

# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: HYDRO (Hydrography 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:*

#### *Citation\_Information:*

#### *Originator:*

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.

*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:*

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

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

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

*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\_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:* 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, 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, 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:*

*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

*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:* ESI LOW ALTITUDE OVERFLIGHT

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

*Other\_Citation\_Details:* UNPUBLISHED

*Source\_Scale\_Denominator:* 24,000

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF SURVEY

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* HYDRO 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:* HYDRO INFORMATION

*Process\_Step:*

*Process\_Description:*

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\_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:* 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:*

*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, 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

*Metadata\_Standard\_Version:* FGDC-STD-001-1998

---

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:*

#### *Citation\_Information:*

#### *Originator:*

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.

*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:*

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

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

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

*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\_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

*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, 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:*

*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:* ESI INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* RESEARCH PLANNING, INC. (RPI)*Publication\_Date:* 2005*Title:* ESI LOW ALTITUDE OVERFLIGHT*Geospatial\_Data\_Presentation\_Form:* HARDCOPY MAP*Other\_Citation\_Details:* UNPUBLISHED*Source\_Scale\_Denominator:* 24,000*Type\_of\_Source\_Media:* PAPER*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 2005*Source\_Currentness\_Reference:* DATE OF SURVEY*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* ESI 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:* ESI INFORMATION*Process\_Step:**Process\_Description:*

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:* 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

*Metadata\_Standard\_Version:* FGDC-STD-001-1998

---

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:*

##### *Citation\_Information:*

##### *Originator:*

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.

*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:*

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

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

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

*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\_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:* 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, 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 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

*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:*

DRAFT 1999 TIDAL WETLAND BOUNDARY SHAPEFILE - LOWER HUDSON RIVER

*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA

*Other\_Citation\_Details:* NYS DEC, EAST SETAUKET, NY

*Type\_of\_Source\_Media:* EMAIL

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1999

*Source\_Currentness\_Reference:* DATE OF SURVEY

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* WETLANDS INFORMATION

*Process\_Step:*

*Process\_Description:*

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:*

*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:* 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\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:* Jill Petersen

*Contact\_Organization:* NOAA, Office of Response and Restoration

*Contact\_Position:* GIS Manager

*Contact\_Address:*

*Address\_Type:* Physical Address

*Address:* 7600 Sand Point Way N.E.

*City:* Seattle

*State\_or\_Province:* Washington

*Postal\_Code:* 98115-6349

*Contact\_Voice\_Telephone:* (206) 526-6944

*Contact\_Facsimile\_Telephone:* (206) 526-6329

*Contact\_Electronic\_Mail\_Address:* Jill.Petersen@noaa.gov

*Metadata\_Standard\_Name:* Content Standards for Digital Geospatial Metadata

*Metadata\_Standard\_Version:* FGDC-STD-001-1998

---

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 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:*

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.

*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:*

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

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

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

### *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, 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, 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, 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, Poocetes 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 fuscescens; 843, White-eyed vireo, Vireo griseus; 1002, Shorebirds, n/a; 1003, Waterfowl, n/a; 1004, Wading birds, n/a; 1005, Raptors, n/a; 1018, Passerine birds, n/a; 1034, Swallows, Hirundininae.

*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:* 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\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRD INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:**Originator:*

BRIAN SWIFT, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYS DEC)

*Publication\_Date:* 2005

*Title:* DISTRIBUTION AND ABUNDANCE OF BIRDS 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:* BIRD INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

BRIAN SWIFT, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYS DEC)

*Publication\_Date:* 1989

*Title:* AVIAN BREEDING HABITATS IN HUDSON RIVER TIDAL MARSHES

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

*Other\_Citation\_Details:*

HUDSON RIVER FOUNDATION FOR SCIENCE AND ENVIRONMENTAL RESEARCH, INC., NEW YORK, NY, HRF GRANT NO. 024/86B/020

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:* 1986

*Ending\_Date:* 1987

*Source\_Currentness\_Reference:* DATE OF SURVEY

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRD INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

DAVE ADAMS, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYS DEC)

*Publication\_Date:* 2005

*Title:* DISTRIBUTION AND ABUNDANCE OF BIRDS OF THE HUDSON RIVER VALLEY

*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:* BIRD INFORMATION  
*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:* BIRD INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* HEIDI HINKELDEY, RESEARCH PLANNING, INC. (RPI)  
*Publication\_Date:* 2006  
*Title:*  
 RELOCATION OF BIRD NESTING POLYGON FOR MORE  
 ACCURATE PLACEMENT ON MAP  
*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:* 2006  
*Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* BIRD INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* IAN H. GIDDY  
*Publication\_Date:* 2003  
*Title:* HUDSON RIVER TRAIL GUIDE: A RIVER GUIDE FOR SMALL  
 BOATERS

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

*Other\_Citation\_Details:* HUDSON RIVER WATERTRAIL ASSOCIATION,  
NEW YORK, NY

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2003

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRD INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* JILLIAN LINER

*Publication\_Date:* 2005

*Title:*

CHRISTMAS BIRD COUNT WATERFOWL TABLE FOR  
PIERMONT MARSH/TALLMAN MOUNTAIN

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

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:* 1995

*Ending\_Date:* 2002

*Source\_Currentness\_Reference:* DATE OF SURVEY

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRD INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* JILLIAN LINER, AUDUBON OF NEW YORK

*Publication\_Date:* 2005

*Title:* DISTRIBUTION AND ABUNDANCE OF BIRDS 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:* BIRDS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*



MATTHEW KING, NEW YORK STATE DEPARTMENT OF  
ENVIRONMENTAL CONSERVATION (NYS DEC)

*Publication\_Date:* 2005

*Title:* ESI NYS DEC KINGBIRD SHOREBIRD DATABASE-DRAFT

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

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRD INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* NEW JERSEY DEPARTMENT OF ENVIRONMENTAL  
PROTECTION (DEP)

*Publication\_Date:* 2001

*Title:* NJ DEP URBAN PEREGRIN

*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA

*Other\_Citation\_Details:* NEW JERSEY 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:* BIRD 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  
CONSERVANCY (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:* BIRD 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:* BIRD 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:* BIRD INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
(DEC) AND NYS ORNITHOLOGICAL ASSOC.

*Publication\_Date:* 2000

*Title:* NEW YORK STATE BREEDING BIRD ATLAS

*Geospatial\_Data\_Presentation\_Form:* ATLAS

*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:* 2000

*Ending\_Date:* 2004

*Source\_Currentness\_Reference:* DATE OF SURVEY

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRD 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:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1997

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRD INFORMATION

*Process\_Step:*

*Process\_Description:*

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

*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, 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.

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

*Entity\_Type\_Label:* BIRDS.PAT

*Entity\_Type\_Definition:*

The BIRDS.PAT table contains attribute information for the vector polygons in this data set representing bird nesting, migratory staging, and wintering sites. Note that

all attribute information is stored in a series of relational files, described below. 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:* 52000080

*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.

*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.*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.*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:*



*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

*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.

*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

*Metadata\_Standard\_Version:* FGDC-STD-001-1998

---

Generated by [mp](#) version 2.8.21 on Sat May 13 15:25:00 2006

# 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:*

##### *Citation\_Information:*

##### *Originator:*

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.

*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:*

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

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

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

### *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\_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:* 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, 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, 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 pipefish, *Syngnathus fuscus*; 506, White catfish, *Ameiurus catus*; 604, Weakfish, *Cynoscion squamipinnis*; 824, Northern hog sucker, *Hypentelium nigricans*; 891, Central mudminnow, *Umbra limi*; 986, Tessellated darter, *Etheostoma olmstedii*; 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  
CONSERVANCY (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:*

*Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 1997*Source\_Currentness\_Reference:* DATE OF PUBLICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* FISH INFORMATION*Process\_Step:**Process\_Description:*

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\_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*: 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, 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:* 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:*

*Range\_Domain\_Minimum:* 52000081

*Range\_Domain\_Maximum:* 52000110

*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 (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\_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. 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\_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 BIORRES 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.  
*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.

*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:**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

*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.

*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

*Metadata\_Standard\_Version:* FGDC-STD-001-1998

Generated by [mp](#) 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 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:*

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.

*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:*

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

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

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

*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, rvmiles.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, 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, 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:*

##### *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:*

*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

*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*: 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*: INVERTEBRATE INFORMATION  
*Source\_Information*:  
*Source\_Citation*:  
*Citation\_Information*:  
*Originator*: NEW YORK STATE NATURAL HERITAGE PROGRAM (NY  
 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*: INVERTEBRATE INFORMATION



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

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.

*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:* 197

*SDTS\_Terms\_Description:*

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

*Point\_and\_Vector\_Object\_Count:* 197

*SDTS\_Terms\_Description:*

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

*Point\_and\_Vector\_Object\_Count:* 405

*SDTS\_Terms\_Description:*

*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.

*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.*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.

*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:**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

*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.

*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

*Metadata\_Standard\_Version:* FGDC-STD-001-1998

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:*

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.

*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:*

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

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

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

*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, 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, 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 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.*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.*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*:

*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

*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.

*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

*Metadata\_Standard\_Version:* FGDC-STD-001-1998

---

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 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:*

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.

*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:*

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

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

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

*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\_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:* 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, 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, 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, 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:*

*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:*



*Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 1990*Source\_Currentness\_Reference:* DATE OF PUBLICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* TERRESTRIAL MAMMAL INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* NEW YORK NATURAL HERITAGE PROGRAM (NY 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:* TERRESTRIAL MAMMAL 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:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 1997*Source\_Currentness\_Reference:* DATE OF PUBLICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* TERRESTRIAL MAMMAL INFORMATION*Process\_Step:**Process\_Description:*

Two main sources of data were used to depict terrestrial mammal distribution and seasonality for this data layer: (1) personal interviews with resource experts from 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\_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:* 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.

*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.

*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:**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  
*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.

*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

*Metadata\_Standard\_Version:* FGDC-STD-001-1998

---

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 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:*

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.

*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:*

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

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

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

*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\_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:* 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, 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, 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 davisii*; 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, *Symphotrichum 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.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

CHUCK NIEDER, HUDSON RIVER NERR, NEW YORK STATE  
DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYS  
DEC)

*Publication\_Date:* 2002

*Title:* HUDSON RIVER SUBMERGED AQUATIC VEGETATION

*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA

*Other\_Citation\_Details:* UNPUBLISHED

*Source\_Scale\_Denominator:* 14,400

*Type\_of\_Source\_Media:* USB

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2002

*Source\_Currentness\_Reference:* DATE OF SURVEY

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* HABITAT INFORMATION

*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:* HABITAT 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:* HABITAT 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:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1997

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* HABITAT INFORMATION

*Process\_Step:*

*Process\_Description:*

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



*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, 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, 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:* HABITATS.PAT

*Entity\_Type\_Definition:*

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*:

*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 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*:

*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.*

*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.*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:*  
         *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

*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.

*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 BIORRES 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

*Metadata\_Standard\_Version:* FGDC-STD-001-1998

---

Generated by [mp](#) version 2.8.21 on Sat May 13 15:47:11 2006

# 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:*

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.

*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:*

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

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

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



*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\_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:* 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, 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, 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, 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 geographica; 172, Painted turtle, Chrysemys picta.

#### *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:*

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

*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*: REPTILE 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*: REPTILE INFORMATION  
*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*: REPTILE INFORMATION  
*Source\_Information*:  
*Source\_Citation*:  
*Citation\_Information*:

*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:*

*Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 1997*Source\_Currentness\_Reference:* DATE OF PUBLICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* REPTILE INFORMATION*Process\_Step:**Process\_Description:*

Three main sources of data were used to depict reptile distribution and seasonality for this data layer: (1) personal interviews with resource experts from the 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*Point\_and\_Vector\_Object\_Information:**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:**Entity\_and\_Attribute\_Overview:*

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, REPTILES) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO\_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the 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 BIORRES 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 BIORRES 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.*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.

*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:*

*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 = 'B000101').

*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

*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.

*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

*Metadata\_Standard\_Version:* FGDC-STD-001-1998

Generated by [mp](#) 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:*

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.

*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:*

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

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

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

*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\_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:* 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, 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, 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 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

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* USB

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1990

*Source\_Currentness\_Reference:* DATE OF SURVEY

*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  
(NYSDEC)

*Publication\_Date:* 2005

*Title:* HUDSON RIVER NATIONAL ESTUARINE RESEARCH RESERVE  
SITES

*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* USB

*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:* MANAGEMENT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

HERB LORD, NEW JERSEY DEPARTMENT OF  
ENVIRONMENTAL PROTECTION (NJDEP)

*Publication\_Date:* 2005

*Title:* PALISADES STATE PARK BOUNDARY

*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* EMAIL

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* MANAGEMENT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* NEW JERSEY DEPARTMENT OF ENVIRONMENTAL

## 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\_Step:*

*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.

*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:* MS

*Enumerated\_Domain\_Value\_Definition:* Marine Sanctuary

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* MR

*Enumerated\_Domain\_Value\_Definition:*

Multiple Records - Signifies that multiple types overlap in the polygon

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*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:* HUNUM

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 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:* 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

*Metadata\_Standard\_Version:* FGDC-STD-001-1998

---

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](#)]

## Metadata:

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

### *Identification\_Information:*

#### *Citation:*

#### *Citation\_Information:*

#### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, 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.

*Publication\_Date:* 200604

#### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Hudson River: INDEX (Index 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:*

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

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

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

*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\_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

*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, 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 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\_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*: 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.

*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

*Metadata\_Standard\_Version:* FGDC-STD-001-1998

---

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](#)

### *Identification\_Information:*

#### *Citation:*

#### *Citation\_Information:*

#### *Originator:*

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.

*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:*

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

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

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

*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\_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 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, 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, 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 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



*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:* SOCIOECONOMIC INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
ED LEVINE, NATIONAL OCEANIC AND ATMOSPHERIC  
ADMINISTRATION (NOAA)  
*Publication\_Date:* 2005  
*Title:* HUDSON RIVER SITES  
*Geospatial\_Data\_Presentation\_Form:* SPREADSHEET  
*Other\_Citation\_Details:* UNPUBLISHED  
*Type\_of\_Source\_Media:* EMAIL  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2005  
*Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* SOCIOECONOMIC INFORMATION  
*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:* SOCIOECONOMIC 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:* 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

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1997

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* SOCIOECONOMIC 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:* SOCIOECONOMIC INFORMATION

*Process\_Step:*

*Process\_Description:*

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.*Attribute\_Domain\_Values:**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.*Attribute\_Domain\_Values:**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:* CG

*Enumerated\_Domain\_Value\_Definition:* Coast Guard

*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*:



*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:* 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

*Metadata\_Standard\_Version:* FGDC-STD-001-1998

---

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:*

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.

*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:*

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

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

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

*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\_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 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, rvrmls.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.

*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:*

*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:*

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



*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:* 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

*Metadata\_Standard\_Name:* Content Standards for Digital Geospatial Metadata

*Metadata\_Standard\_Version:* FGDC-STD-001-1998

---

Generated by [mp](#) version 2.8.21 on Sun May 14 19:31:34 2006

# 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:*

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.

*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:*

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

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

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

*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:**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(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 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:*

*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:*

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-longs were 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:* 6378206.400000

*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

*Metadata\_Standard\_Version:* FGDC-STD-001-1998

---

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:*

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.

*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:*

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

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

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

*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(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, 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 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\_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:* 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:* 6378206.400000

*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

*Metadata\_Contact:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:* Jill Petersen

*Contact\_Organization:* NOAA, Office of Response and Restoration

*Contact\_Position:* GIS Manager

*Contact\_Address:*

*Address\_Type:* Physical Address

*Address:* 7600 Sand Point Way N.E.

*City:* Seattle

*State\_or\_Province:* Washington

*Postal\_Code:* 98115-6349

*Contact\_Voice\_Telephone:* (206) 526-6944

*Contact\_Facsimile\_Telephone:* (206) 526-6329

*Contact\_Electronic\_Mail\_Address:* Jill.Petersen@noaa.gov

*Metadata\_Standard\_Name:* Content Standards for Digital Geospatial Metadata

*Metadata\_Standard\_Version:* FGDC-STD-001-1998

---

Generated by [mp](#) version 2.8.21 on Sun May 14 19:45:22 2006

# Hudson River ESI Entity Relationship Diagram

## Relationships between spatial data layers and attribute data tables

