammal
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: turtle
    Enumerated_Domain_Value_Definition: Turtle
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: wading
Enumerated_Domain_Value_Definition: Wading bird  
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: waterfowl  
    Enumerated_Domain_Value_Definition: Waterfowl  
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: wetland  
    Enumerated_Domain_Value_Definition: Wetland  
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.  
  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: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: 0  
    Enumerated_Domain_Value_Definition: Date unspecified  
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.  
  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: Research Planning, Inc.
**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:** Research Planning, Inc.

**Attribute:**

**Attribute_Label:** ELEMENT

**Attribute_DEFINITION:** Major categories of biological data.

**Attribute_DEFINITION_Source:** Research Planning, Inc.

**Attribute_Domain_Values:**

**Enumerated_Domain:**
- **Enumerated_Domain_Value:** BIRD
  - **Enumerated_Domain_Value_DEFINITION:** Birds
  - **Enumerated_Domain_Value_DEFINITION_Source:** Research Planning, Inc.

**Enumerated_Domain:**
- **Enumerated_Domain_Value:** FISH
  - **Enumerated_Domain_Value_DEFINITION:** Fish
  - **Enumerated_Domain_Value_DEFINITION_Source:** Research Planning, Inc.

**Enumerated_Domain:**
- **Enumerated_Domain_Value:** HABITAT
  - **Enumerated_Domain_Value_DEFINITION:** Habitats and Plants
  - **Enumerated_Domain_Value_DEFINITION_Source:** Research Planning, Inc.

**Enumerated_Domain:**
- **Enumerated_Domain_Value:** INVERT
  - **Enumerated_Domain_Value_DEFINITION:** Invertebrates
  - **Enumerated_Domain_Value_DEFINITION_Source:** Research Planning, Inc.

**Enumerated_Domain:**
- **Enumerated_Domain_Value:** M_MAMMAL
  - **Enumerated_Domain_Value_DEFINITION:** Marine Mammals
  - **Enumerated_Domain_Value_DEFINITION_Source:** Research Planning, Inc.

**Enumerated_Domain:**
- **Enumerated_Domain_Value:** REPTILE
  - **Enumerated_Domain_Value_DEFINITION:** Reptiles and Amphibians
  - **Enumerated_Domain_Value_DEFINITION_Source:** Research Planning, Inc.

**Enumerated_Domain:**
- **Enumerated_Domain_Value:** T_MAMMAL
  - **Enumerated_Domain_Value_DEFINITION:** Terrestrial Mammals
  - **Enumerated_Domain_Value_DEFINITION_Source:** Research Planning, Inc.

**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: Research Planning, Inc.

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: Research Planning, Inc.

Attribute Domain Values:

Range Domain:
- Range Domain Minimum: 1
- Range Domain Maximum: N

Attribute:
Attribute Label: JAN
Attribute Definition: January

Attribute Definition Source: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:
- Enumerated Domain Value: X
  - Enumerated Domain Value Definition: Present in January
  - Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
Attribute Label: FEB
Attribute Definition: February

Attribute Definition Source: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:
- Enumerated Domain Value: X
  - Enumerated Domain Value Definition: Present in February
  - Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
Attribute Label: MAR
Attribute Definition: March

Attribute Definition Source: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:
- Enumerated Domain Value: X
  - Enumerated Domain Value Definition: Present in March
  - Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
Attribute Label: APR
Attribute Definition: April

Attribute Definition Source: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:
- Enumerated Domain Value: X
  - Enumerated Domain Value Definition: Present in April
  - Enumerated Domain Value Definition Source: Research Planning, Inc.
Attribute:
  Attribute_Label: MAY
  Attribute_Definition: May
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in May
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: JUN
  Attribute_Definition: June
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in June
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: JUL
  Attribute_Definition: July
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in July
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: AUG
  Attribute_Definition: August
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in August
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: SEP
  Attribute_Definition: September
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in September
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: OCT
  Attribute_Definition: October
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in October
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NOV
Attribute_Definition: November
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in November
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: DEC
Attribute_Definition: December
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in December
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.

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 elements.

Attribute Definition Source: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: Y

Enumerated Domain Value Definition: Life-history stage or activity present

Enumerated Domain Value Definition Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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:** Research Planning, Inc.

**Attribute Domain Values:**

- **Enumerated Domain:**
  - **Enumerated Domain Value:** Y
    - **Enumerated Domain Value Definition:** Life-history stage or activity present
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.
  - **Enumerated Domain Value:** N
    - **Enumerated Domain Value Definition:** Life-history stage or activity not present or not reported
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.
  - **Enumerated Domain Value:** -
    - **Enumerated Domain Value Definition:** Breed category not used or not appropriate for record(s) in question
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**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:** Research Planning, Inc.

**Attribute Domain Values:**

- **Enumerated Domain:**
  - **Enumerated Domain Value:** Y
    - **Enumerated Domain Value Definition:** Life-history stage or activity present
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.
  - **Enumerated Domain Value:** N
    - **Enumerated Domain Value Definition:** Life-history stage or activity not present or not reported
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.
  - **Enumerated Domain Value:** -
    - **Enumerated Domain Value Definition:** Breed category not used or not appropriate for record(s) in question
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**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:** Research Planning, Inc.

**Attribute Domain Values:**
- **Enumerated Domain:** Y
  - **Enumerated Domain Value Definition:** Life-history stage or activity present
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**
- **Enumerated Domain:** N
  - **Enumerated Domain Value Definition:** Life-history stage or activity not present or not reported
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**
- **Enumerated Domain:** -
  - **Enumerated Domain Value Definition:** Breed category not used or not appropriate for record(s) in question
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**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:** Research Planning, Inc.

**Attribute Domain Values:**
- **Enumerated Domain:** Y
  - **Enumerated Domain Value Definition:** Life-history stage or activity present
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**
- **Enumerated Domain:** N
  - **Enumerated Domain Value Definition:** Life-history stage or activity not present or not reported
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**
- **Enumerated Domain:** -
  - **Enumerated Domain Value Definition:** Breed category not used or not appropriate for record(s) in question
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Detailed Description:**
**Entity Type:** 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: Research Planning, Inc.

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 in the ESI and HYDRO data
layers.
Attribute_Definition_Source: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.

Attribute:

Attribute_Label: TITLE
Attribute_Definition: Title of source material or data.
Attribute_Definition_Source: Research Planning, Inc.
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: Research Planning, Inc.
Attribute_Domain_Values:
  Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION
Attribute_Definition: Additional citation information.
Attribute_Definition_Source: Research Planning, Inc.
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: Research Planning, Inc.
  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: Research Planning, Inc.
  Attribute_Domain_Values:
    Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Detailed_Description:

Entity_Type:
  Entity_Type_Label: STATUS
  Entity_Type_Definition:
    The data table STATUS identifies the species that are listed as 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: Research Planning, Inc.

Attribute:
  Attribute_Label: ELEMENT
  Attribute_Definition: Major categories of biological data.
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: BIRD
      Enumerated_Domain_Value_Definition: Birds
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: FISH
    Enumerated_Domain_Value_Definition: Fish
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: HABITAT
    Enumerated_Domain_Value_Definition: Habitats and Plants
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: INVERT
    Enumerated_Domain_Value_Definition: Invertebrates
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: M_MAMMAL
    Enumerated_Domain_Value_Definition: Marine Mammals
**Attribute Domain Values:**

**Enumerated Domain:**
- **Enumerated Domain Value:** REPTILE
  - **Enumerated Domain Value Definition:** Reptiles and Amphibians
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**

**Enumerated Domain:**
- **Enumerated Domain Value:** T_MAMMAL
  - **Enumerated Domain Value Definition:** Terrestrial Mammals
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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
Attribute:

Attribute_Label: F
Attribute_Definition: Federal threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
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: T
    Enumerated_Domain_Value_Definition: Threatened on federal 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: I
Attribute_Definition: International threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
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_Value: T
    Enumerated_Domain_Value_Definition: Threatened on international 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: S_DATE
Attribute_Definition: Publication date of source material used to assign state status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
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: Research Planning, Inc.
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:** Research Planning, Inc.
  **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:** Research Planning, Inc.

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:** Research Planning, Inc.
  **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:** Research Planning, Inc.

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:** Research Planning, Inc.
  **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:** Research Planning, Inc.

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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: ESI Atlas for the Hudson River

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 a wider community of GIS/mapping users. Distribution formats include a 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 are also included on the distribution CDs 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: 200604
Metadata_Review_Date: 200604

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

Generated by mpa version 2.8.21 on Sat May 13 15:32:23 2006
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: 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:*

*Originator:*


*Publication_Date: 200604*

*Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: INVERT (Invertebrate Polygons)

*Edition: First*

*Geospatial_Data_Presentation_Form: Vector digital data*

*Series_Information:*

*Series_Name: None*

*Issue_Identification: Hudson River*

*Publication_Information:*

*Publication_Place: Seattle, Washington*

*Publisher:*


*Other_Citation_Details:*

Description:
Abstract:

This data set contains sensitive biological resource data for marine and estuarine invertebrate species for the Hudson River. 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 Environmental Sensitivity Index (ESI) data for the Hudson River. 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: 1994
   Ending_Date: 2005

Currentness_Reference:
The biological data were compiled during 2005. The currentness dates for the data range from 1994 to 2005 and are documented in the Lineage section.

Status:
Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_COORDINATES:
   West_Bounding_Coordinate: -74.05800
   East_Bounding_Coordinate: -73.62500
   North_Bounding_Coordinate: 42.75000
   South_Bounding_Coordinate: 40.87500

Keywords:

Theme:
   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: Invertebrate

Place:
   Place_Keyword_Thesaurus: None
   Place_Keyword: Hudson River

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 Hudson River 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, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington and the Department of Homeland Security, U.S. Coast Guard, Office of Response Plans & Preparedness Division, 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 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

The Spatial_Data_Organization_Information section refers only to the source files in the ARC export format. The following files are included in that data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, rvrmiles.e00, sensitiv.e00, soc_dat.e00, socecon.e00, staging.e00, t_mammal.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biore, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

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-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 "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 invertebrate distribution and concentration areas. These data do not necessarily represent all invertebrate occurrences in the Hudson River. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 19, Blue mussel, Mytilus edulis; 43, Eastern oyster, Crassostrea virginica; 49, Blue crab, Callinectes sapidus; 82, Rangia clam, Rangia cuneata; 367, Eastern pondmussel, Ligumia nasuta; 377, Tidewater mucket, Leptodea ochracea; 543, Alewife floater, Anodonta implicata; 544, Yellow lampmussel, Lampsilis cariosa; 554, Eastern elliptio, Elliptio complanata.

Positional_Accuracy:
Horizontal_Positional_Accuracy_Report:
Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Most of the spatial components of the biological data layers are 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. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. 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.

Lineage:
Source_Information:
Source_Citation:
Citation_Information:
Originator: DAVE STRAYER, INSTITUTE OF ECOSYSTEM STUDIES
Publication_Date: 2005
Title: DISTRIBUTION AND ABUNDANCE OF MUSSELS
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:
Time_Period_Information:
Hudson River: INVERT (Invertebrate Polygons)

Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: INVERTEBRATE INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
DEBRA BARNES, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYS DEC)
Publication_Date: 2005
Title: DISTRIBUTION AND ABUNDANCE OF SHELLFISH IN THE HUDSON RIVER
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: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: INVERTEBRATE INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
GREG KENNEY, NYS DEC / HUDSON RIVER ESTUARY PROGRAM (HREP)
Publication_Date: 2005
Title: DISTRIBUTION AND ABUNDANCE OF BLUE CRAB IN THE HUDSON RIVER
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: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: INVERTEBRATE INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
KIM MCKOWAN, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYS DEC)
Publication_Date: 2005
Title: DISTRIBUTION AND ABUNDANCE OF INVERTEBRATES IN THE HUDSON RIVER
Three main sources of data were used to depict invertebrate distribution and seasonality for this data layer: (1) personal interviews with resource experts from the New York Department of Environmental Conservation, (2) digital polygon data from the New York State Natural Heritage Program, and (3) 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 a biology 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 is 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.
SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 90639

SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 395

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 1927
Ellipsoid_Name: Clark 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
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 Hudson River atlas, the number is 52), 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 below in detail. 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 below, 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 detail below.

**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. 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:* Research Planning, Inc.

**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 (52), 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:* 520700002
- *Range_Domain_Maximum:* 520700198

**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:* 52000204
- *Range_Domain_Maximum:* 52000209

**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. 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: Research Planning, Inc.

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: 52000001
  Range_Domain_Maximum: 52000231

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 (52), 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: 520100002
  Range_Domain_Maximum: 520900415

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: Research Planning, Inc.

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: 052000001
  Range_Domain_Maximum: 052000231

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: Research Planning, Inc.

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 data were available for invertebrates, so the concentration field may contain a descriptive term, such as "ABUNDANT," "COMMON," or "LOW." If no concentration information was available from any source, the field is populated with "."

Attribute Definition Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

Attribute Domain Values:
Enumerated_Domain:
  Enumerated_Domain_Value: BIRD
  Enumerated_Domain_Value_Definition: Birds
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: FISH
  Enumerated_Domain_Value_Definition: Fish
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: HABITAT
  Enumerated_Domain_Value_Definition: Habitats and Plants
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: INVERT
  Enumerated_Domain_Value_Definition: Invertebrates
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: M_MAMMAL
  Enumerated_Domain_Value_Definition: Marine Mammals
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: REPTILE
  Enumerated_Domain_Value_Definition: Reptiles and Amphibians
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
  Enumerated_Domain_Value: T_MAMMAL
  Enumerated_Domain_Value_Definition: Terrestrial Mammals
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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.

**Attribute Definition Source:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**Attribute Domain Values:**

- **Enumerated Domain:**
  - **Enumerated Domain Value:** BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: FISH
    Enumerated_Domain_Value_Definition: Fish
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: HABITAT
    Enumerated_Domain_Value_Definition: Habitats and Plants
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: INVERT
    Enumerated_Domain_Value_Definition: Invertebrates
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: M_MAMMAL
    Enumerated_Domain_Value_Definition: Marine Mammals
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: REPTILE
    Enumerated_Domain_Value_Definition: Reptiles and Amphibians
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: T_MAMMAL
    Enumerated_Domain_Value_Definition: Terrestrial Mammals
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: SUBELEMENT
  Attribute_Definition: Element subgroup delineating a logical grouping of species.
  Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: amphibian
    Enumerated_Domain_Value_Definition: Amphibian
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: bat
    Enumerated_Domain_Value_Definition: Bat
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: bivalve
    Enumerated_Domain_Value_Definition: Bivalve
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: crab
Enumerated_Domain_Value_Definition: Crab
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diadromous
Enumerated_Domain_Value_Definition: Diadromous fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diving
Enumerated_Domain_Value_Definition: Diving bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_nursery
Enumerated_Domain_Value_Definition: Estuarine nursery fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_resident
Enumerated_Domain_Value_Definition: Estuarine resident
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: fav
Enumerated_Domain_Value_Definition: Floating aquatic vegetation
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: freshwater
Enumerated_Domain_Value_Definition: Freshwater fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gull_tern
Enumerated_Domain_Value_Definition: Gull or tern
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_benthic
Enumerated_Domain_Value_Definition: Marine benthic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_pelagic
Enumerated_Domain_Value_Definition: Marine pelagic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
  Enumerated_Domain_Value: passerine
  Enumerated_Domain_Value_Definition: Passerine bird
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: pinniped
    Enumerated_Domain_Value_Definition: Pinniped
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: plant
    Enumerated_Domain_Value_Definition: Plant
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: raptor
    Enumerated_Domain_Value_Definition: Raptor
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: sav
    Enumerated_Domain_Value_Definition: Submerged aquatic vegetation
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: shorebird
    Enumerated_Domain_Value_Definition: Shorebird
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: sm_mammal
    Enumerated_Domain_Value_Definition: Small mammal
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: turtle
    Enumerated_Domain_Value_Definition: Turtle
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: wading
    Enumerated_Domain_Value_Definition: Wading bird
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: waterfowl
    Enumerated_Domain_Value_Definition: Waterfowl
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain_Value: wetland
Enumerated_Domain_Value_Definition: Wetland
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

Detailed_Description:
Entity_Type:
Entity_Type_Label: SEASONAL

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: Research Planning, Inc.

Attribute:
Attribute_Label: ELEMENT
**Attribute Definition:** Major categories of biological data.

**Attribute Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**
- **Enumerated Domain:**
  - **Enumerated Domain Value:** BIRD
    - **Enumerated Domain Value Definition:** Birds
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.
- **Enumerated Domain:**
  - **Enumerated Domain Value:** FISH
    - **Enumerated Domain Value Definition:** Fish
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.
- **Enumerated Domain:**
  - **Enumerated Domain Value:** HABITAT
    - **Enumerated Domain Value Definition:** Habitats and Plants
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.
- **Enumerated Domain:**
  - **Enumerated Domain Value:** INVERT
    - **Enumerated Domain Value Definition:** Invertebrates
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.
- **Enumerated Domain:**
  - **Enumerated Domain Value:** M_MAMMAL
    - **Enumerated Domain Value Definition:** Marine Mammals
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.
- **Enumerated Domain:**
  - **Enumerated Domain Value:** REPTILE
    - **Enumerated Domain Value Definition:** Reptiles and Amphibians
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.
- **Enumerated Domain:**
  - **Enumerated Domain Value:** T_MAMMAL
    - **Enumerated Domain Value Definition:** Terrestrial Mammals
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**Attribute Domain Values:**

**Range Domain:**
- **Range Domain Minimum:** 1
- **Range Domain Maximum:** N

**Attribute:**

- **Attribute Label:** JAN
- **Attribute Definition:** January
- **Attribute Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**

**Enumerated Domain:**
- **Enumerated Domain Value:** X
- **Enumerated Domain Value Definition:** Present in January
- **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute:**

- **Attribute Label:** FEB
- **Attribute Definition:** February
- **Attribute Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**

**Enumerated Domain:**
- **Enumerated Domain Value:** X
- **Enumerated Domain Value Definition:** Present in February
- **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute:**

- **Attribute Label:** MAR
- **Attribute Definition:** March
- **Attribute Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**

**Enumerated Domain:**
- **Enumerated Domain Value:** X
- **Enumerated Domain Value Definition:** Present in March
- **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute:**

- **Attribute Label:** APR
- **Attribute Definition:** April
- **Attribute Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**

**Enumerated Domain:**
- **Enumerated Domain Value:** X
- **Enumerated Domain Value Definition:** Present in April
- **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute:**

- **Attribute Label:** MAY
- **Attribute Definition:** May
- **Attribute Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**

**Enumerated Domain:**
- **Enumerated Domain Value:** X
- **Enumerated Domain Value Definition:** Present in May
- **Enumerated Domain Value Definition Source:** Research Planning, Inc.
Attribute:
  Attribute_Label: JUN
  Attribute_Definition: June
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in June
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: JUL
  Attribute_Definition: July
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in July
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: AUG
  Attribute_Definition: August
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in August
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: SEP
  Attribute_Definition: September
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in September
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: OCT
  Attribute_Definition: October
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in October
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: NOV
  Attribute_Definition: November
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in November
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: DEC
  Attribute_Definition: December
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in December
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.
  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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.
  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: Research Planning, Inc.
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: Research Planning, Inc.
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 elements.
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
  Enumerated Domain:
  Enumerated Domain Value: Y
  Enumerated Domain Value Definition: Life-history stage or activity present
  Enumerated Domain Value Definition Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.
Attribute Domain Values:
  Enumerated Domain:
  Enumerated Domain Value: Y
  Enumerated Domain Value Definition: Life-history stage or activity present
  Enumerated Domain Value Definition Source: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.

Attribute:
Attribute_Label: BREED3
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = interesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**Attribute Domain Values:**

**Enumerated Domain:**
- **Enumerated Domain Value:** Y
  **Enumerated Domain Value Definition:** Life-history stage or activity present
  **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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 in the ESI and HYDRO data layers.

**Attribute Definition Source:** Research Planning, Inc.
**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:** Research Planning, Inc.
- **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:** Research Planning, Inc.
- **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: Research Planning, Inc.

**Attribute:**
- **Attribute Label:** TITLE
- **Attribute Definition:** Title of source material or data.
- **Attribute Definition Source:** Research Planning, Inc.
- **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:** Research Planning, Inc.
- **Attribute Domain Values:**
  - Unrepresentable Domain: Acceptable values change from atlas to atlas.

**Attribute:**
- **Attribute Label:** PUBLICATION
- **Attribute Definition:** Additional citation information.
- **Attribute Definition Source:** Research Planning, Inc.
- **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:** Research Planning, Inc.
- **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: Research Planning, Inc.
Attribute Domain Values:
Unrepresentable Domain: Acceptable values change from atlas to atlas.

Detailed Description:
Entity Type:
Entity Type Label: STATUS
Entity Type Definition:
The data table STATUS identifies the species that are listed as 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: Research Planning, Inc.

Attribute:
Attribute Label: ELEMENT
Attribute Definition: Major categories of biological data.
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: BIRD
Enumerated Domain Value Definition: Birds
Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:
Enumerated Domain Value: FISH
Enumerated Domain Value Definition: Fish
Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:
Enumerated Domain Value: HABITAT
Enumerated Domain Value Definition: Habitats and Plants
Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:
Enumerated Domain Value: INVERT
Enumerated Domain Value Definition: Invertebrates
Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:
Enumerated Domain Value: M_MAMMAL
Enumerated Domain Value Definition: Marine Mammals
Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:
Enumerated Domain Value: REPTILE
Enumerated Domain Value Definition: Reptiles and Amphibians
Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:
Enumerated Domain Value: T_MAMMAL
Enumerated Domain Value Definition: Terrestrial Mammals
Enumerated Domain Value Definition Source: Research Planning, Inc.

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: Research Planning, Inc.
  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: Research Planning, Inc.
  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: Research Planning, Inc.
  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: Research Planning, Inc.
  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: Research Planning, Inc.
  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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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: Research Planning, Inc.

**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:** Research Planning, Inc.

**Attribute Domain Values:**

**Enumerated_Domain:**
- Enumerated_Domain_Value: YYYYMM
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:** Research Planning, Inc.
**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:** Research Planning, Inc.

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:** Research Planning, Inc.
**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:** Research Planning, Inc.

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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:** ESI Atlas for the Hudson River

**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 a wider community of GIS/mapping users. Distribution formats include a 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 are also included on the distribution CDs 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: 200604
Metadata_Review_Date: 200604
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

Generated by mp version 2.8.21 on Sat May 13 15:37:19 2006
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: M_MAMMAL (Marine Mammal Polygons)

Metadata also available as [Parseable text] - [SGML]

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:

Publication_Date: 200604
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: M_MAMMAL (Marine Mammal Polygons)
Edition: First
Geospatial_Data_Presentation_Form: Vector digital data
Series_Information:
Series_Name: None
Issue_Identification: Hudson River
Publication_Information:
Publication_Place: Seattle, Washington
Publisher:

Other_Citation_Details:
Description:

Abstract:
This data set contains sensitive biological resource data for marine mammals (seals) in the Hudson River. Vector polygons in this data set represent marine mammal distribution 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 Environmental Sensitivity Index (ESI) data for the Hudson River. 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: 2005

Currentness_Reference:
The biological data were compiled during 2005. The currentness date for the data is 2005 and is documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:
West_Bounding_Coordinate: -74.05800
East_Bounding_Coordinate: -73.62500
North_Bounding_Coordinate: 42.75000
South_Bounding_Coordinate: 40.87500

Keywords:

Theme:
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

Place:
Place_Keyword_Thesaurus: None
Place_Keyword: Hudson River

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 Hudson River 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, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington and the Department of Homeland Security, U.S. Coast Guard, Office of Response Plans & Preparedness Division, 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 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

The Spatial_Data_Organization_Information section refers only to the source files in the ARC export format. The following files are included in that data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, rvrmiles.e00, sensitiv.e00, soccon.e00, staging.e00, t_mammal.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biore, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

**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
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 available hardcopy documents on marine mammal distribution and haul-out sites. These data do not necessarily represent all marine mammal occurrences in the Hudson River. 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.

**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. Most of the spatial components of the biological data layers are 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. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. 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.

**Lineage:**
**Source Information:**
**Source Citation:**
**Citation Information:**
*Originator:* ERIK KIVIAT, HUDSONIA LTD.
*Publication Date:* 2005
*Title:* DISTRIBUTION AND ABUNDANCE OF PLANTS, ANIMALS, AND ARCHAEOLOGICAL SITES OF THE HUDSON RIVER
*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:* 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: MARINE MAMMAL INFORMATION

Process_Step:
Process_Description:
The main source of data used to depict marine mammal distribution and seasonality for this data layer was personal interviews with a resource expert from Hudsonia Ltd. This source was supplemented by 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 a biology 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 is 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: 200602
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: 28
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Area point
      Point_and_Vector_Object_Count: 28
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Complete chain
      Point_and_Vector_Object_Count: 78
SDTS Terms Description:
SDTS Point and Vector_Object_Type: Link
Point and Vector_Object_Count: 20910

SDTS Terms Description:
SDTS Point and Vector_Object_Type: Node, planar graph
Point and Vector_Object_Count: 77

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 1927
  Ellipsoid Name: Clark 1866
  Semi-major Axis: 6378206.400000
  Denominator of Flattening Ratio: 294.978698

Entity and Attribute Information:
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 Hudson River atlas, the number is 52), 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 below in detail. 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 below, 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 detail below.

**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 and haul-out sites. Note that all attribute information is stored in a series of relational files, described below. 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:** Research Planning, Inc.

**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 (52), 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:** 520400002
- **Range_Domain_Maximum:** 520400026

**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:** 52000210
- **Range_Domain_Maximum:** 52000212

**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. 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:** Research Planning, Inc.

### 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:** 52000001  
  - **Range_Domain_Maximum:** 52000231

### 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 (52), 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:** 520100002  
  - **Range_Domain_Maximum:** 520900415

### 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:** Research Planning, Inc.

### 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:** 052000001  
  - **Range_Domain_Maximum:** 052000231

### 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:** Research Planning, Inc.

**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 data were available for marine mammals, so the concentration field may contain a descriptive term, such as "LOW" or "COMMON". If no concentration information was available from any source, the field is populated with "-".

**Attribute Definition Source:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.
Attribute Domain Values:

Enumerated Domain:
  Enumerated Domain Value: BIRD
  Enumerated Domain Value Definition: Birds
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:
  Enumerated Domain Value: FISH
  Enumerated Domain Value Definition: Fish
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:
  Enumerated Domain Value: HABITAT
  Enumerated Domain Value Definition: Habitats and Plants
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:
  Enumerated Domain Value: INVERT
  Enumerated Domain Value Definition: Invertebrates
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:
  Enumerated Domain Value: M_MAMMAL
  Enumerated Domain Value Definition: Marine Mammals
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:
  Enumerated Domain Value: REPTILE
  Enumerated Domain Value Definition: Reptiles and Amphibians
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:
  Enumerated Domain Value: T_MAMMAL
  Enumerated Domain Value Definition: Terrestrial Mammals
  Enumerated Domain Value Definition Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: FISH
    Enumerated_Domain_Value_Definition: Fish
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: HABITAT
    Enumerated_Domain_Value_Definition: Habitats and Plants
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: INVERT
    Enumerated_Domain_Value_Definition: Invertebrates
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: M_MAMMAL
    Enumerated_Domain_Value_Definition: Marine Mammals
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: REPTILE
    Enumerated_Domain_Value_Definition: Reptiles and Amphibians
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: T_MAMMAL
    Enumerated_Domain_Value_Definition: Terrestrial Mammals
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: SUBELEMENT
  Attribute_Definition: Element subgroup delineating a logical grouping of species.
  Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: amphibian
    Enumerated_Domain_Value_Definition: Amphibian
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: bat
    Enumerated_Domain_Value_Definition: Bat
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: bivalve
    Enumerated_Domain_Value_Definition: Bivalve
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: crab
Enumerated_Domain_Value_Definition: Crab
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diadromous
Enumerated_Domain_Value_Definition: Diadromous fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diving
Enumerated_Domain_Value_Definition: Diving bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_nursery
Enumerated_Domain_Value_Definition: Estuarine nursery fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_resident
Enumerated_Domain_Value_Definition: Estuarine resident
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: fav
Enumerated_Domain_Value_Definition: Floating aquatic vegetation
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: freshwater
Enumerated_Domain_Value_Definition: Freshwater fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gull_tern
Enumerated_Domain_Value_Definition: Gull or tern
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_benthic
Enumerated_Domain_Value_Definition: Marine benthic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_pelagic
Enumerated_Domain_Value_Definition: Marine pelagic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: passerine
    Enumerated_Domain_Value_Definition: Passerine bird
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
    Enumerated_Domain_Value:
      Enumerated_Domain_Value: pinniped
      Enumerated_Domain_Value_Definition: Pinniped
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
    Enumerated_Domain_Value:
      Enumerated_Domain_Value: plant
      Enumerated_Domain_Value_Definition: Plant
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
    Enumerated_Domain_Value:
      Enumerated_Domain_Value: raptor
      Enumerated_Domain_Value_Definition: Raptor
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
    Enumerated_Domain_Value:
      Enumerated_Domain_Value: sav
      Enumerated_Domain_Value_Definition: Submerged aquatic vegetation
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
    Enumerated_Domain_Value:
      Enumerated_Domain_Value: shorebird
      Enumerated_Domain_Value_Definition: Shorebird
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
    Enumerated_Domain_Value:
      Enumerated_Domain_Value: sm_mammal
      Enumerated_Domain_Value_Definition: Small mammal
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
    Enumerated_Domain_Value:
      Enumerated_Domain_Value: turtle
      Enumerated_Domain_Value_Definition: Turtle
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
    Enumerated_Domain_Value:
      Enumerated_Domain_Value: wading
      Enumerated_Domain_Value_Definition: Wading bird
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
    Enumerated_Domain_Value:
      Enumerated_Domain_Value: waterfowl
      Enumerated_Domain_Value_Definition: Waterfowl
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
**Enumerated_Domain:**
- **Enumerated_Domain_Value:** wetland
- **Enumerated_Domain_Value_Definition:** Wetland
- **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**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:** Research Planning, Inc.
- **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:** Research Planning, Inc.
  - **Enumerated_Domain:**
    - **Enumerated_Domain_Value:** 0
    - **Enumerated_Domain_Value_Definition:** Date unspecified
    - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**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:** Research Planning, Inc.
- **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:** Research Planning, Inc.

**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:** Research Planning, Inc.
**Attribute**

**Attribute_Label:** ELEMENT

**Attribute_Definition:** Major categories of biological data.

**Attribute_Definition_Source:** Research Planning, Inc.

**Attribute_Domain_Values:**

- **Enumerated_Domain:**
  - **Enumerated_Domain_Value:** BIRD
    - **Enumerated_Domain_Value_Definition:** Birds
    - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.
  - **Enumerated_Domain_Value:** FISH
    - **Enumerated_Domain_Value_Definition:** Fish
    - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.
  - **Enumerated_Domain_Value:** HABITAT
    - **Enumerated_Domain_Value_Definition:** Habitats and Plants
    - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.
  - **Enumerated_Domain_Value:** INVERT
    - **Enumerated_Domain_Value_Definition:** Invertebrates
    - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.
  - **Enumerated_Domain_Value:** M_MAMMAL
    - **Enumerated_Domain_Value_Definition:** Marine Mammals
    - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.
  - **Enumerated_Domain_Value:** REPTILE
    - **Enumerated_Domain_Value_Definition:** Reptiles and Amphibians
    - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.
  - **Enumerated_Domain_Value:** T_MAMMAL
    - **Enumerated_Domain_Value_Definition:** Terrestrial Mammals
    - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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: Research Planning, Inc.
Attribute Domain Values:
  Range Domain:
    Range Domain Minimum: 1
    Range Domain Maximum: N

Attribute:
  Attribute Label: JAN
  Attribute Definition: January
  Attribute Definition Source: Research Planning, Inc.
  Attribute Domain Values:
    Enumerated Domain:
      Enumerated Domain Value: X
      Enumerated Domain Value Definition: Present in January
      Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
  Attribute Label: FEB
  Attribute Definition: February
  Attribute Definition Source: Research Planning, Inc.
  Attribute Domain Values:
    Enumerated Domain:
      Enumerated Domain Value: X
      Enumerated Domain Value Definition: Present in February
      Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
  Attribute Label: MAR
  Attribute Definition: March
  Attribute Definition Source: Research Planning, Inc.
  Attribute Domain Values:
    Enumerated Domain:
      Enumerated Domain Value: X
      Enumerated Domain Value Definition: Present in March
      Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
  Attribute Label: APR
  Attribute Definition: April
  Attribute Definition Source: Research Planning, Inc.
  Attribute Domain Values:
    Enumerated Domain:
      Enumerated Domain Value: X
      Enumerated Domain Value Definition: Present in April
      Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
  Attribute Label: MAY
  Attribute Definition: May
  Attribute Definition Source: Research Planning, Inc.
  Attribute Domain Values:
    Enumerated Domain:
      Enumerated Domain Value: X
      Enumerated Domain Value Definition: Present in May
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: JUN
Attribute_Definition: June
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in June
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: JUL
Attribute_Definition: July
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in July
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: AUG
Attribute_Definition: August
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in August
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SEP
Attribute_Definition: September
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in September
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: OCT
Attribute_Definition: October
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in October
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NOV
Attribute_Definition: November
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
   Enumerated_Domain_Value: X
   Enumerated_Domain_Value_Definition: Present in November
   Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
   Attribute_Label: DEC
   Attribute_Definition: December
   Attribute_Definition_Source: Research Planning, Inc.
   Attribute_Domain_Values:
      Enumerated_Domain:
         Enumerated_Domain_Value: X
         Enumerated_Domain_Value_Definition: Present in December
         Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.
   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').

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: Research Planning, Inc.
   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: Research Planning, Inc.
      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_Documentation_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: MONTH
  Attribute_Documentation:
  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_Documentation_Source: Research Planning, Inc.
  Attribute_Domain_Values:
  Range_Domain:
  Range_Domain_Minimum: 1
  Range_Domain_Maximum: 12

Attribute:
  Attribute_Label: BREED1
  Attribute_Documentation:
  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 elements.
  Attribute_Documentation_Source: Research Planning, Inc.
  Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: Y
  Enumerated_Domain_Value_Documentation: Life-history stage or activity present
  Enumerated_Domain_Value_Documentation_Source: Research Planning, Inc.
  Enumerated_Domain:
  Enumerated_Domain_Value: N
  Enumerated_Domain_Value_Documentation: Life-history stage or activity not present or not reported
  Enumerated_Domain_Value_Documentation_Source: Research Planning, Inc.
  Enumerated_Domain:
  Enumerated_Domain_Value: -
  Enumerated_Domain_Value_Documentation: Breed category not used or not appropriate for record(s) in question
  Enumerated_Domain_Value_Documentation_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: BREED2
  Attribute_Documentation:
  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_Documentation_Source: Research Planning, Inc.
  Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: Y
  Enumerated_Domain_Value_Documentation: Life-history stage or activity present
  Enumerated_Domain_Value_Documentation_Source: Research Planning, Inc.
**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:** Research Planning, Inc.

**Attribute Domain Values:**
- **Enumerated Domain:**
  - **Enumerated Domain Value:** Y
    - **Enumerated Domain Value Definition:** Life-history stage or activity present
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.
  - **Enumerated Domain Value:** N
    - **Enumerated Domain Value Definition:** Life-history stage or activity not present or not reported
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.
  - **Enumerated Domain Value:** -
    - **Enumerated Domain Value Definition:** Breed category not used or not appropriate for record(s) in question
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: Y
  Enumerated_Domain_Value_Definition: Life-history stage or activity present
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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 in the ESI and HYDRO data
layers.

Attribute_Definition_Source: Research Planning, Inc.
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: Research Planning, Inc.
  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: Research Planning, Inc.
  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: Research Planning, Inc.

Attribute:
  Attribute_Label: TITLE
  Attribute_Definition: Title of source material or data.
  Attribute_Definition_Source: Research Planning, Inc.
  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: Research Planning, Inc.
  Attribute_Domain_Values:
    Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
  Attribute_Label: PUBLICATION
  Attribute_Definition: Additional citation information.
  Attribute_Definition_Source: Research Planning, Inc.
  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: Research Planning, Inc.
  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: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Detailed_Description:
Entity_Type:
Entity_Type_Label: STATUS
Entity_Type_Definition:
The data table STATUS identifies the species that are listed as 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: Research Planning, Inc.

Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: BIRD
  Enumerated_Domain_Value_Definition: Birds
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: FISH
  Enumerated_Domain_Value_Definition: Fish
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: HABITAT
  Enumerated_Domain_Value_Definition: Habitats and Plants
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: INVERT
  Enumerated_Domain_Value_Definition: Invertebrates
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: M_MAMMAL
  Enumerated_Domain_Value_Definition: Marine Mammals
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: REPTILE
  Enumerated_Domain_Value_Definition: Reptiles and Amphibians
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.
  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: Research Planning, Inc.
  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: Research Planning, Inc.
  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: Research Planning, Inc.
  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: Research Planning, Inc.
  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: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

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: ESI Atlas for the Hudson River
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 a wider community of GIS/mapping users. Distribution formats include a 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 are also included on the distribution CDs 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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**Metadata_Reference_Information:**

*Metadata_Date:* 200604  
*Metadata_Review_Date:* 200604  
*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  

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Generated by mp version 2.8.21 on Tue May 16 16:09:49 2006
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: 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:

*Publication Date: 200604*

*Title:*
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: T_MAMMAL (Terrestrial Mammal Polygons)*

*Edition: First*

*Geospatial Data Presentation Form: Vector digital data*

*Series Information:*

*Series Name: None*

*Issue Identification: Hudson River*

*Publication Information:*

*Publication Place: Seattle, Washington*

*Publisher:*

*Other Citation Details:*
Description:

Abstract:
This data set contains sensitive biological resource data for small terrestrial mammals (woodrats, myotis, muskrat, mink) for the Hudson River. 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 Environmental Sensitivity Index (ESI) data for the Hudson River. 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: 2005

Currentness_Reference:
The biological data were compiled during 2005. The currentness dates for the data range from 1990 to 2005 and are documented in the Lineage section.

Status:
Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:
Bounding_Coordinates:
West_BoundingCoordinate: -74.05800
East_BoundingCoordinate: -73.62500
North_BoundingCoordinate: 42.75000
South_BoundingCoordinate: 40.87500

Keywords:
Theme:
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: Terrestrial Mammal

Place:
Place_Keyword_Thesaurus: None
Place_Keyword: Hudson River

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 Hudson River 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, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington and the Department of Homeland Security, U.S. Coast Guard, Office of Response Plans & Preparedness Division, 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 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

The Spatial_Data_Organization_Information section refers only to the source files in the ARC export format. The following files are included in that data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, rvrmiles.e00, sensitiv.e00, socecon.e00, staging.e00, t_mammal.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

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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-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 "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 terrestrial mammal distribution. These data do not necessarily represent all terrestrial mammal occurrences in the Hudson River. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 37, Muskrat, Ondatra zibethicus; 38, Mink, Mustela vison; 259, Allegheny woodrat, Neotoma magister; 260, Eastern small-footed myotis, Myotis leibii.

Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:
Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Most of the spatial components of the biological data layers are 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. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. 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.

Lineage:

Source_Information:
Source_Citation:
Citation_Information:
Originator: NEW YORK DEPARTMENT OF STATE (NY DOS)
Publication_Date: 1990
Title: HUDSON RIVER SIGNIFICANT TIDAL HABITATS
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details:
NY DOS, DIVISION OF COASTAL RESOURCES AND WATERFRONT REVITALIZATION and THE NATURE CONSERVANCY (TNC), ALBANY, NY

Type_of_Source_Media: PAPER
Source_Time_Period_of_Content:
Process Step:
Process_Description:
Two main sources of data were used to depict terrestrial mammal distribution and seasonality for this data layer: (1) personal interviews with resource experts from the New York State Natural Heritage Program and (2) numerous published and
unpublished reports.

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 a biology 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 is 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: 200602
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_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

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: 47
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Area point
      Point_and_Vector_Object_Count: 47
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Complete chain
      Point_and_Vector_Object_Count: 63
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Link
      Point_and_Vector_Object_Count: 10146
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Node, planar graph
      Point_and_Vector_Object_Count: 62
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 1927
    Ellipsoid_Name: Clark 1866
    Semi-major_Axis: 6378206.400000
    Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
  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 Hudson River atlas, the number is 52), 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 below in detail. 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 below, 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 detail below.

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. 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: Research Planning, Inc.

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 (52), 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: 520900002
Range_Domain_Maximum: 520900415

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: 52000227
Range_Domain_Maximum: 52000231

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. 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: Research Planning, Inc.

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: 52000001
- Range Domain Maximum: 52000231

**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 (52), 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: 520100002
- Range Domain Maximum: 520900415

**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:** Research Planning, Inc.

**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: 052000001
- Range Domain Maximum: 052000231

**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:** Research Planning, Inc.
**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 concentration information was available for terrestrial mammals, so the field is populated with "-".

Attribute Definition Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: BIRD
Enumerated Domain Value Definition: Birds
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: FISH
Enumerated Domain Value Definition: Fish
Enumerated Domain Value Definition Source: Research Planning, Inc.
Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: HABITAT
Enumerated Domain Value Definition: Habitats and Plants
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: INVERT
Enumerated Domain Value Definition: Invertebrates
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: M_MAMMAL
Enumerated Domain Value Definition: Marine Mammals
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: REPTILE
Enumerated Domain Value Definition: Reptiles and Amphibians
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: T_MAMMAL
Enumerated Domain Value Definition: Terrestrial Mammals
Enumerated Domain Value Definition Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**Attribute_Domain_Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** BIRD

**Enumerated_Domain_Value_Definition:** Birds

**Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**Attribute_Domain_Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** FISH

**Enumerated_Domain_Value_Definition:** Fish

**Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**Attribute_Domain_Values:**

**Enumerated_Domain:**
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and Plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SUBELEMENT
Attribute_Definition: Element subgroup delineating a logical grouping of species.
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: amphibian
Enumerated_Domain_Value_Definition: Amphibian
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: bat
Enumerated_Domain_Value_Definition: Bat
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: bivalve
Enumerated_Domain_Value_Definition: Bivalve
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: crab
Enumerated_Domain_Value_Definition: Crab
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diadromous
Enumerated_Domain_Value_Definition: Diadromous fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: diving
  Enumerated_Domain_Value_Definition: Diving bird
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: e_nursery
  Enumerated_Domain_Value_Definition: Estuarine nursery fish
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: e_resident
  Enumerated_Domain_Value_Definition: Estuarine resident
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: fav
  Enumerated_Domain_Value_Definition: Floating aquatic vegetation
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: freshwater
  Enumerated_Domain_Value_Definition: Freshwater fish
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: gull_tern
  Enumerated_Domain_Value_Definition: Gull or tern
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: m_benthic
  Enumerated_Domain_Value_Definition: Marine benthic fish
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: m_pelagic
  Enumerated_Domain_Value_Definition: Marine pelagic fish
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: passerine
  Enumerated_Domain_Value_Definition: Passerine bird
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: pinniped
  Enumerated_Domain_Value_Definition: Pinniped
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
**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**: Research Planning, Inc.

**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**: Research Planning, Inc.

**Attribute_Domain_Values**:

**Enumerated_Domain**:

**Enumerated_Domain_Value**: 0  
**Enumerated_Domain_Value_Definition**: Date unspecified  
**Enumerated_Domain_Value_Definition_Source**: Research Planning, Inc.

**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**: Research Planning, Inc.

**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**: Research Planning, Inc.

**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**: Research Planning, Inc.

**Attribute**:

**Attribute_Label**: ELEMENT  
**Attribute_Definition**: Major categories of biological data.  
**Attribute_Definition_Source**: Research Planning, Inc.

**Attribute_Domain_Values**:

**Enumerated_Domain**:

**Enumerated_Domain_Value**: BIRD  
**Enumerated_Domain_Value_Definition**: Birds  
**Enumerated_Domain_Value_Definition_Source**: Research Planning, Inc.
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: HABITAT
  Enumerated_Domain_Value_Definition: Habitats and Plants
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
  Enumerated_Domain_Value: INVERT
  Enumerated_Domain_Value_Definition: Invertebrates
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: M_MAMMAL
  Enumerated_Domain_Value_Definition: Marine Mammals
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: REPTILE
  Enumerated_Domain_Value_Definition: Reptiles and Amphibians
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: T_MAMMAL
  Enumerated_Domain_Value_Definition: Terrestrial Mammals
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

Attribute_Domain_Values:
  Range_Domain:
    Range_Domain_Minimum: 1
    Range_Domain_Maximum: N

Attribute:
Attribute_Label: JAN
Attribute_Definition: January
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
  Enumerated Domain:
    Enumerated Domain Value: X
    Enumerated Domain Value Definition: Present in January
    Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
  Attribute Label: FEB
  Attribute Definition: February
  Attribute Definition Source: Research Planning, Inc.
  Attribute Domain Values:
    Enumerated Domain:
      Enumerated Domain Value: X
      Enumerated Domain Value Definition: Present in February
      Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
  Attribute Label: MAR
  Attribute Definition: March
  Attribute Definition Source: Research Planning, Inc.
  Attribute Domain Values:
    Enumerated Domain:
      Enumerated Domain Value: X
      Enumerated Domain Value Definition: Present in March
      Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
  Attribute Label: APR
  Attribute Definition: April
  Attribute Definition Source: Research Planning, Inc.
  Attribute Domain Values:
    Enumerated Domain:
      Enumerated Domain Value: X
      Enumerated Domain Value Definition: Present in April
      Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
  Attribute Label: MAY
  Attribute Definition: May
  Attribute Definition Source: Research Planning, Inc.
  Attribute Domain Values:
    Enumerated Domain:
      Enumerated Domain Value: X
      Enumerated Domain Value Definition: Present in May
      Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
  Attribute Label: JUN
  Attribute Definition: June
  Attribute Definition Source: Research Planning, Inc.
  Attribute Domain Values:
    Enumerated Domain:
      Enumerated Domain Value: X
      Enumerated Domain Value Definition: Present in June
      Enumerated Domain Value Definition Source: Research Planning, Inc.
Attribute:
  Attribute_Label: JUL
  Attribute_Definition: July
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in July
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: AUG
  Attribute_Definition: August
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in August
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: SEP
  Attribute_Definition: September
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in September
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: OCT
  Attribute_Definition: October
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in October
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: NOV
  Attribute_Definition: November
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in November
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: DEC
  Attribute_Definition: December
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in December
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.
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 elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.

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:* 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:* Research Planning, Inc.

*Attribute Domain Values:*

<table>
<thead>
<tr>
<th>Enumerated Domain Value</th>
<th>Enumerated Domain Value Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Life-history stage or activity present</td>
</tr>
<tr>
<td>N</td>
<td>Life-history stage or activity not present or not reported</td>
</tr>
<tr>
<td>-</td>
<td>Breed category not used or not appropriate for record(s) in question</td>
</tr>
</tbody>
</table>

*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:* Research Planning, Inc.

*Attribute Domain Values:*

<table>
<thead>
<tr>
<th>Enumerated Domain Value</th>
<th>Enumerated Domain Value Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Life-history stage or activity present</td>
</tr>
<tr>
<td>N</td>
<td>Life-history stage or activity not present or not reported</td>
</tr>
<tr>
<td>-</td>
<td>Breed category not used or not appropriate for record(s) in question</td>
</tr>
</tbody>
</table>
**Enumerated_Domain_Value_Definition:**
Breed category not used or not appropriate for record(s) in question

**Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**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.

**Enumerator_Domain_Value_Definition_Source:** Research Planning, Inc.

**Attribute_Domain_Values:**

- **Enumerated_Domain:**
  - **Enumerated_Domain_Value:** Y
    - **Enumerated_Domain_Value_Definition:** Life-history stage or activity present
      - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.
  - **Enumerated_Domain_Value:** N
    - **Enumerated_Domain_Value_Definition:** Life-history stage or activity not present or not reported
      - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.
  - **Enumerated_Domain_Value:** -
    - **Enumerated_Domain_Value_Definition:** Breed category not used or not appropriate for record(s) in question
      - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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 in the ESI and HYDRO data layers.

**Attribute_Definition_Source:** Research Planning, Inc.

**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: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.

Attribute:
Attribute Label: TITLE
Attribute Definition: Title of source material or data.
Attribute Definition Source: Research Planning, Inc.
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: Research Planning, Inc.
Attribute Domain Values:
  Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute Label: PUBLICATION
Attribute Definition: Additional citation information.
Attribute Definition Source: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.
Attribute Domain Values:
  Unrepresentable Domain: Acceptable values change from atlas to atlas.

Detailed Description:
Entity Type:
  Entity Type Label: STATUS
  Entity Type Definition:
The data table STATUS identifies the species that are listed as 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:** Research Planning, Inc.

**Attribute:**

**Attribute Label:** ELEMENT

**Attribute Definition:** Major categories of biological data.

**Attribute Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**

**Enumerated Domain:**

- **Enumerated Domain Value:** BIRD
  - **Enumerated Domain Value Definition:** Birds
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Enumerated Domain:**

- **Enumerated Domain Value:** FISH
  - **Enumerated Domain Value Definition:** Fish
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Enumerated Domain:**

- **Enumerated Domain Value:** HABITAT
  - **Enumerated Domain Value Definition:** Habitats and Plants
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Enumerated Domain:**

- **Enumerated Domain Value:** INVERT
  - **Enumerated Domain Value Definition:** Invertebrates
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Enumerated Domain:**

- **Enumerated Domain Value:** M_MAMMAL
  - **Enumerated Domain Value Definition:** Marine Mammals
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Enumerated Domain:**

- **Enumerated Domain Value:** REPTILE
  - **Enumerated Domain Value Definition:** Reptiles and Amphibians
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Enumerated Domain:**

- **Enumerated Domain Value:** T_MAMMAL
  - **Enumerated Domain Value Definition:** Terrestrial Mammals
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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: Research Planning, Inc.
  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: Research Planning, Inc.
  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: Research Planning, Inc.
  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:
  Attribute Label: F
  Attribute Definition: Federal threatened or endangered status.
  Attribute Definition Source: Research Planning, Inc.
  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
Attribute:

Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Label: I
Attribute_Definition: International threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
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_Value: T
Enumerated_Domain_Value_Definition: Threatened on international 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: S_DATE
Attribute_Definition: Publication date of source material used to assign state status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: ESI Atlas for the Hudson River

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 a wider community of GIS/mapping users. Distribution formats include a 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 are also included on the distribution CDs 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: 200604
Metadata_Review_Date: 200604
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

Generated by mp version 2.8.21 on Tue May 16 16:15:05 2006
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: 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:

Publication Date: 200604

Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: HABITATS (Habitat Polygons)

Edition: First

Geospatial Data Presentation Form: Vector digital data

Series Information:
Series Name: None
Issue Identification: Hudson River

Publication Information:
Publication Place: Seattle, Washington
Publisher:

Other Citation Details:
Description:

Abstract:
This data set contains sensitive biological resource data for submerged aquatic vegetation (SAV), floating aquatic vegetation (FAV), and rare/sensitive coastal plants for the Hudson River. Vector polygons in this data set represent eelgrass and rare coastal plant 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 Environmental Sensitivity Index (ESI) data for the Hudson River. 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: 1997
Ending_Date: 2005

Currentness_Reference:
The biological data were compiled during 2005. The currentness dates for the data range from 1997 to 2005 and are documented in the Lineage section.

Status:
Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:
Bounding_Coordinates:
West_BoundingCoordinate: -74.05800
East_BoundingCoordinate: -73.62500
North_BoundingCoordinate: 42.75000
South_BoundingCoordinate: 40.87500

Keywords:

Theme:
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: Habitats

Place:
Place_Keyword_Thesaurus: None
Place_Keyword: Hudson River

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 Hudson River 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, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington and the Department of Homeland Security, U.S. Coast Guard, Office of Response Plans & Preparedness Division, 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 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

The Spatial Data Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, rvrmiles.e00, sensitiv.e00, socecon.e00, staging.e00, t_mammal.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

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-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 "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 habitat distribution. These data do not necessarily represent all habitats occurrences in the Hudson River. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 83, Water celery, Vallisneria americana; 108, Salt marsh bulrush, Scirpus robustus; 150, Southern estuary beggar-ticks, Bidens bidentoides; 206, Saltmarsh spikerush, Eleocharis halophila; 621, American waterwort, Elatine americana; 622, Davis' sedge, Carex davisi; 623, Woodland agrimony, Agrimonia rostellata; 625, Northern estuary beggar-ticks, Bidens hyperborea var. hyperborea; 626, Smooth bur-marigold, Bidens laevis; 627, Long's bittercress, Cardamine longii; 628, Marsh straw sedge, Carex hormathodes; 629, Southern dodder, Cuscuta obtusiflora var. glandulosa; 630, Eastern grasswort, Lilaeopsis chinensis; 631, Hudson River water-nymph, Najas guadalupensis ssp. Muenscheri; 632, Golden club, Orontium aquaticum; 633, Swamp lousewort, Pedicularis lanceolata; 634, Heartleaf plantain, Plantago cordata; 635, Spongy arrowhead, Sagittaria calycina var. spongiosa; 636, Taxiphyllum moss, Taxiphyllum sp.; 637, Fissidens moss, Fissidens; 639, Frank's sedge, Carex frankii; 640, Schweinitz's flatsedge, Cyperus Schweinitzii; 641, Clustered sedge, Carex cumulata; 642, False daisy, Eclipta prostrata; 643, Gypsy-wort, Lycopus rubellus; 644, Eastern narrowleaf sedge, Carex amphibola; 645, Eastern prickly pear, Opuntia humifusa; 646, Eastern annual saltmarsh aster, Symphyotrichum subulatum; 647, Small-flowered crowfoot, Ranunculus micranthus; 648, Swamp cottonwood, Populus heterophylla; 649, Terrestrial water-starwort, Callitriche terrestris; 650, Violet woodsorrel, Oxalis violacea; 651, Water pigmyweed, Crassula aquatica; 652, Wild lupine, Lupinus perennis; 653, Yellow flatsedge, Cyperus flavescens; 654, Yellow harlequin, Corydalis flavula; 655, Water chestnut, Trapa natans.

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. Most of the spatial components of the biological data layers are 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. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set.
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.
Two main sources of data were used to depict habitat distribution and seasonality for this data layer: (1) digital data from the New York Natural Heritage Program (coastal plants) and (2) digital data from the New York Department of Environmental Conservation (submerged and floating aquatic vegetation).

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 a biology 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 is conducted to review the maps. If necessary, edits to the HABITATS data layer are made based on the recommendations of the resource experts, and final
hardcopy maps and digital data are created.

Process Date: 200602
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: 2221
    SDTS Terms Description:
      SDTS Point and Vector Object Type: Area point
      Point and Vector Object Count: 2221
    SDTS Terms Description:
      SDTS Point and Vector Object Type: Complete chain
      Point and Vector Object Count: 3180
    SDTS Terms Description:
      SDTS Point and Vector Object Type: Link
      Point and Vector Object Count: 214376
    SDTS Terms Description:
      SDTS Point and Vector Object Type: Node, planar graph
      Point and Vector Object Count: 2547

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 1927
      Ellipsoid Name: Clark 1866
      Semi-major Axis: 6378206.400000
      Denominator of Flattening Ratio: 294.978698
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 Hudson River atlas, the number is 52), 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, seasonalties, 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 below in detail. 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 below, 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 detail below.

The HABITATS.PAT table contains attribute information for the vector polygons in this data set representing eelgrass distribution and rare coastal plant distribution. Note that all attribute information is stored in a series of relational files, described below. 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: Research Planning, Inc.

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 (52), 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: 520300002
Range_Domain_Maximum: 520302396

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: 52000111
Range_Domain_Maximum: 52000203

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. 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: Research Planning, Inc.

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: 52000001
Range_Domain_Maximum: 52000231

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 (52), 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:**

<table>
<thead>
<tr>
<th>Range_Domain</th>
<th>Range_Domain_Minimum</th>
<th>Range_Domain_Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>520100002</td>
<td>520900415</td>
</tr>
</tbody>
</table>

**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:** Research Planning, Inc.

**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:**

<table>
<thead>
<tr>
<th>Range_Domain</th>
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<th>Range_Domain_Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>052000001</td>
<td>052000231</td>
</tr>
</tbody>
</table>

**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:** Research Planning, Inc.

**Attribute Domain Values:**

<table>
<thead>
<tr>
<th>Range_Domain</th>
<th>Range_Domain_Minimum</th>
<th>Range_Domain_Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>N</td>
</tr>
</tbody>
</table>

**Attribute:**

**Attribute Label:** CONC

**Attribute Definition:**

The field CONC refers to "concentration," abundance, or density value of a habitat at a particular location. No quantitative or qualitative information on concentrations of habitats was available, so this field is populated with ".-".

**Attribute Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**

<table>
<thead>
<tr>
<th>Unrepresentable Domain</th>
<th>Acceptable values change from atlas to atlas</th>
</tr>
</thead>
</table>

**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:** Research Planning, Inc.
Attribute: G_SOURCE
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: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
  Range_Domain_Minimum: 1
  Range_Domain_Maximum: N

Attribute: S_SOURCE
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: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
  Range_Domain_Minimum: 1
  Range_Domain_Maximum: N

Attribute: ELEMENT
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: BIRD
  Enumerated_Domain_Value_Definition: Birds
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: FISH
  Enumerated_Domain_Value_Definition: Fish
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: HABITAT
  Enumerated_Domain_Value_Definition: Habitats and Plants
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: INVERT
  Enumerated_Domain_Value_Definition: Invertebrates
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals  
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:  
Enumerated_Domain_Value: REPTILE  
Enumerated_Domain_Value_Definition: Reptiles and Amphibians  
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:  
Enumerated_Domain_Value: T_MAMMAL  
Enumerated_Domain_Value_Definition: Terrestrial Mammals  
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.
<table>
<thead>
<tr>
<th>Attribute</th>
<th>Attribute Label</th>
<th>Attribute Definition</th>
<th>Attribute Definition Source</th>
<th>Attribute Domain Values</th>
</tr>
</thead>
<tbody>
<tr>
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<td>SPECIES_ID</td>
<td>Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.</td>
<td>Research Planning, Inc.</td>
<td>Range Domain:</td>
</tr>
<tr>
<td></td>
<td>NAME</td>
<td>Species common name for the entire ESI data set.</td>
<td>Research Planning, Inc.</td>
<td>Unrepresentable Domain: Acceptable values change from atlas to atlas.</td>
</tr>
<tr>
<td></td>
<td>GEN_SPEC</td>
<td>Species scientific name for the entire ESI data set.</td>
<td>Research Planning, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ELEMENT</td>
<td>Major categories of biological data.</td>
<td>Research Planning, Inc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Enumerated Domain:</strong></td>
<td></td>
<td><strong>Enumerated Domain Value:</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>BIRD</td>
<td>Birds</td>
<td>BIRD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fish</td>
<td>Fish</td>
<td>FISH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Habitats and Plants</td>
<td>Habitas and Plants</td>
<td>HABITAT</td>
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<tr>
<td></td>
<td></td>
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<td>Invertebrates</td>
<td>INVERT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marine Mammals</td>
<td>Marine Mammals</td>
<td>M_MAMMAL</td>
</tr>
</tbody>
</table>
Attribute Domain Values:
    Enumerated Domain:
        Enumerated Domain Value: REPTILE
        Enumerated Domain Value Definition: Reptiles and Amphibians
        Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
    Enumerated Domain:
        Enumerated Domain Value: T_MAMMAL
        Enumerated Domain Value Definition: Terrestrial Mammals
        Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
    Attribute Label: SUBELEMENT
    Attribute Definition: Element subgroup delineating a logical grouping of species.
    Attribute Definition Source: Research Planning, Inc.

Attribute Domain Values:
    Enumerated Domain:
        Enumerated Domain Value: amphibian
        Enumerated Domain Value Definition: Amphibian
        Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
    Enumerated Domain:
        Enumerated Domain Value: bat
        Enumerated Domain Value Definition: Bat
        Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
    Enumerated Domain:
        Enumerated Domain Value: bivalve
        Enumerated Domain Value Definition: Bivalve
        Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
    Enumerated Domain:
        Enumerated Domain Value: crab
        Enumerated Domain Value Definition: Crab
        Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
    Enumerated Domain:
        Enumerated Domain Value: diadromous
        Enumerated Domain Value Definition: Diadromous fish
        Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
    Enumerated Domain:
        Enumerated Domain Value: diving
        Enumerated Domain Value Definition: Diving bird
        Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
    Enumerated Domain:
        Enumerated Domain Value: e_nursery
        Enumerated Domain Value Definition: Estuarine nursery fish
        Enumerated Domain Value Definition Source: Research Planning, Inc.
Enumerated Domain Value: e_resident
Enumerated Domain Value Definition: Estuarine resident
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: fav
Enumerated Domain Value Definition: Floating aquatic vegetation
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: freshwater
Enumerated Domain Value Definition: Freshwater fish
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: gull_tern
Enumerated Domain Value Definition: Gull or tern
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: m_benthic
Enumerated Domain Value Definition: Marine benthic fish
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: m_pelagic
Enumerated Domain Value Definition: Marine pelagic fish
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: passerine
Enumerated Domain Value Definition: Passerine bird
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: pinniped
Enumerated Domain Value Definition: Pinniped
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: plant
Enumerated Domain Value Definition: Plant
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
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Enumerated Domain Value: raptor
Enumerated Domain Value Definition: Raptor
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: sav
Enumerated_Domain_Value_Definition: Submerged aquatic vegetation
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
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  Enumerated_Domain_Value_Definition: Shorebird
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
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  Enumerated_Domain_Value_Definition: Small mammal
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
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  Enumerated_Domain_Value_Definition: Turtle
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
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  Enumerated_Domain_Value_Definition: Wading bird
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
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  Enumerated_Domain_Value_Definition: Waterfowl
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: wetland
  Enumerated_Domain_Value_Definition: Wetland
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.
  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: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
   Enumerated_Domain_Value: 0
   Enumerated_Domain_Value_Definition: Date unspecified
   Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
   Attribute_Label: EL_SPE
   Attribute_Definition:
   Concetnation 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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

Attribute:
   Attribute_Label: ELEMENT
   Attribute_Definition: Major categories of biological data.
   Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
      Enumerated_Domain_Value: BIRD
      Enumerated_Domain_Value_Definition: Birds
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
      Enumerated_Domain_Value: FISH
      Enumerated_Domain_Value_Definition: Fish
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
      Enumerated_Domain_Value: HABITAT
      Enumerated_Domain_Value_Definition: Habitats and Plants
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
      Enumerated_Domain_Value: INVERT
      Enumerated_Domain_Value_Definition: Invertebrates
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute Domain Values:
- Enumerated Domain:
  - Enumerated Domain Value: M_MAMMAL
  - Enumerated Domain Value Definition: Marine Mammals
  - Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
- Enumerated Domain:
  - Enumerated Domain Value: REPTILE
  - Enumerated Domain Value Definition: Reptiles and Amphibians
  - Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
- Enumerated Domain:
  - Enumerated Domain Value: T_MAMMAL
  - Enumerated Domain Value Definition: Terrestrial Mammals
  - Enumerated Domain Value Definition Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

Attribute Domain Values:
- Range Domain:
  - Range Domain Minimum: 1
  - Range Domain Maximum: N

Attribute:
- Attribute Label: JAN
- Attribute Definition: January
- Attribute Definition Source: Research Planning, Inc.

Attribute Domain Values:
- Enumerated Domain:
  - Enumerated Domain Value: X
  - Enumerated Domain Value Definition: Present in January
  - Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
- Attribute Label: FEB
- Attribute Definition: February
- Attribute Definition Source: Research Planning, Inc.

Attribute Domain Values:
- Enumerated Domain:
  - Enumerated Domain Value: X
Attribute:
  Attribute_Label: MAR
  Attribute_Definition: March
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in March
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: APR
  Attribute_Definition: April
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in April
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: MAY
  Attribute_Definition: May
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in May
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: JUN
  Attribute_Definition: June
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in June
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: JUL
  Attribute_Definition: July
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in July
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: AUG
  Attribute_Definition: August
  Attribute_Definition_Source: Research Planning, Inc.
Attribute Domain Values:

Enumerated Domain:

- Enumerated Domain Value: X
  - Enumerated Domain Value Definition: Present in August
  - Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:

- Attribute Label: SEP
  - Attribute Definition: September
  - Attribute Definition Source: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:

- Enumerated Domain Value: X
  - Enumerated Domain Value Definition: Present in September
  - Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:

- Attribute Label: OCT
  - Attribute Definition: October
  - Attribute Definition Source: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:

- Enumerated Domain Value: X
  - Enumerated Domain Value Definition: Present in October
  - Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:

- Attribute Label: NOV
  - Attribute Definition: November
  - Attribute Definition Source: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:

- Enumerated Domain Value: X
  - Enumerated Domain Value Definition: Present in November
  - Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:

- Attribute Label: DEC
  - Attribute Definition: December
  - Attribute Definition Source: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:

- Enumerated Domain Value: X
  - Enumerated Domain Value Definition: Present in December
  - Enumerated Domain Value Definition Source: Research Planning, Inc.

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: Research Planning, Inc.

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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.
- **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').

**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:** Research Planning, Inc.
- **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 elements.
- **Attribute Definition Source:** Research Planning, Inc.
- **Attribute Domain Values:**
  - **Enumerated Domain:**
    - **Enumerated Domain Value:** Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
    Enumerated_Domain_Value: Y
    Enumerated_Domain_Value_Definition: Life-history stage or activity present
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Attribute Domain Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Description: Life-history stage or activity present
Enumerated_Domain_Value_Description_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: N
Enumerated_Domain_Value_Description: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Description_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: -
Enumerated_Domain_Value_Description: Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Description_Source: Research Planning, Inc.

Attribute: BREED4
Attribute_Description:
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_Description_Source: Research Planning, Inc.

Attribute Domain Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Description: Life-history stage or activity present
Enumerated_Domain_Value_Description_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: N
Enumerated_Domain_Value_Description: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Description_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: -
Enumerated_Domain_Value_Description: Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Description_Source: Research Planning, Inc.

Attribute: BREED5
Attribute_Description:
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_Description_Source: Research Planning, Inc.

Attribute Domain Values:

Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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 in the ESI and HYDRO data layers.
  Attribute_Definition_Source: Research Planning, Inc.
  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: Research Planning, Inc.
  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: Research Planning, Inc.
  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**: Research Planning, Inc.

**Attribute**
- **Attribute_Label**: TITLE  
  **Attribute_Definition**: Title of source material or data.  
  **Attribute_Definition_Source**: Research Planning, Inc.  
  **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**: Research Planning, Inc.  
  **Attribute_Domain_Values**:
    - **Unrepresentable_Domain**: Acceptable values change from atlas to atlas.

**Attribute**
- **Attribute_Label**: PUBLICATION  
  **Attribute_Definition**: Additional citation information.  
  **Attribute_Definition_Source**: Research Planning, Inc.  
  **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**: Research Planning, Inc.  
  **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**: Research Planning, Inc.  
  **Attribute_Domain_Values**:
    - **Unrepresentable_Domain**: Acceptable values change from atlas to atlas.

**Detailed_Description**
- **Entity_Type**
  - **Entity_Type_Label**: STATUS  
    **Entity_Type_Definition**:  
    The data table STATUS identifies the species that are listed as 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**: Research Planning, Inc.

**Attribute**
- **Attribute_Label**: ELEMENT  
  **Attribute_Definition**: Major categories of biological data.  
  **Attribute_Definition_Source**: Research Planning, Inc.  
  **Attribute_Domain_Values**:
    - **Enumerated_Domain**:
      - **Enumerated_Domain_Value**: BIRD  
        **Enumerated_Domain_Value_Definition**: Birds
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: FISH
Enumerated Domain Value Definition: Fish
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: HABITAT
Enumerated Domain Value Definition: Habitats and Plants
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: INVERT
Enumerated Domain Value Definition: Invertebrates
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: M_MAMMAL
Enumerated Domain Value Definition: Marine Mammals
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: REPTILE
Enumerated Domain Value Definition: Reptiles and Amphibians
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: T_MAMMAL
Enumerated Domain Value Definition: Terrestrial Mammals
Enumerated Domain Value Definition Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

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: ESI Atlas for the Hudson River

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 a wider community of GIS/mapping users. Distribution formats include a 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 are also included on the distribution CDs 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: 200604
Metadata_Review_Date: 200604
Metadata_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: REPTILES (Reptile Polygons)

Metadata also available as - [Parseable text] - [SGML]

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:
Publication Date: 200604
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: REPTILES (Reptile Polygons)
Edition: First
Geospatial Data Presentation Form: Vector digital data
Series Information:
Series Name: None
Issue Identification: Hudson River
Publication Information:
Publication Place: Seattle, Washington
Publisher:
Other Citation Details:
Description:

Abstract:
This data set contains sensitive biological resource data for estuarine reptiles (turtles, terrapins) and amphibians (salamanders, frogs) for the Hudson River. Vector polygons in this data set represent turtle, terrapin, and amphibian 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 Environmental Sensitivity Index (ESI) data for the Hudson River. 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: 1997
   Ending_Date: 2005

Currentness_Reference:
The biological data were compiled during 2005. The currentness dates for the data range from 1997 to 2005 and are documented in the Lineage section.

Status:
Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:
   West_BoundingCoordinate: -74.05800
   East_BoundingCoordinate: -73.62500
   North_BoundingCoordinate: 42.75000
   South_BoundingCoordinate: 40.87500

Keywords:
Theme:
   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: Reptiles

Place:
   Place_Keyword_Thesaurus: None
   Place_Keyword: Hudson River

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 Hudson River 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, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington and the Department of Homeland Security, U.S. Coast Guard, Office of Response Plans & Preparedness Division, 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 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

The Spatial Data Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, rvrmiles.e00, sensitiv.e00, socecon.e00, staging.e00, t_mammal.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

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-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 multipleatlases 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 turtle, terrapin, and amphibian distribution. These data do not necessarily represent all reptile occurrences in the Hudson River. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]); 7, Diamondback terrapin, Malaclemys terrapin; 32, Spotted turtle, Clemmys guttata; 114, Snapping turtle, Chelydra serpentina; 150, Wood turtle, Glyptemys insculpta; 168, Northern leopard frog, Rana pipiens; 169, Blue-spotted salamander, Ambystoma laterale; 170, Eastern box turtle, Terrapene carolina carolina; 171, Common map turtle, Graptemys graphica; 172, Painted turtle, Chrysemys picta.

Positional Accuracy:
Horizontal Positional Accuracy Report:
Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Most of the spatial components of the biological data layers are 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. See the Lineage and Process Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. 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.

Lineage:
Source Information:
Source Citation:
Citation Information:
Originator:
ALVIN BREISCH, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYS DEC)
Publication Date: 2005
Title:
DISTRIBUTION AND ABUNDANCE OF REPTILES AND AMPHIBIANS OF THE HUDSON RIVER VALLEY


Originator: NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION (NJ DEP)
Publication_Date: 2001
Title: NJ DEP WOOD TURTLE
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: NJ DIVISION OF FISH AND WILDLIFE, TRENTON, NJ
Source_Scale_Denominator: 12,000
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date_Time:
Calendar_Date: 2001
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILE INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: NEW YORK STATE NATURAL HERITAGE PROGRAM (NYS NHP)
Publication_Date: 2005
Title: NYNHP_POLYS_NOAA
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: THE NATURE CONSERVANCY (TNC) AND THE NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION, ALBANY, NY
Source_Scale_Denominator: 24,000
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: NONE
Source_Contribution: REPTILE INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: U.S. FISH AND WILDLIFE SERVICE (USFWS)
Publication_Date: 1997
Title: SIGNIFICANT HABITATS AND HABITAT COMPLEXES OF THE NEW YORK BIGHT WATERSHED
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: SOUTHERN NEW ENGLAND - NEW YORK BIGHT COASTAL ECOSYSTEMS PROGRAM, CHARLESTOWN, RHODE ISLAND
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
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 New York Department of Environmental Conservation (NYS DEC) and Hudsonia, Ltd., (2) digital polygon data provided by the New Jersey Department of Environmental Protection (NJ DEP) Landscape Project and the New York Natural Heritage Program (NY NHP), and (3) numerous published 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 a biology 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 is 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: 200602
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

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains
Point_and_Vector_Object_Count: 99
**SDTS_Terms_Description:**

- **SDTS_Point_and_Vector_Object_Type:** Area point
  - **Point_and_Vector_Object_Count:** 99

**SDTS_Terms_Description:**

- **SDTS_Point_and_Vector_Object_Type:** Complete chain
  - **Point_and_Vector_Object_Count:** 292

**SDTS_Terms_Description:**

- **SDTS_Point_and_Vector_Object_Type:** Link
  - **Point_and_Vector_Object_Count:** 61798

**SDTS_Terms_Description:**

- **SDTS_Point_and_Vector_Object_Type:** Node, planar graph
  - **Point_and_Vector_Object_Count:** 257

**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 1927
    - **Ellipsoid_Name:** Clark 1866
    - **Semi-major_Axis:** 6378206.400000
    - **Denominator_of_Flattening_Ratio:** 294.978698

**Entity_and_Attribute_Information:**

- **Overview_Description:**

  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 Hudson River atlas, the number is 52), 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 below in detail. 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 below, 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 detail below.

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 turtle, terrapin, and amphibian distribution. Note that all
  attribute information is stored in a series of relational files, described below. 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: Research Planning, Inc.

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 (52), 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: 520600002
      Range_Domain_Maximum: 520600492

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: 52000213
      Range_Domain_Maximum: 52000226
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. 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: Research Planning, Inc.

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: 52000001
Range_Domain_Maximum: 52000231

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 (52), 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: 520100002
Range_Domain_Maximum: 520900415

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: Research Planning, Inc.

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: 052000001
Range_Domain_Maximum: 052000231

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: Research Planning, Inc.
  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 concentration information was available for reptiles, so the field is populated with "."
  Attribute_Definition_Source: Research Planning, Inc.
  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: Research Planning, Inc.
  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: Research Planning, Inc.
  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: Research Planning, Inc.
  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: Research Planning, Inc.
Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: BIRD
  Enumerated_Domain_Value_Definition: Birds
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: FISH
  Enumerated_Domain_Value_Definition: Fish
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: HABITAT
  Enumerated_Domain_Value_Definition: Habitats and Plants
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: INVERT
  Enumerated_Domain_Value_Definition: Invertebrates
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: M_MAMMAL
  Enumerated_Domain_Value_Definition: Marine Mammals
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: REPTILE
  Enumerated_Domain_Value_Definition: Reptiles and Amphibians
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
  Enumerated_Domain_Value: T_MAMMAL
  Enumerated_Domain_Value_Definition: Terrestrial Mammals
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.
Attribute_Domain_Values:
  Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: ELEMENT
**Attribute**  
**Attribute Label**: SUBELEMENT  
**Attribute Definition**: Element subgroup delineating a logical grouping of species.  
**Attribute Definition Source**: Research Planning, Inc.

**Attribute Domain Values**:
- **Enumerated Domain**:
  - **Enumerated Domain Value**: amphibian  
  - **Enumerated Domain Value Definition**: Amphibian  
  - **Enumerated Domain Value Definition Source**: Research Planning, Inc.
- **Enumerated Domain**:
  - **Enumerated Domain Value**: bat  
  - **Enumerated Domain Value Definition**: Bat  
  - **Enumerated Domain Value Definition Source**: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: bivalve
Enumerated_Domain_Value_Definition: Bivalve
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: crab
Enumerated_Domain_Value_Definition: Crab
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diadromous
Enumerated_Domain_Value_Definition: Diadromous fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diving
Enumerated_Domain_Value_Definition: Diving bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_nursery
Enumerated_Domain_Value_Definition: Estuarine nursery fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_resident
Enumerated_Domain_Value_Definition: Estuarine resident
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: fav
Enumerated_Domain_Value_Definition: Floating aquatic vegetation
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: freshwater
Enumerated_Domain_Value_Definition: Freshwater fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gull_tern
Enumerated_Domain_Value_Definition: Gull or tern
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_benthic
Enumerated_Domain_Value_Definition: Marine benthic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
   Enumerated_Domain_Value: m_pelagic
   Enumerated_Domain_Value_Definition: Marine pelagic fish
   Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
       Enumerated_Domain_Value: passerine
       Enumerated_Domain_Value_Definition: Passerine bird
       Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
       Enumerated_Domain_Value: pinniped
       Enumerated_Domain_Value_Definition: Pinniped
       Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
       Enumerated_Domain_Value: plant
       Enumerated_Domain_Value_Definition: Plant
       Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
       Enumerated_Domain_Value: raptor
       Enumerated_Domain_Value_Definition: Raptor
       Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
       Enumerated_Domain_Value: sav
       Enumerated_Domain_Value_Definition: Submerged aquatic vegetation
       Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
       Enumerated_Domain_Value: shorebird
       Enumerated_Domain_Value_Definition: Shorebird
       Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
       Enumerated_Domain_Value: sm_mammal
       Enumerated_Domain_Value_Definition: Small mammal
       Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
       Enumerated_Domain_Value: turtle
       Enumerated_Domain_Value_Definition: Turtle
       Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
   Enumerated_Domain:
       Enumerated_Domain_Value: wading
       Enumerated_Domain_Value_Definition: Wading bird
       Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain_Value: waterfowl
Enumerated_Domain_Value_Definition: Waterfowl
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: wetland
Enumerated_Domain_Value_Definition: Wetland
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.

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: Research Planning, Inc.

Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: BIRD
    Enumerated_Domain_Value_Definition: Birds
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: FISH
    Enumerated_Domain_Value_Definition: Fish
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: HABITAT
    Enumerated_Domain_Value_Definition: Habitats and Plants
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: INVERT
    Enumerated_Domain_Value_Definition: Invertebrates
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: M_MAMMAL
    Enumerated_Domain_Value_Definition: Marine Mammals
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: REPTILE
    Enumerated_Domain_Value_Definition: Reptiles and Amphibians
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: T_MAMMAL
    Enumerated_Domain_Value_Definition: Terrestrial Mammals
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.
    Attribute_Domain_Values:
        Range_Domain:
            Range_Domain_Minimum: 1
            Range_Domain_Maximum: N

Attribute:
    Attribute_Label: JAN
    Attribute_Definition: January
    Attribute_Definition_Source: Research Planning, Inc.
    Attribute_Domain_Values:
        Enumerated_Domain:
            Enumerated_Domain_Value: X
            Enumerated_Domain_Value_Definition: Present in January
            Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
    Attribute_Label: FEB
    Attribute_Definition: February
    Attribute_Definition_Source: Research Planning, Inc.
    Attribute_Domain_Values:
        Enumerated_Domain:
            Enumerated_Domain_Value: X
            Enumerated_Domain_Value_Definition: Present in February
            Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
    Attribute_Label: MAR
    Attribute_Definition: March
    Attribute_Definition_Source: Research Planning, Inc.
    Attribute_Domain_Values:
        Enumerated_Domain:
            Enumerated_Domain_Value: X
            Enumerated_Domain_Value_Definition: Present in March
            Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
    Attribute_Label: APR
    Attribute_Definition: April
    Attribute_Definition_Source: Research Planning, Inc.
    Attribute_Domain_Values:
        Enumerated_Domain:
            Enumerated_Domain_Value: X
            Enumerated_Domain_Value_Definition: Present in April
            Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
    Attribute_Label: MAY
    Attribute_Definition: May
    Attribute_Definition_Source: Research Planning, Inc.
Hudson River: REPTILES (Reptile Polygons)

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: X
  Enumerated_Domain_Value_Definition: Present in May
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: JUN
  Attribute_Definition: June
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in June
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: JUL
  Attribute_Definition: July
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in July
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: AUG
  Attribute_Definition: August
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in August
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: SEP
  Attribute_Definition: September
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in September
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: OCT
  Attribute_Definition: October
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: X
      Enumerated_Domain_Value_Definition: Present in October
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute **Label**: NOV  
**Attribute Definition**: November  
**Attribute Definition Source**: Research Planning, Inc.  
**Attribute Domain Values**:  
- **Enumerated Domain**:  
  - **Enumerated Domain Value**: X  
  - **Enumerated Domain Value Definition**: Present in November  
  - **Enumerated Domain Value Definition Source**: Research Planning, Inc.

Attribute **Label**: DEC  
**Attribute Definition**: December  
**Attribute Definition Source**: Research Planning, Inc.  
**Attribute Domain Values**:  
- **Enumerated Domain**:  
  - **Enumerated Domain Value**: X  
  - **Enumerated Domain Value Definition**: Present in December  
  - **Enumerated Domain Value Definition Source**: Research Planning, Inc.

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**: Research Planning, Inc.  
**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**: Research Planning, Inc.

**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**: Research Planning, Inc.

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**: Research Planning, Inc.  
**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').
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 = 'BO000101').

Enumerated Domain Value Definition Source: Research Planning, Inc.

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: Research Planning, Inc.
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 elements.
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
Enumerated Domain:
  Enumerated Domain Value: Y
  Enumerated Domain Value Definition: Life-history stage or activity present
  Enumerated Domain Value Definition Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.
Attribute Domain Values:
Enumerated_Domain:
  Enumerated_Domain_Value: Y
  Enumerated_Domain_Value_Definition: Life-history stage or activity present
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: Y
    Enumerated_Domain_Value_Definition: Life-history stage or activity present
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.


**Attribute Domain Values:**

**Enumerated Domain:**

- **Enumerated Domain Value:** Y
  - **Enumerated Domain Value Definition:** Life-history stage or activity present
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**Attribute Domain Values:**

**Enumerated Domain:**

- **Enumerated Domain Value:** Y
  - **Enumerated Domain Value Definition:** Life-history stage or activity present
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.

**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:** Research Planning, Inc.
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 in the ESI and HYDRO data layers.
  **Attribute Definition Source**: Research Planning, Inc.
  **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**: Research Planning, Inc.
  **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**: Research Planning, Inc.
  **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: Research Planning, Inc.

Attribute:
  **Attribute Label**: TITLE
  **Attribute Definition**: Title of source material or data.
  **Attribute Definition Source**: Research Planning, Inc.
  **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**: Research Planning, Inc.
  **Attribute Domain Values**:
  - Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
  **Attribute Label**: PUBLICATION
  **Attribute Definition**: Additional citation information.
  **Attribute Definition Source**: Research Planning, Inc.
  **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**: Research Planning, Inc.

**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**: Research Planning, Inc.

**Attribute Domain Values**:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

**Detailed Description**:

**Entity Type**:

**Entity Type Label**: STATUS

**Entity Type Definition**:
The data table STATUS identifies the species that are listed as 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**: Research Planning, Inc.

**Attribute**:

**Attribute Label**: ELEMENT

**Attribute Definition**: Major categories of biological data.

**Attribute Definition Source**: Research Planning, Inc.

**Attribute Domain Values**:

**Enumerated Domain**:

- **Enumerated Domain Value**: BIRD
  
  **Enumerated Domain Value Definition**: Birds
  
  **Enumerated Domain Value Definition Source**: Research Planning, Inc.

**Attribute Domain Values**:

**Enumerated Domain**:

- **Enumerated Domain Value**: FISH
  
  **Enumerated Domain Value Definition**: Fish
  
  **Enumerated Domain Value Definition Source**: Research Planning, Inc.

**Attribute Domain Values**:

**Enumerated Domain**:

- **Enumerated Domain Value**: HABITAT
  
  **Enumerated Domain Value Definition**: Habitats and Plants
  
  **Enumerated Domain Value Definition Source**: Research Planning, Inc.

**Attribute Domain Values**:

**Enumerated Domain**:

- **Enumerated Domain Value**: INVERT
  
  **Enumerated Domain Value Definition**: Invertebrates
  
  **Enumerated Domain Value Definition Source**: Research Planning, Inc.

**Attribute Domain Values**:

**Enumerated Domain**:

- **Enumerated Domain Value**: M_MAMMAL
  
  **Enumerated Domain Value Definition**: Marine Mammals
  
  **Enumerated Domain Value Definition Source**: Research Planning, Inc.

**Attribute Domain Values**:

**Enumerated Domain**:

- **Enumerated Domain Value**: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.

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: Research Planning, Inc.
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: Research Planning, Inc.
  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: Research Planning, Inc.
  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: Research Planning, Inc.

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*: Research Planning, Inc.

**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**: Research Planning, Inc.

**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*: Research Planning, Inc.

**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**: Research Planning, Inc.

**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*: Research Planning, Inc.

**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**: Research Planning, Inc.

**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**: ESI Atlas for the Hudson River
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 a wider community of GIS/mapping users. Distribution formats include a 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 are also included on the distribution CDs 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: 200604
Metadata_Review_Date: 200604
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

Generated by mmp version 2.8.21 on Mon May 15 11:26:11 2006
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: MGT (Management Area Polygons)

Metadata also available as - [Parseable text] - [SGML]

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:
Publication Date: 200604
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: MGT (Management Area Polygons)
Edition: First
Geospatial Data Presentation Form: Vector digital data
Series Information:
Series Name: None
Issue Identification: Hudson River
Publication Information:
Publication Place: Seattle, Washington
Publisher:
Other Citation Details:
Description:

Abstract:
This data set contains sensitive human-use data for regional and state parks, historic sites, marine sanctuaries, and other managed areas for the Hudson River. Vector polygons in this data set represent the management areas. Location-specific type and source information is 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 Environmental Sensitivity Index (ESI) data for the Hudson River. 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 (Socioeconomic Resource Points and Lines) data layer, part of the larger Hudson River 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: 1990
Ending_Date: 2005

Currentness_Reference:
The MGT data were compiled during 2005. The currentness dates for the data range from 1990 to 2005 and are documented in the Lineage section.

Status:
Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:
Bounding_Coordinates:
West_BoundingCoordinate: -74.05800
East_BoundingCoordinate: -73.62500
North_BoundingCoordinate: 42.75000
South_BoundingCoordinate: 40.87500

Keywords:
Theme:
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: Management areas
Theme_Keyword: Human use resources

Place:
Place_Keyword_Thesaurus: None
Place_Keyword: Hudson River
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 Hudson River 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, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington and the Department of Homeland Security, U.S. Coast Guard, Office of Response Plans & Preparedness Division, 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 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

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, reptiles.e00, rvrmiles.e00, sensitiv.e00, socecon.e00, staging.e00, t_mammal.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biore, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

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-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.

**Completeness Report:**
These data represent a synthesis of digital boundaries for management areas. See also the SOCECON (Socioeconomic Resource Points and Lines) data layer, part of the larger Hudson River ESI database, for additional human-use information. These data do not necessarily represent all management areas in the Hudson River area.

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

**Lineage:**

**Source Information:**

**Source Citation:**

**Citation Information:**

**Originator:**
CHRISTINA RICCI, NEW YORK STATE OFFICE OF PARKS, RECREATION AND HISTORIC PRESERVATION (NYS OPRHP)

**Publication Date:** 2005
**Title:** OPRHP_05
**Geospatial Data Presentation Form:** VECTOR DIGITAL DATA
**Other Citation Details:** NYS OPRHP, ALBANY, NY

**Type of Source Media:** EMAIL
**Source Time Period of Content:**

**Time Period Information:**

**Single Date/Time:**

**Calendar Date:** 2005
**Source Currentness Reference:** DATE OF PUBLICATION
**Source Citation Abbreviation:** NONE
**Source Contribution:** MANAGEMENT INFORMATION

**Source Information:**

**Source Citation:**

**Citation Information:**

**Originator:**
CHUCK NEIDER, HUDSON RIVER NERR, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYS DEC)

**Publication Date:** 2005
**Title:** HUDSON RIVER SIGNIFICANT HABITATS
**Geospatial Data Presentation Form:** VECTOR DIGITAL DATA
PROTECTION (NJDEP)
Publication_Date: 2004
Title: NJDEP MERGED INVENTORY HISTORIC PROPERTIES OF NEW JERSEY
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: NEW JERSEY DEP, NATURAL AND HISTORIC RESOURCES, HISTORIC PRESERVATION OFFICE
Source_Scale_Denominator: 24,000
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: NONE
Source_Contribution: MANAGEMENT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
   Originator: NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION (NJDEP)
   Publication_Date: 1995
   Title: NJDEP STATE OWNED, PROTECTED OPEN SPACE AND RECREATION AREAS IN NEW JERSEY
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: GREEN ACRES, TRENTON, NJ
Source_Scale_Denominator: 24,000
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
   Range_of_Dates/Times:
      Beginning_Date: 1991
      Ending_Date: 2004
Source_Currentness_Reference: DATE OF SURVEY
Source_Citation_Abbreviation: NONE
Source_Contribution: MANAGEMENT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
   Originator: NEW YORK STATE NATURAL HERITAGE PROGRAM (NYS NHP)
   Publication_Date: 2005
   Title: NYNHP_POLYS_NOAA
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: THE NATURE CONSERVANCY (TNC) AND THE NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION, ALBANY, NY
Source_Scale_Denominator: 24,000
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: NONE
Source_Contribution: MANAGEMENT INFORMATION

Process_Description:
Three digital coverages were used to depict management areas for this data layer: (1) Ecological Communities digital polygon coverage by the New York State Natural Heritage Program (NYS NHP), (2) National Estuarine Research Reserve and Significant Habitats vector polygon coverage from the New York State Department of Environmental Conservation (NYS DEC), (3) state and county parks digital point coverage from the New York State Office of Parks, Recreation and Historic Preservation (NYS OPRHP) and the New Jersey Department of Environmental Protection (NJDEP).

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 is 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: 200602
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: 1161

SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 1161

SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 2927

SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 85540

SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 2030

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 1927
Ellipsoid_Name: Clark 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview:
In addition to the geographic data layers, 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 Hudson River, the number is 52). ID is a unique combination of the atlas number (52), an element specific number (MGT = 11), and a unique record number. SOC_DAT and the other relational data tables are described below in detail. 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.

Detailed_Description:
Entity_Type:
Entity_Type_Label: MGT.PAT
Entity_Type_Definition:
The MGT.PAT table contains attribute information for the vector polygons representing regional or state parks, historic sites, marine sanctuaries, and other
managed areas. Note that all attribute information is stored in a series of relational files, described below. 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:* Research Planning, Inc.

**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:* Research Planning, Inc.

*Attribute_Domain_Values:*

- **Enumerated_Domain:**
  - **Enumerated_Domain_Value:** HS
  - **Enumerated_Domain_Value_Definition:** Historical Site
  - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

- **Enumerated_Domain:**
  - **Enumerated_Domain_Value:** MA
  - **Enumerated_Domain_Value_Definition:** Management Area
  - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

- **Enumerated_Domain:**
  - **Enumerated_Domain_Value:** MS
  - **Enumerated_Domain_Value_Definition:** Marine Sanctuary
  - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

- **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:** Research Planning, Inc.

- **Enumerated_Domain:**
  - **Enumerated_Domain_Value:** P
  - **Enumerated_Domain_Value_Definition:** Regional or State Park
  - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**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 (52), 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:** 521100002
  - **Range_Domain_Maximum:** 521101774

**Attribute:**

*Attribute_Label:* HNUM
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: 52000010
      Range_Domain_Maximum: 52000363

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: Research Planning, Inc.

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: 52000001
      Range_Domain_Maximum: 52000363

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 (52), element number (SOCECON=10; MGT=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: 521000001
      Range_Domain_Maximum: 521100774

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: Research Planning, Inc.

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.

**Attribute Definition Source:** NOAA

**Attribute Domain Values:**
**Range Domain:**
- **Range Domain Minimum:** 52000001
- **Range Domain Maximum:** 52000363

**Attribute:**
**Attribute Label:** TYPE

**Attribute Definition:** Identifies the feature type.

**Attribute Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**
**Enumerated Domain:**
- **Enumerated Domain Value:** ARCHAEOLOGICAL SITE
  - **Enumerated Domain Value Definition:** Archaeological Site
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**
**Enumerated Domain:**
- **Enumerated Domain Value:** BOAT RAMP
  - **Enumerated Domain Value Definition:** Boat Ramp
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**
**Enumerated Domain:**
- **Enumerated Domain Value:** COMMERCIAL FISHING
  - **Enumerated Domain Value Definition:** Commercial Fishing
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**
**Enumerated Domain:**
- **Enumerated Domain Value:** COAST GUARD
  - **Enumerated Domain Value Definition:** Coast Guard
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**
**Enumerated Domain:**
- **Enumerated Domain Value:** HISTORICAL SITE
  - **Enumerated Domain Value Definition:** Historical Site
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**
**Enumerated Domain:**
- **Enumerated Domain Value:** LOCK AND DAM
  - **Enumerated Domain Value Definition:** Lock and Dam
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**
**Enumerated Domain:**
- **Enumerated Domain Value:** MANAGEMENT AREA
  - **Enumerated Domain Value Definition:** Management Area
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**
**Enumerated Domain:**
- **Enumerated Domain Value:** MARINA
  - **Enumerated Domain Value Definition:** Marina
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

**Attribute Domain Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** MARINE SANCTUARY
*Enumerated_Domain_Value_Definition: Marine Sanctuary
*Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

**Attribute Domain Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** RECREATIONAL FISHING
*Enumerated_Domain_Value_Definition: Recreational Fishing
*Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

**Attribute Domain Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** REGIONAL OR STATE PARK
*Enumerated_Domain_Value_Definition: Regional or State Park
*Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

**Attribute Domain Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** WATER INTAKE
*Enumerated_Domain_Value_Definition: Water Intake
*Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

**Attribute:**

**Attribute_Label:** NAME
*Attribute_Definition: The feature name.
*Attribute_Definition_Source: Research Planning, Inc.

**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: Research Planning, Inc.

**Attribute Domain Values:**

**Unrepresentable_Domain:** Acceptable values change from atlas to atlas.

**Attribute:**

**Attribute_Label:** PHONE
*Attribute_Definition: Contact telephone number.
*Attribute_Definition_Source: Research Planning, Inc.

**Attribute Domain Values:**

**Unrepresentable_Domain:** Acceptable values change from atlas to atlas.

**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: Research Planning, Inc.

**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: Research Planning, Inc.
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: Research Planning, Inc.

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 in the ESI and HYDRO data layers.
    Attribute_Definition_Source: Research Planning, Inc.
    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: Research Planning, Inc.
    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: Research Planning, Inc.
    Attribute_Domain_Values:
        Enumerated_Domain:
            Enumerated_Domain_Value: YYYYMM
            Enumerated_Domain_Value_Definition: YYY for year and optionally MM for month
            Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
    Attribute_Label: TITLE
    Attribute_Definition: Title of source material or data.
    Attribute_Definition_Source: Research Planning, Inc.
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: Research Planning, Inc.
Attribute Domain Values:
Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute Label: PUBLICATION
Attribute Definition: Additional citation information.
Attribute Definition Source: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.
Attribute Domain Values:
Unrepresentable Domain: Acceptable values change from atlas to atlas.

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: ESI Atlas for the Hudson River
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 a wider community of GIS/mapping users. Distribution formats include a 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 are also included on the distribution CDs 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: 200604
Metadata_Review_Date: 200604
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

Generated by mp version 2.8.21 on Sat May 13 15:52:37 2006
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: INDEX (Index Polygons)

Metadata also available as - [Parseable text] - [SGML]
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 the Hudson River. This data set comprises a portion of the ESI data for the Hudson River. 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: 2005

Currentness_Reference:
The INDEX data were compiled during 2005. The currentness date for the data is 2005 and is documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:
West_BoundingCoordinate: -74.05800
East_BoundingCoordinate: -73.62500
North_BoundingCoordinate: 42.75000
South_BoundingCoordinate: 40.87500

Keywords:

Theme:
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

Place:
Place_Keyword_Thesaurus: None
Place_Keyword: Hudson River

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 Hudson River 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, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington and the Department of Homeland Security, U.S. Coast Guard, Office of Response Plans & Preparedness Division, 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 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

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, reptiles.e00, rvrmiles.e00, sensitiv.e00, soccon.e00, staging.e00, t_mammal.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biore, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

**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-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.

**Completeness_Report:**

These data represent the boundaries of all hardcopy cartographic products produced as part of the ESI for the Hudson River, as well as digital data extents.

**Positional_Accuracy:**
Horizontal Positional Accuracy:

Horizontal Positional Accuracy Report:
The polygons in this data layer were generated in ArcInfo from the coordinates of the U.S. Geological Survey (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. (RPI)
   Publication Date: 2005
   Title: ESI INDEX
   Geospatial Data Presentation Form: VECTOR DIGITAL DATA
   Other Citation Details: UNPUBLISHED
Source Scale Denominator: 24,000
Type of Source Media: DIGITAL
Source Time Period of Content:
   Time Period Information:
      Single Date/Time:
         Calendar Date: 2005
   Source Currentness Reference: DATE OF PUBLICATION
Source Citation Abbreviation: NONE
Source Contribution: INDEX INFORMATION
Source Information:

Source Citation:
Citation Information:
   Originator: U.S. GEOLOGICAL SURVEY (USGS)
   Publication Date: VARIES
   Title: DIGITAL RASTER GRAPHICS
   Geospatial Data Presentation Form: RASTER DIGITAL DATA
   Other Citation Details: DENVER, CO OR RESTON, VA
Source Scale Denominator: 24,000
Type of Source Media: ONLINE
Source Time Period of Content:
   Time Period Information:
      Single Date/Time:
         Calendar Date: VARIES
   Source Currentness Reference: DATE OF PUBLICATION
Source Citation Abbreviation: NONE
Source Contribution: INDEX INFORMATION

Process Step:
Process Description:
Primarily, 1:24,000 U.S. Geological Survey (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: 200602
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_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

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: 18
    SDTS_Terms_Description:
        SDTS_Point_and_Vector_Object_Type: Area point
        Point_and_Vector_Object_Count: 18
    SDTS_Terms_Description:
        SDTS_Point_and_Vector_Object_Type: Complete chain
        Point_and_Vector_Object_Count: 72
    SDTS_Terms_Description:
        SDTS_Point_and_Vector_Object_Type: Link
        Point_and_Vector_Object_Count: 72
    SDTS_Terms_Description:
        SDTS_Point_and_Vector_Object_Type: Node, planar graph
        Point_and_Vector_Object_Count: 55

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 1927
            Ellipsoid_Name: Clark 1866
            Semi-major_Axis: 6378206.400000
            Denominator_of_Flattening_Ratio: 294.978698

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 used in the creation of the ESI.
  Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: TILE-NAME
  Attribute_Definition: The map number according to the specified layout of the atlas.
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Range_Domain:
      Range_Domain_Minimum: 1
      Range_Domain_Maximum: 18

Attribute:
  Attribute_Label: TOPO-NAME
  Attribute_Definition: USGS Topographic map name, short description of location, or atlas name.
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
  Attribute_Label: SCALE
  Attribute_Definition: The value of the denominator of the scale at which the map is plotted in the final map product.
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
  Attribute_Label: MAPANGLE
  Attribute_Definition: The value to rotate the final map product so that it is situated straight up and down.
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Range_Domain:
      Range_Domain_Minimum: -0.9030
      Range_Domain_Maximum: 0.0000
      Attribute_Units_of_Measure: Degree

Attribute:
  Attribute_Label: PAGESIZE
  Attribute_Definition: The value of the width and height of the map in the final map product.
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: 11,17
      Enumerated_Domain_Value_Definition: Page size= 11" by 17"
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
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: ESI Atlas for Hudson River

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 a wider community of GIS/mapping users. Distribution formats include a 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 are also included on the distribution CDs 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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Metadata Reference Information:

Metadata Date: 200604
Metadata Review Date: 200604

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


Generated by mp version 2.8.21 on Sat May 13 16:35:52 2006
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: SOCECON (Socioeconomic Resource Points and Lines)

Metadata also available as - [Parseable text] - [SGML]

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:**

**Citation Information:**

**Originator:**

**Publication Date:** 200604

**Title:**
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: SOCECON (Socioeconomic Resource Points and Lines)

**Edition:** First

**Geospatial Data Presentation Form:** Vector digital data

**Series Information:**

**Series Name:** None

**Issue Identification:** Hudson River

**Publication Information:**

**Publication Place:** Seattle, Washington

**Publisher:**

**Other Citation Details:**
Description:

Abstract:
This data set contains human-use resource data for marinas, boat ramps, locks and dams, water intake sites, archaeological sites, U.S. Coast Guard stations, commercial and recreational fishing areas, bridges, and state borders for the Hudson River. Vector points and lines in this data set represent the 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 Environmental Sensitivity Index (ESI) data for the Hudson River. 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 (Management Area Polygons) data layer, part of the larger Hudson River 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: 1997
Ending_Date: 2005

Currentness_Reference:
The SOCECON data were compiled during 2005. The currentness dates for the data range from 1997 to 2005 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:
West_BoundingCoordinate: -74.05800
East_BoundingCoordinate: -73.62500
North_BoundingCoordinate: 42.75000
South_BoundingCoordinate: 40.87500

Keywords:

Theme:
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: Socioeconomic resources
Theme_Keyword: Human use resources

Place:
Place_Keyword_Thesaurus: None
**Place_Keyword:** Hudson River  

**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 Hudson River 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, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington and the Department of Homeland Security, U.S. Coast Guard, Office of Response Plans & Preparedness Division, 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 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

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, reptiles.e00, rvrmiles.e00, sensitiv.e00, socecon.e00, staging.e00, t_mammal.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biore, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

**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-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.

Completeness_Report:
These data represent a synthesis of expert knowledge, hardcopy reports, and digital data on socioeconomic resources. See also the MGT (Management Area Polygons) data layer, part of the larger Hudson River ESI database, for additional human-use information. These data do not necessarily represent all human-use sites in the Hudson River area.

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

Lineage:
Source_Information:
Source_Citation:
Citation_Information:
Originator:
BETSY BLAIR, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYS DEC)
Publication_Date: 2005
Title: LOCATIONS OF STATE PARKS
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: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCIOECONOMIC INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
CHRISTINA RICCI, NEW YORK STATE OFFICE OF PARKS, RECREATION AND HISTORIC PRESERVATION (NYS OPRHP)
Publication_Date: 2005
Title: OPRHP_05
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Publication Date: 2005
Title:
DISTRIBUTION AND ABUNDANCE OF FINFISH AND BOAT LAUNCHES IN THE HUDSON RIVER
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: 2005
Source Currentness Reference: DATE OF COMMUNICATION
Source Citation Abbreviation: NONE
Source Contribution: SOCIOECONOMIC INFORMATION
Source Information:
Source Citation:
Citation Information:
Originator:
PAUL JOHN, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYS DEC)
Publication Date: 1998
Title: SITES
Geospatial Data Presentation Form: VECTOR DIGITAL DATA
Other Citation Details: New York/New Jersey ACP
Type of Source Media: EMAIL
Source Time Period of Content:
Time Period Information:
Single Date/Time:
Calendar Date: 1998
Source Currentness Reference: DATE OF PUBLICATION
Source Citation Abbreviation: NONE
Source Contribution: SOCIOECONOMIC INFORMATION
Source Information:
Source Citation:
Citation Information:
Originator: U.S. FISH AND WILDLIFE SERVICE (USFWS)
Publication Date: 1997
Title:
SIGNIFICANT HABITATS AND HABITAT COMPLEXES OF THE NEW YORK BIGHT WATERSHED
Geospatial Data Presentation Form: HARDCOPY TEXT
Other Citation Details:
SOUTHERN NEW ENGLAND - NEW YORK BIGHT COASTAL ECOSYSTEMS PROGRAM, CHARLESTOWN, RHODE ISLAND
Four main sources of data were used to depict human-use resources for this data layer: (1) personal interviews with resource experts from Hudsonia Ltd. and the New York State Department of Environmental Conservation (NYS DEC), (2) a digital point coverage provided by the New York State Office of Parks, Recreation and Historic Preservation (NYS OPRHP), (3) numerous published and unpublished reports, and (4) U.S. Geological Survey (USGS) topographic maps.

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; (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 is conducted to review the maps. If necessary, edits to the SOCECON data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200602
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: Entity Point  
  Point_and_Vector_Object_Count: 72
SDTS_Terms_Description:
  SDTS_Point_and_Vector_Object_Type: Complete chain  
  Point_and_Vector_Object_Count: 66
SDTS_Terms_Description:
  SDTS_Point_and_Vector_Object_Type: Link  
  Point_and_Vector_Object_Count: 123
SDTS_Terms_Description:
  SDTS_Point_and_Vector_Object_Type: Node, planar graph  
  Point_and_Vector_Object_Count: 132

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 1927
  Ellipsoid Name: Clark 1866
  Semi-major Axis: 6378206.400000
  Denominator of Flattening Ratio: 294.978698

Entity and Attribute Information:
Overview Description:
Entity and Attribute Overview:
In addition to the geographic data layers, 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 Hudson River, the number is 52). ID is a unique combination of the atlas number (52), an element specific number (SOCECON = 10), and a unique record number. SOC_DAT and the other relational data tables are described below in detail. 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.

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 borders. Note that all attribute information is stored in a series of relational files, described below. 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: Research Planning, Inc.

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: Research Planning, Inc.
  Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: R
    Enumerated_Domain_Value_Definition: Road, Transportation, or Bridge
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
  Enumerated_Domain:
    Enumerated_Domain_Value: SB
    Enumerated_Domain_Value_Definition: State Border
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:
Entity_Type:
  Entity_Type_Label: SOCECON.PAT
Entity_Type_Definition:
The SOCECON.PAT table contains attribute information for the vector points representing marinas, boat ramps, locks and dams, water intake sites, archaeological sites, U.S. Coast Guard stations, commercial and recreational fishing areas, and managed sensitive areas. Note that all attribute information is stored in a series of relational files, described below. 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: Research Planning, Inc.

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: Research Planning, Inc.
  Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: AS
    Enumerated_Domain_Value_Definition: Archaeological Site
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
  Enumerated_Domain:
    Enumerated_Domain_Value: BR
Enumerated_Domain_Value_Definition: Boat Ramp
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: CF
  Enumerated_Domain_Value_Definition: Commercial Fishing
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: LD
  Enumerated_Domain_Value_Definition: Lock and Dam
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: M
  Enumerated_Domain_Value_Definition: Marina
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: MA
  Enumerated_Domain_Value_Definition: Management Area
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: RF
  Enumerated_Domain_Value_Definition: Recreational Fishing
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: WI
  Enumerated_Domain_Value_Definition: Water Intake
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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 (52), element number (10), and record number.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
  Range_Domain:
    Range_Domain_Minimum: 521000001
    Range_Domain_Maximum: 521000072

Attribute:
Attribute_Label: HUNUM
Attribute_Definition: An identifier that links directly to the SOC_DAT table.
Attribute Definition Source: NOAA

Attribute Domain Values:

Range Domain:
  Range Domain Minimum: 52000001
  Range Domain Maximum: 52000197

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: Research Planning, Inc.

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: 52000001
      Range Domain Maximum: 52000363

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 (52), element number (SOCECON=10; MGT=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: 521000001
      Range Domain Maximum: 521100774

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: Research Planning, Inc.

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.
Attribute Definition Source: NOAA
Attribute Domain Values:
  Range Domain:
    Range Domain Minimum: 52000001
    Range Domain Maximum: 52000363

Attribute:
  Attribute Label: TYPE
  Attribute Definition: Identifies the feature type
  Attribute Definition Source: Research Planning, Inc.
  Attribute Domain Values:
    Enumerated Domain:
      Enumerated Domain Value: ARCHAEOLOGICAL SITE
      Enumerated Domain Value Definition: Archaeological Site
      Enumerated Domain Value Definition Source: Research Planning, Inc.
  Attribute Domain Values:
    Enumerated Domain:
      Enumerated Domain Value: BOAT RAMP
      Enumerated Domain Value Definition: Boat Ramp
      Enumerated Domain Value Definition Source: Research Planning, Inc.
  Attribute Domain Values:
    Enumerated Domain:
      Enumerated Domain Value: COMMERCIAL FISHING
      Enumerated Domain Value Definition: Commercial Fishing
      Enumerated Domain Value Definition Source: Research Planning, Inc.
  Attribute Domain Values:
    Enumerated Domain:
      Enumerated Domain Value: COAST GUARD
      Enumerated Domain Value Definition: Coast Guard
      Enumerated Domain Value Definition Source: Research Planning, Inc.
  Attribute Domain Values:
    Enumerated Domain:
      Enumerated Domain Value: HISTORICAL SITE
      Enumerated Domain Value Definition: Historical Site
      Enumerated Domain Value Definition Source: Research Planning, Inc.
  Attribute Domain Values:
    Enumerated Domain:
      Enumerated Domain Value: LOCK AND DAM
      Enumerated Domain Value Definition: Lock and Dam
      Enumerated Domain Value Definition Source: Research Planning, Inc.
  Attribute Domain Values:
    Enumerated Domain:
      Enumerated Domain Value: MANAGEMENT AREA
      Enumerated Domain Value Definition: Management Area
      Enumerated Domain Value Definition Source: Research Planning, Inc.
  Attribute Domain Values:
    Enumerated Domain:
      Enumerated Domain Value: MARINA
      Enumerated Domain Value Definition: Marina
      Enumerated Domain Value Definition Source: Research Planning, Inc.
  Attribute Domain Values:
Enumerated_Domain_Value: MARINE SANCTUARY
Enumerated_Domain_Value_Definition: Marine Sanctuary
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: RECREATIONAL FISHING
Enumerated_Domain_Value_Definition: Recreational Fishing
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REGIONAL OR STATE PARK
Enumerated_Domain_Value_Definition: Regional or State Park
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: WATER INTAKE
Enumerated_Domain_Value_Definition: Water Intake
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NAME
Attribute_Definition: The feature name.
Attribute_Definition_Source: Research Planning, Inc.
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: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: PHONE
Attribute_Definition: Contact telephone number.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

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: Research Planning, Inc.
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.
Hudson River: SOCECON (Socioeconomic Resource Points and Lines)

Attribute Definition Source: Research Planning, Inc.

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: Research Planning, Inc.

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 in the ESI and HYDRO data layers.
- Attribute Definition Source: Research Planning, Inc.
- 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: Research Planning, Inc.
- 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: Research Planning, Inc.
- 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: Research Planning, Inc.

Attribute:
- Attribute Label: TITLE
- Attribute Definition:
  Title of source material or data.
- Attribute Definition Source: Research Planning, Inc.
- 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: Research Planning, Inc.
Attribute Domain Values:
Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute Label: PUBLICATION
Attribute Definition: Additional citation information.
Attribute Definition Source: Research Planning, Inc.
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: Research Planning, Inc.
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: Research Planning, Inc.
Attribute Domain Values:
Unrepresentable Domain: Acceptable values change from atlas to atlas.

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: ESI Atlas for the Hudson River

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 a wider community of GIS/mapping users. Distribution formats
include a 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 are also included on the distribution CDs 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: 200604
Metadata_Review_Date: 200604
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

Generated by mp version 2.8.21 on Tue May 16 16:18:08 2006
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: RVRMILES (River Mile Marker Lines)

Metadata also available as - [Parseable text] - [SGML]

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:**


**Publication_Date:** 200604

**Title:**

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: RVRMILES (River Mile Marker Lines)

**Edition:** First

**Geospatial Data Presentation Form:** Vector digital data

**Series Information:**

**Series_Name:** None

**Issue_Identification:** Hudson River

**Publication Information:**

**Publication Place:** Seattle, Washington

**Publisher:**


**Other_Citation_Details:**

Description:

Abstract:
This data set contains human-use resource data for river miles along the Hudson River. Vector lines in this data set represent river mile markers. This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for the Hudson River. 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 (Management Area Polygons) and SOCECON (Socioeconomic Resource Points and Lines) data layers, part of the larger Hudson River 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:
Single_Date/Time:
Calendar_Date: 2005

Currentness_Reference:
The data were compiled during 2005. The currentness date for the data is 2005 and is documented in the Lineage section.

Status:
Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:
West_BoundingCoordinate: -74.05800
East_BoundingCoordinate: -73.62500
North_BoundingCoordinate: 42.75000
South_BoundingCoordinate: 40.87500

Keywords:

Theme:
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: Socioeconomic resources

Place:
Place.Keyword_Thesaurus: None
Place.Keyword: Hudson River

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 Hudson River 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, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington and the Department of Homeland Security, U.S. Coast Guard, Office of Response Plans & Preparedness Division, 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 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

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, reptiles.e00, rvrmiles.e00, sensitiv.e00, soc_econ.e00, staging.e00, t_mammal.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biore, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

**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-ROM and the metadata are written.

**Completeness_Report:**

These data represent a synthesis of digital data of river mile markers. See also the MGT
(Management Area Polygons) and SOCECON (Socioeconomic Resource Points and Lines) data layers, part of the larger Hudson River ESI database, for additional human-use information. These data do not necessarily represent all human-use sites in the Hudson River area.

**Positional Accuracy:**

**Horizontal Positional Accuracy:**

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

**Lineage:**

**Source Information:**

**Source Citation:**

**Citation Information:**

Originator:

ED LEVINE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)

Publication Date: 2005
Title: RIVER MILES
Geospatial Data Presentation Form: VECTOR DIGITAL DATA
Other Citation Details: NONE

Type of Source Media: EMAIL
Source Time Period of Content:
Time Period Information:
Single Date/Time:
Calendar Date: 2005
Source Currentness Reference: DATE OF COMMUNICATION
Source Citation Abbreviation: NONE
Source Contribution: RIVER MILE INFORMATION

**Process Step:**

**Process Description:**

The source of data used to depict the river miles along the Hudson River was received from Ed Levine, NOAA Scientific Support Coordinator. In some cases, vector lines representing the river miles were extended to the digital shoreline provided by New York State Department of Environmental Conservation (DEC).

Process Date: 200602
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: Complete chain
    Point_and_Vector_Object_Count: 17
  SDTS_Terms_Description:
    SDTS_Point_and_Vector_Object_Type: Link
    Point_and_Vector_Object_Count: 17
  SDTS_Terms_Description:
    SDTS_Point_and_Vector_Object_Type: Node, planar graph
    Point_and_Vector_Object_Count: 34

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 1927
      Ellipsoid_Name: Clark 1866
      Semi-major_Axis: 6378206.400000
      Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
  Detailed_Description:
    Entity_Type:
      Entity_Type_Label: RVRMILES.AAT
    Entity_Type_Definition:
      The RVRMILES.AAT table contains attribute information for the vector lines representing river mile markers. 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: Research Planning, Inc.
    Attribute:
      Attribute_Label: RM_MILE
      Attribute_Definition:
        The human-use features depicted on the maps are river mile markers for use in response operations.
      Attribute_Definition_Source: Research Planning, Inc.
      Attribute_Domain_Values:
        Unrepresentable_Domain: Acceptable values change from atlas to atlas.
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: ESI Atlas for the Hudson River

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 a wider community of GIS/mapping users. Distribution formats include a 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 are also included on the distribution CDs 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: 200604
Metadata Review Date: 200604

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
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: SENSITIV (Sensitive Area Points)

Metadata also available as - [Parseable text] - [SGML]

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:

Publication Date: 200604
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: SENSITIV (Sensitive Area Points)
Edition: First
Geospatial Data Presentation Form: Vector digital data

Series Information:

Series Name: None
Issue Identification: Hudson River

Publication Information:

Publication Place: Seattle, Washington
Publisher:

Other Citation Details:
Description:

Abstract:
This data set contains human-use resource data for sensitive areas along the Hudson River. Vector points in this data set represent sensitive areas. This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Hudson River. 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 (Socioeconomic Resource Points and Lines) and MGT (Management Area Polygons) data layers, part of the larger Hudson River 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:

Single_Date/Time:

Calendar_Date: 2005

Currentness_Reference:
The data were compiled during 2005. The currentness date for this data is 2005 and is documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

BoundingCoordinates:

West_BoundingCoordinate: -74.05800
East_BoundingCoordinate: -73.62500
North_BoundingCoordinate: 42.75000
South_BoundingCoordinate: 40.87500

Keywords:

Theme:

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: Socioeconomic

Place:

Place_Keyword_Thesaurus: None
Place_Keyword: Hudson River

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 Hudson River 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, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington and the Department of Homeland Security, U.S. Coast Guard, Office of Response Plans & Preparedness Division, 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 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

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, reptiles.e00, rvrmiles.e00, sensitiv.e00, socecon.e00, staging.e00, t_mammal.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biore, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

---

**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-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.

**Completeness_Report:**
These data represent a synthesis of digital data of sensitive areas. See also the SOCECON (Socioeconomic Resource Points and Lines) and MGT (Management Area Polygons) data layers, part of the larger Hudson River ESI database, for additional human-use information. These data do not necessarily represent all human-use sites in the Hudson River area.

Positional Accuracy:

Horizontal Positional Accuracy:

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

Lineage:

Source Information:

Source Citation:

Citation Information:

Originator:

ED LEVINE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)

Publication Date: 2005

Title: HRSITES_NEW

Geospatial Data Presentation Form: VECTOR DIGITAL DATA

Other Citation Details: NEW YORK/NEW JERSEY AREA CONTINGENCY PLAN

Type of Source Media: EMAIL

Source Time Period of Content:

Time Period Information:

Single Date/Time:

Calendar Date: 2005

Source Currentness Reference: DATE OF COMMUNICATION

Source Citation Abbreviation: NONE

Source Contribution: SENSITIVE AREAS

Process Step:

Process Description:

The main source of data used to depict sensitive areas was a digital dataset received from Ed Levine, NOAA Scientific Support Coordinator (SSC). It was originally produced for the New York/New Jersey Area Contingency Plan. In some cases, vector points with incorrect lat-long where moved to their correct spatial location as specified during the review process with the original data providers. Some minor attribute modifications were made as part of the same review.

Process Date: 200602

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: Entity Point
Point_and_Vector_Object_Count: 89

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 1927
Ellipsoid_Name: Clark 1866
Semi-major_Axis: 6378206.40000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Detailed_Description:
Entity_Type:
Entity_Type_Label: SENSITIV.PAT
Entity_Type_Definition:
The SENSITIV.PAT table contains attribute information for the vector points representing sensitive areas. 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: Research Planning, Inc.
Attribute:
Attribute_Label: SITE_NAME
Attribute_Definition: The area name.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: ID
Attribute_Definition: An identifier that links vector objects in the SENSITIV data layer to a table in the atlas introductory text.
Attribute_Definition_Source: NOAA
Attribute Domain Values:

Range Domain:
  Range Domain Minimum: 201
  Range Domain Maximum: 1505

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: ESI Atlas for the Hudson River

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 a wider community of GIS/mapping users. Distribution formats include a 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 are also included on the distribution CDs 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: 200604
Metadata Review Date: 200604
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

Generated by mp version 2.8.21 on Sun May 14 19:35:25 2006
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: STAGING (Staging Site Points)

Metadata also available as - [Parseable text] - [SGML]

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:
Publication Date: 200604
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: STAGING (Staging Site Points)
Edition: First
Geospatial Data Presentation Form: Vector digital data
Series Information:
Series Name: None
Issue Identification: Hudson River
Publication Information:
Publication Place: Seattle, Washington
Publisher:
Other Citation Details:
Description:

Abstract:
This data set contains human-use resource data for staging sites along the Hudson River. Vector points in this data set represent locations of possible staging areas that may be used during a spill response. This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for the Hudson River. 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 (Socioeconomic Resource Points and Lines) and MGT (Management Area Polygons) data layers, part of the larger Hudson River 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:
Single_Date/Time:
Calendar_Date: 1998

Currentness_Reference:
The data were compiled during 2005. The currentness date for the data is 1998 and is documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:
West_Bounding_Coordinate: -74.05800
East_Bounding_Coordinate: -73.62500
North_Bounding_Coordinate: 42.75000
South_Bounding_Coordinate: 40.87500

Keywords:

Theme:
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: Socioeconomic

Place:
Place_Keyword_Thesaurus: None
Place_Keyword: Hudson River

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 Hudson River 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, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington and the Department of Homeland Security, U.S. Coast Guard, Office of Response Plans & Preparedness Division, Washington, D.C.

**Native Data Set Environment**:
- The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO® (version 9.1) and SQL SERVER® (version 2000). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

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, reptiles.e00, rvrmiles.e00, sensitiv.e00, soccon.e00, staging.e00, t_mammal.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biore, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

**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-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.
Completeness_Report:
These data represent a synthesis of digital data on staging sites. See also the SOCECON (Socioeconomic Resource Points and Lines) and MGT (Management Area Polygons) data layers, part of the larger Hudson River ESI database, for additional human-use information. These data do not necessarily represent all human-use sites in the Hudson River area.

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

Lineage:
Source_Information:
Source_Citation:
Citation_Information:
Originator:
PAUL JOHN, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYS DEC)
Publication_Date: 1998
Title: SITES
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: NEW YORK/NEW JERSEY AREA CONTINGENCY PLAN
Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1998
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: STAGING SITES
Process_Step:
Process_Description:
The main source of data used to depict the staging areas (possible locations that may be used during a spill response) was a digital dataset originally produced for the New York/New Jersey Area Contingency Plan. In some cases, minor attribute modifications were made as specified during the review process with the original data providers.
Process_Date: 200602
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_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

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
  SDTS_Point_and_Vector_Object_Type: Entity Point
  Point_and_Vector_Object_Count: 14

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 1927
    Ellipsoid_Name: Clark 1866
    Semi-major_Axis: 6378206.40000
    Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Detailed_Description:
  Entity_Type:
    Entity_Type_Label: STAGING.PAT
  Entity_Type_Definition:
    The STAGING.PAT table contains attribute information for the vector points
    representing staging sites (possible locations that may be used during a spill
    response). 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: Research Planning, Inc.
  Attribute:
    Attribute_Label: ID
    Attribute_Definition:
      An identifier that links vector objects in the STAGING data layer to a table in the
      atlas introductory text.
    Attribute_Definition_Source: NOAA
    Attribute_Domain_Values:
      Range_Domain:
        Range_Domain_Minimum: 1
        Range_Domain_Maximum: 14
      Attribute:
Attribute Label: STAGE_SITE
Attribute Definition: The site name.
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values: Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute Label: PHONE
Attribute Definition: Contact telephone number.
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
Enumerated Domain:
  Enumerated Domain Value: Any character
  Enumerated Domain Value Definition: Free text
  Enumerated Domain Value Definition Source: Research Planning, Inc.

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: ESI Atlas for the Hudson River
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 a wider community of GIS/mapping users. Distribution formats include a 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 are also included on the distribution CDs 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: 200604
Metadata_Review_Date: 200604

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

Generated by mp version 2.8.21 on Sun May 14 19:45:22 2006
(The BIO_LUT table can be bypassed by linking the biology tables to BIORRES using RARNUM.)

(The SOC_LUT table can be bypassed by linking the human-use tables to SOC_DAT using HUNUM.)