Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: BIRDS (Bird Polygons)

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

Metadata:

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

Identification Information:

Citation:

Originator:

Publication Date: 201405

Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: BIRDS (Bird Polygons)

Edition: Second

Geospatial Data Presentation Form: vector digital data

Series Information:

Series Name: None

Issue Identification: Lower Mississippi River

Publication Information:

Publication Place: Seattle, Washington

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

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

Abstract:
This data set contains sensitive biological resource data for wading birds, shorebirds, waterfowl, raptors, diving birds, pelagic birds, passerine birds, gulls and terns for the Lower Mississippi River. Vector polygons in this data set represent bird nesting, migratory, wintering and general distribution. Species specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer. This data set comprises a portion of the ESI data for Lower Mississippi 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 NESTS data layer, part of the larger Lower Mississippi River ESI database, for additional bird information.

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

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 1997
Ending_Date: 2014

Currentness_Reference:
The data were compiled during 2014. The currentness dates for this data range from 1997 to 2014 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_BoundingCoordinate: -91.70600
East_BoundingCoordinate: -90.37500
North_BoundingCoordinate: 31.02700
South_BoundingCoordinate: 29.93600

Keywords:

Theme:

Theme_Keyword_Thesaurus: ISO 19115 Topic Category
Theme_Keyword: biota
Theme_Keyword: environment
DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Management boundaries are not to be considered legal boundaries. Edges may have been altered for cartographic processes. Besides the above warnings, 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 Lower Mississippi River ESI data.
Browse_Graphic_File_Type: JPEG

Browse_Graphic:

Browse_Graphic_File_Name: datafig2.jpg
Browse_Graphic_File_Description: Depicts the relationships between spatial data layers and desktop data tables for the Lower Mississippi 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 (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington, and The Department of Homeland Security, United States Coast Guard Office of Incident Management and Preparedness, Washington, D.C.

Native_Data_Set_Environment:
The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 10.2) and SQL SERVER(R) (version 2005). The hardware configuration is PC's
Data_Quality_Information:

Attribute_Accuracy:

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

Logical_Consistency_Report:
A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary node, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resources at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness_Report:
These data represent a synthesis of expert knowledge, published and unpublished reports, published literature, survey data, maps, and digital data on bird nesting, migratory, wintering and general distribution. See also the NESTS data layer, part of the larger Lower Mississippi River ESI database, for additional bird information. These data do not necessarily represent all bird occurrences in Lower Mississippi River. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 8, Double-crested cormorant, Phalacrocorax auritus; 16, Mallard, Anas platyrhynchos; 17, Northern pintail, Anas acuta; 18, Green-winged teal, Anas crecca; 20, Northern shoveler, Anas clypeata; 21, Canvasback, Aythya valisineria; 23, Lesser scaup, Aythya affinis; 34, American coot, Fulica americana; 58, Greater yellowlegs, Tringa melanoleuca; 59, Lesser yellowlegs, Tringa flavipes; 62, Least sandpiper, Calidris minutilla; 70, Killdeer, Charadrius vociferus; 76, Bald eagle, Haliaeetus leucocephalus; 77, Osprey, Pandion haliaetus; 87, Little blue heron, Egretta caerulea; 88, Great egret, Ardea alba; 89, Snowy egret, Egretta thula; 91, Glossy ibis, Plegadis falcinellus; 93, Cattle egret, Bubulcus ibis; 98, Laughing gull, Larus atricilla; 115, White ibis, Eudocimus albus; 116, Roseate
spoonbill, Ajaia ajaja; 132, Wood stork, Mycteria americana; 136, Caspian tern, Hydroprogne caspia; 138, Forster's tern, Sterna forsteri; 142, Black-necked stilt, Himantopus mexicanus; 149, White-faced ibis, Plegadis chihi; 162, Gadwall, Anas strepera; 169, American wigeon, Anas americana; 173, American white pelican, Pelecanus erythrorhynchos; 180, Ring-necked duck, Aythya collaris; 190, Blue-winged teal, Anas discors; 191, Wood duck, Aix sponsa; 198, Hooded merganser, Lophodytes cucullatus; 211, Mottled duck, Anas fulvigula; 266, Black-bellied whistling-duck, Dendrocygna autumnalis; 286, Dowitchers, Limnodromus spp.; 299, Scaup, Aythya spp.; 325, Neotropic cormorant, Phalacrocorax brasilianus; 596, Purple martin, Progne subis; 737, Prothonotary warbler, Protonotaria citrea; 905, Interior least tern, Sternula antillarum athalassos; 907, Rusty blackbird, Euphagus carolinus; 1001, Gulls, n/a; 1002, Shorebirds, n/a; 1003, Waterfowl, n/a; 1004, Wading birds, n/a; 1005, Raptors, n/a; 1006, Diving birds, n/a; 1008, Terns, n/a; 1017, Sandpipers, n/a; 1018, Passerine birds, n/a; 1021, Ducks, n/a; 1037, Cormorants, Phalacrocorax spp.; 1040, Marsh birds, n/a.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:
Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources. See the Lineage and Process_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator:
BARATARIA-TERREBONNE NATIONAL ESTUARY PROGRAM (BTNEP) - RICHARD DEMAY
Publication_Date: 2008
Title: SEASONAL ABUNDANCE OF BIRDS IN SOUTHEAST LOUISIANA
Geospatial_Data_Presentation_Form: DOCUMENT
Publication_Information:
Publication Place: THIBODAUX, LA
Publisher: BARATARIA-TERREBONNE NATIONAL ESTUARY PROGRAM

Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:
Source_Citation_Abbreviation: NONE  
Source_Contribution: BIRDS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

    Originator: LOUISIANA AUDUBON - MELANIE DRISCOLL
    Publication_Date: 2013
    Title: DISTRIBUTION AND ABUNDANCE OF BIRDS IN LOUISIANA IMPORTANT BIRD AREAS
    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: 2013

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

    Originator: LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES (LDWF) - LARRY REYNOLDS
    Publication_Date: 2013
    Title: MIDWINTER WATERFOWL SURVEY
    Geospatial_Data_Presentation_Form: TABULAR DIGITAL DATA
    Other_Citation_Details: UNPUBLISHED, DATA ANALYSIS PERFORMED BY MIKE BRASHER, GULF COAST JOINT VENTURE

Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:

Time_Period_Information:

    Range_of_Dates/Times:

        Beginning_Date: 1997
Ending_Date: 2007
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES (LDWF) - LARRY REYNOLDS (WATERFOWL SURVEY LEADER)
Publication_Date: 2013
Title: LOUISIANA WATERFOWL
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: 2013
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: LOUISIANA NATURAL HERITAGE PROGRAM (LNHP)
Publication_Date: 2014
Title: BALD EAGLE DISTRIBUTION IN LOUISIANA
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: 2014
Three main sources of data were used to depict bird distribution and seasonality for this data layer: 1) interviews conducted via teleconference, phone, and email with resource experts from: Barataria-Terrebonne National Estuary Program (BTNEP), LDWF-Louisiana Natural Heritage Program (LNHP), Louisiana Audubon, U.S. Fish and Wildlife Service (USFWS); 2) reports, published literature, and books and; 3) survey data and vector digital data provided by: BTNEP, LDWF, LDWF-LNHP, Louisiana Audubon, eBird, and USFWS. Interior least tern - LNHP provided a polygon representing the distribution of interior least tern during the nesting season. Nesting waterbird colonies - LNHP provided a polygonal waterbird nesting colony dataset based on 2004-2011 nesting survey data. These data were delivered as 1-mile grid cells; if any nesting colonies fell within a grid cell, it is mapped as a nesting polygon. The tabular information includes generalized species groups (cormorants, wading birds) with aggregated counts per species group per grid, or group of connected grids. Wetland-associated waterfowl – Waterfowl density data in coastal marshes were provided by LDWF with analytical assistance from the Gulf Coast Joint Venture (GCJV). LDWF conducts aerial waterfowl surveys of coastal Louisiana using 27 systematically placed N-S transect lines in September, November, December, and January. Ducks are counted by habitat type (agricultural/swamp, fresh marsh, intermediate marsh, brackish marsh, and salt marsh) along
transects. LDWF and GCJV derived waterfowl densities by habitat types as defined by the habitat map of coastal LA (Sasser et al. 2008) The maximum density of each species in each habitat in each region, observed from 1997-2010, was mapped in the ESI using the habitat boundaries from Sasser et al. (2008). Of the habitats mapped, only fresh marsh occurs in the Lower Mississippi River ESI area of interest. Bald Eagles - LNHP provided a generalized polygon that represents bald eagle nesting habitat for the area of interest. Habitat-based polygons - Information from eBird and expert opinion from Louisiana Audubon was used to delineate the following areas and derive corresponding species lists and concentrations: Bonnet Carre and Morganza spillways, riverine sandbars, and river bend wetlands. Polygons were also delineated for the Mississippi river and outlying wetlands representing the upper reaches of the Maurepas swamp, Barataria-Terrebonne basin, and Atchafalaya basin. Species lists were derived from eBird survey data and adjusted based on expert knowledge provided by Louisiana Audubon. The LDWF-LNHP provided information for some of the federally and state listed species and species of conservation concern for display in the ESI atlas and accompanying digital data in 2014. The available LNHP data sets are to be used for oil spill response and spill response planning only. These data represent existing information known to the LNHP at the time of the request and should never be substituted for consultation with the LNHP.

The above digital and/or hardcopy sources were compiled by the project biologist to create the BIRDS data layer. Depending on the type of source data, three general approaches are used for compiling the data layer: 1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; 2) hardcopy maps are digitized at their source scale; 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 ESI, biology, and human-use data are compiled into the standard ESI digital data format. A second set of interviews with participating resource experts are conducted to review the compiled data. If necessary, edits to the BIRDS data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 201405
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_DataOrganizationInformation:
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: 516

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 515

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 1025

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 105949

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 728

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Geographic:

Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees

Geodetic_Model:

Horizontal_Datum_Name: North American Datum of 1983
Ellipsoid_Name: Geodetic Reference System 80
Semi-major_Axis: 6378137.000000
Denominator_of_Flattening_Ratio: 298.257222

Entity_and_Attribute_Information:

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 Lower Mississippi River atlas, the number is 233), 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.

*Entity_and_Attribute_Detail_Citation:*
A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines (<http://response.restoration.noaa.gov/esi_guidelines>).

**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, wintering and general 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:* NOAA ESI Guidelines

**Attribute:**

*Attribute_Label:* ID
*Attribute_Definition:*
An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (233), 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:** "NEED TO ADD"
- **Range Domain Maximum:** "NEED TO ADD"

**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 the polygons and do not contain information.

**Attribute Definition Source:** NOAA

**Attribute Domain Values:**

**Range Domain:**

- **Range Domain Minimum:** "NEED TO ADD"
- **Range Domain Maximum:** "NEED TO ADD"

**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:** NOAA ESI Guidelines

**Attribute:**

**Attribute Label:** RARNUM

**Attribute Definition:**
An identifier that links records in the BIO_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

**Attribute Definition Source:** NOAA

**Attribute Domain Values:**

**Range Domain:**

- **Range Domain Minimum:** "NEED TO ADD"
- **Range Domain Maximum:** "NEED TO ADD"

**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 (233), 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:** "NEED TO ADD"
- **Range Domain Maximum:** "NEED TO ADD"

**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.

**Attribute Definition Source:** NOAA ESI Guidelines

**Attribute:**

- **Attribute Label:** RARNUM
- **Attribute Definition:** An identifier that links records in the BIORES data table to records in the BIO_LUT data table or the flat format BIOFILE data table.

**Attribute Domain Values:**

**Range Domain:**

- **Range Domain Minimum:** "NEED TO ADD"
- **Range Domain Maximum:** "NEED TO ADD"

**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 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 (XX BIRDS, XX INDIV, XX PAIRS, LESS THAN/UP TO XX BIRDS/INDIV PER KM) or abundances generalized to orders of magnitude (100s, 1,000s).

Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: SEASON_ID
Attribute Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: N

Attribute:

Attribute Label: G_SOURCE
Attribute Definition:
Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.

Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: N

Attribute:

Attribute Label: S_SOURCE
Attribute Definition:
Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: N

Attribute:

Attribute Label: ELEMENT
Attribute Definition: Major categories of biological data.
Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: BIRD
Enumerated Domain Value Definition: Birds
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: FISH
Enumerated Domain Value Definition: Fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: M_MAMMAL
Enumerated Domain Value Definition: Marine mammals
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: T_MAMMAL
Enumerated Domain Value Definition: Terrestrial mammals
Attribute:

**Attribute Label:** EL_SPE  
**Attribute Definition:** Concatenation of ELEMENT and SPECIES_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.  
**Attribute Definition Source:** NOAA ESI Guidelines 

**Attribute Domain Values:** 

**Enumerated Domain:**  

**Enumerated Domain Value:** E#####  
**Enumerated Domain Value Definition:** Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').  
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines 

Attribute:

**Attribute Label:** EL_SPE_SEA  
**Attribute Definition:** Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.  
**Attribute Definition Source:** NOAA ESI Guidelines 

**Attribute Domain Values:** 

**Enumerated Domain:**  

**Enumerated Domain Value:** E######_##  
**Enumerated Domain Value Definition:** Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').  
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines 

**Detailed Description:** 

**Entity Type:** 

**Entity Type Label:** SPECIES  
**Entity Type Definition:** The data table SPECIES identifies all species in the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness Report for list of layer specific species.  
**Entity Type Definition Source:** NOAA ESI Guidelines 

Attribute:

**Attribute Label:** SPECIES_ID  
**Attribute Definition:** Numeric identifier for each species that is unique within each element and refers to a
nationwide master ESI species list maintained at NOAA.

**Attribute**

**Attribute Label:** NAME
**Attribute Definition:** Species common name for the entire ESI data set.
**Attribute Definition Source:** NOAA ESI Guidelines
**Attribute Domain Values:**

**Unrepresentable Domain:** Acceptable values change from atlas to atlas.

**Attribute**

**Attribute Label:** GEN_SPEC
**Attribute Definition:** Species scientific name for the entire ESI data set.
**Attribute Definition Source:** NOAA ESI Guidelines
**Attribute Domain Values:**

**Unrepresentable Domain:** Acceptable values change from atlas to atlas.

**Attribute**

**Attribute Label:** ELEMENT
**Attribute Definition:** Major categories of biological data.
**Attribute Definition Source:** NOAA ESI Guidelines
**Attribute Domain Values:**

**Enumerated Domain:**

- **Enumerated Domain Value:** BIRD
  **Enumerated Domain Value Definition:** Birds
  **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

**Enumerated Domain:**

- **Enumerated Domain Value:** FISH
  **Enumerated Domain Value Definition:** Fish
  **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

**Enumerated Domain:**

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

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: T_MAMMAL
Enumerated Domain Value Definition: Terrestrial Mammals
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: SUBELEMENT
Attribute Definition: Element subgroup delineating a logical grouping of species.
Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: alligator
Enumerated Domain Value Definition: Alligator
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: bear
Enumerated Domain Value Definition: Bear
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: diving
Enumerated Domain Value Definition: Diving bird
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: e_nursery
Enumerated Domain Value Definition: Estuarine nursery fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: e_resident
Enumerated Domain Value Definition: Estuarine resident fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:
Enumerated Domain Value: freshwater
Enumerated Domain Value Definition: Freshwater fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: gull_tern
Enumerated Domain Value Definition: Gull or tern
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: invert
Enumerated Domain Value Definition: Invertebrate
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: m_pelagic
Enumerated Domain Value Definition: Marine pelagic fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: passerine
Enumerated Domain Value Definition: Passerine bird
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: raptor
Enumerated Domain Value Definition: Raptor
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: shorebird
Enumerated Domain Value Definition: Shorebird
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:
Enumerated_Domain_Value: shrimp
Enumerated_Domain_Value_Definition: Shrimp
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: turtle
Enumerated_Domain_Value_Definition: Turtle
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: wading
Enumerated_Domain_Value_Definition: Wading bird
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: waterfowl
Enumerated_Domain_Value_Definition: Waterfowl
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: NHP
Attribute_Definition: Natural Heritage Program global ranking.
Attribute_Definition_Source: Network of Natural Heritage Program
Attribute_Domain_Values:

Codeset_Domain:

Codeset_Name: NHP Global Conservation Status Rank
Codeset_Source: Natural Heritage Program

Attribute:

Attribute_Label: DATE_PUB
Attribute_Definition: Date of NHP listing.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:
Enumerated Domain Value: 0
Enumerated Domain Value Definition: Date unspecified
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: EL_SPE
Attribute Definition: Concatenation of ELEMENT and SPECIES_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.
Attribute Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: E####
Enumerated Domain Value Definition: Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Detailed Description:

Entity Type:

Entity Type Label: SEASONAL
Entity Type Definition: The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity Type Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: ELEMENT
Attribute Definition: Major categories of biological data.
Attribute Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: BIRD
Enumerated Domain Value Definition: Birds
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: FISH
Enumerated Domain Value Definition: Fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

- Enumerated Domain Value: T_MAMMAL
  Enumerated Domain Value Definition: Terrestrial Mammals
  Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: SPECIES_ID
Attribute Definition:
  Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: N

Attribute:
Attribute_Label: SEASON_ID
Attribute_Definition: Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Range_Domain:

  Range_Domain_Minimum: 1
  Range_Domain_Maximum: N

Attribute:

  Attribute_Label: JAN
  Attribute_Definition: January
  Attribute_Definition_Source: NOAA ESI Guidelines
  Attribute_Domain_Values:

  Enumerated_Domain:

    Enumerated_Domain_Value: X
    Enumerated_Domain_Value_Definition: Present in January
    Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

  Attribute_Label: FEB
  Attribute_Definition: February
  Attribute_Definition_Source: NOAA ESI Guidelines
  Attribute_Domain_Values:

  Enumerated_Domain:

    Enumerated_Domain_Value: X
    Enumerated_Domain_Value_Definition: Present in February
    Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

  Attribute_Label: MAR
  Attribute_Definition: March
  Attribute_Definition_Source: NOAA ESI Guidelines
  Attribute_Domain_Values:

  Enumerated_Domain:

    Enumerated_Domain_Value: X
    Enumerated_Domain_Value_Definition: Present in March
    Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

  Attribute_Label: APR
  Attribute_Definition: April
Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: X
Enumerated Domain Value Definition: Present in April
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: MAY
Attribute Definition: May
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: X
Enumerated Domain Value Definition: Present in May
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: JUN
Attribute Definition: June
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: X
Enumerated Domain Value Definition: Present in June
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: JUL
Attribute Definition: July
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: X
Enumerated Domain Value Definition: Present in July
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: AUG
Attribute Definition: August
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:
**Enumerated_Domain_Value:** X
**Enumerated_Domain_Value_Definition:** Present in August
**Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute_Label:** SEP
**Attribute_Definition:** September
**Attribute_Definition_Source:** NOAA ESI Guidelines

**Enumerated_Domain:**

**Enumerated_Domain_Value:** X
**Enumerated_Domain_Value_Definition:** Present in September
**Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute_Label:** OCT
**Attribute_Definition:** October
**Attribute_Definition_Source:** NOAA ESI Guidelines

**Enumerated_Domain:**

**Enumerated_Domain_Value:** X
**Enumerated_Domain_Value_Definition:** Present in October
**Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute_Label:** NOV
**Attribute_Definition:** November
**Attribute_Definition_Source:** NOAA ESI Guidelines

**Enumerated_Domain:**

**Enumerated_Domain_Value:** X
**Enumerated_Domain_Value_Definition:** Present in November
**Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute_Label:** DEC
**Attribute_Definition:** December
**Attribute_Definition_Source:** NOAA ESI Guidelines

**Enumerated_Domain:**

**Enumerated_Domain_Value:** X
**Enumerated_Domain_Value_Definition:** Present in December
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute:**

*Attribute Label:* EL_SPE_SEA  
*Attribute Definition:*  
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.  
*Attribute Definition Source:* NOAA ESI Guidelines  
*Attribute Domain Values:*  

**Enumerated Domain:**

*Enumerated Domain Value:* E######_###  
*Enumerated Domain Value Definition:*  
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').  
*Enumerated Domain Value Definition Source:* NOAA ESI Guidelines

**Detailed Description:**

**Entity Type:**

*Entity Type Label:* BREED  
*Entity Type Definition:*  
The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.  
*Entity Type Definition Source:* NOAA ESI Guidelines

**Attribute:**

*Attribute Label:* EL_SPE_SEA  
*Attribute Definition:*  
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.  
*Attribute Definition Source:* NOAA ESI Guidelines  
*Attribute Domain Values:*  

**Enumerated Domain:**

*Enumerated Domain Value:* E######_###  
*Enumerated Domain Value Definition:*  
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').  
*Enumerated Domain Value Definition Source:* NOAA ESI Guidelines

**Attribute:**

*Attribute Label:* MONTH  
*Attribute Definition:*  
Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.  
*Attribute Definition Source:* NOAA ESI Guidelines
Attribute Domain Values:

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: 12

Attribute:

Attribute Label: BREED1
Attribute Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T_MAMMAL.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: Y
Enumerated Domain Value Definition: Life-history stage or activity present
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: N
Enumerated Domain Value Definition: Life-history stage or activity not present or not reported
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: -
Enumerated Domain Value Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: BREED2
Attribute Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:
Enumerated_Domain:

 enumerated_Domain_Value: Y
 enumerated_Domain_Value_Definition: Life-history stage or activity present
 enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

 Attribute_Domain_Values:

 Enumerated_Domain:

 enumerated_Domain_Value: N
 enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
 enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

 Attribute_Domain_Values:

 Enumerated_Domain:

 enumerated_Domain_Value: -
 enumerated_Domain_Value_Definition:
 Breed category not used or not appropriate for record(s) in question
 enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

 Attribute:

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

 Attribute_Domain_Values:

 Enumerated_Domain:

 enumerated_Domain_Value: Y
 enumerated_Domain_Value_Definition: Life-history stage or activity present
 enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

 Attribute_Domain_Values:

 Enumerated_Domain:

 enumerated_Domain_Value: N
 enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
 enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

 Attribute_Domain_Values:

 Enumerated_Domain:

 enumerated_Domain_Value: -
Attribute: BREED4

Attribute Definition:
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T_MAMMAL elements.

Attribute Definition Source: NOAA ESI Guidelines

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

- Enumerated Domain: N
  - Enumerated Domain Value Definition: Life-history stage or activity not present or not reported
  - Enumerated Domain Value Definition Source: NOAA ESI Guidelines

- Enumerated Domain: 
  - Enumerated Domain Value: not used or not appropriate for record(s) in question
  - Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute: BREED5

Attribute Definition:
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M_MAMMAL, HABITAT or T_MAMMAL elements.

Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:
- Enumerated Domain: Y
  - Enumerated Domain Value Definition: Life-history stage or activity present
  - Enumerated Domain Value Definition Source: NOAA ESI Guidelines
**Attribute Domain Values:**

**Enumerated Domain:**

- **Enumerated Domain Value:** N
- **Enumerated Domain Value Definition:** Life-history stage or activity not present or not reported
- **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

**Enumerated Domain:**

- **Enumerated Domain Value:** -
- **Enumerated Domain Value Definition:** Breed category not used or not appropriate for record(s) in question
- **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Detailed Description:**

**Entity Type:**

- **Entity Type Label:** STATUS
- **Entity Type Definition:** The data table STATUS identifies the species that are listed as either threatened or endangered by a state, federal, or international authority. See the Browse Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
- **Entity Type Definition Source:** NOAA ESI Guidelines

**Attribute:**

- **Attribute Label:** ELEMENT
- **Attribute Definition:** Major categories of biological data.
- **Attribute Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

- **Enumerated Domain:**
  - **Enumerated Domain Value:** BIRD
  - **Enumerated Domain Value Definition:** Birds
  - **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

- **Enumerated Domain:**
  - **Enumerated Domain Value:** FISH
  - **Enumerated Domain Value Definition:** Fish
  - **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: T_MAMMAL  
Enumerated Domain Value Definition: Terrestrial Mammals  
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: SPECIES_ID  
Attribute Definition: Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.  
Attribute Definition Source: NOAA ESI Guidelines  
Attribute Domain Values:

Range Domain:

Range Domain Minimum: 1  
Range Domain Maximum: N

Attribute:

Attribute Label: STATE  
Attribute Definition: Two-letter state abbreviation.  
Attribute Definition Source: NOAA ESI Guidelines  
Attribute Domain Values: 
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: COUNTRY
Attribute_Definition: Three-letter country abbreviation.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: S
Attribute_Definition: State threatened or endangered status.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on state list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on state list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: F
Attribute_Definition: Federal threatened or endangered status.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: I
Attribute_Definition: International threatened or endangered status.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: S_DATE
Attribute_Definition: Publication date of source material used to assign state status values for each species, if used.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute:

Attribute_Label: F_DATE
Attribute_Definition: Publication date of source material used to assign federal status values for each species, if used.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: I_DATE
Attribute_Definition: Publication date of source material used to assign international status values for each species, if used.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: EL_SPE
Attribute_Definition: Concatenation of ELEMENT and SPECIES_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition: Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Detailed_Description:

Entity_Type:

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

Entity_Type_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: SOURCE_ID
Attribute_Definition: Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID and ESI_Source in the ESI and HYDRO data layers.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:

Attribute_Label: ORIGINATOR
Attribute_Definition: Author or developer of source material or data set.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATE_PUB
Attribute_Definition: Date of source material, publication, or date of personal communication with expert source.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: TITLE
Attribute_Definition: Title of source material or data.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATA_FORMAT
Attribute_Definition: The format of the source material.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUB_PLACE
Attribute_Definition: Publication place.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLISHER
Attribute_Definition: Publisher.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION
Attribute_Definition: Additional citation information.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: ONLINE_LINK
Attribute_Definition: Online computer resource URL.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SCALE
Attribute_Definition: Description of the source scale.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: TIME_PERIOD
Attribute_Definition: Date(s) of data collection that the source material is based upon.
**Attribute_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

*Unrepresentable_Domain:* Acceptable values change from atlas to atlas.

---

**Distribution_Information:**

**Distributor:**

**Contact_Information:**

**Contact_Person_Primary:**

*Contact_Person:* John Kaperick  
*Contact_Organization:* NOAA, Office of Response and Restoration

**Contact_Address:**

*Address_Type:* Physical Address  
*Address:* 7600 Sand Point Way N.E.  
*City:* Seattle  
*State_or_Province:* Washington  
*Postal_Code:* 98115-6349

*Contact_Voice_Telephone:* (206) 526-6400  
*Contact_Facsimile_Telephone:* (206) 526-6329

**Resource_Description:** Downloadable Data

**Distribution_Liability:**

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

**Custom_Order_Process:**

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and 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:* 201405  
*Metadata_Review_Date:* 201405  
*Metadata_Contact:*

**Contact_Information:**

**Contact_Person_Primary:**
Contact Person: Jill Petersen
Contact Organization: NOAA, Office of Response and Restoration

Contact Position: GIS Manager
Contact Address:

Address Type: Physical Address
Address: 7600 Sand Point Way, N.E.
City: Seattle
State or Province: Washington
Postal Code: 98115-6349

Contact Voice Telephone: (206) 526-6944
Contact Facsimile Telephone: (206) 526-6329
Contact Electronic Mail Address: Jill.Petersen@noaa.gov

Metadata Standard Name: Content Standards for Digital Geospatial Metadata

Generated by mp version 2.9.20 on Tue May 13 10:39:50 2014
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: ESIL (Environmental Sensitivity Index Shoreline Types - Lines)

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

Metadata:

- Identification_Information
- Data_Quality_Information
- Spatial_Data_Organization_Information
- Spatial_Reference_Information
- Entity_and_Attribute_Information
- Distribution_Information
- Metadata_Reference_Information

Identification_Information:

Citation:

Citation_Information:

Originator:
Publication_Date: 201405
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: ESIL (Environmental Sensitivity Index Shoreline Types - Lines)
Edition: Second
Geospatial_Data_Presentation_Form: vector digital data
Series_Information:

Series_Name: None
Issue_Identification: Lower Mississippi River

Publication_Information:

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

Other_Citation_Details:
Description:

Abstract:
This data set contains vector lines representing the shoreline and coastal habitats of the Lower Mississippi River classified according to the Environmental Sensitivity Index (ESI) classification system. This data set comprises a portion of the ESI data for Lower Mississippi 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 ESIP data layer, part of the larger Lower Mississippi 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: 1973
Ending_Date: 2014

Currentness_Reference:
The data were compiled during 2014. The currentness dates for this data range from 1973 to 2014 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -91.70600
East_Bounding_Coordinate: -90.37500
North_Bounding_Coordinate: 31.02700
South_Bounding_Coordinate: 29.93600

Keywords:

Theme:

Theme_Keyword_Thesaurus: ISO 19115 Topic Category
Theme_Keyword: biota
Theme_Keyword: environment
DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Management boundaries are not to be considered legal boundaries. Edges may have been altered for cartographic processes. Besides the above warnings, 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 Lower Mississippi River ESI data.  
*Browse_Graphic_File_Type*: JPEG

**Browse Graphic:**

*Browse_Graphic_File_Name*: datafig2.jpg  
*Browse_Graphic_File_Description*: Depicts the relationships between spatial data layers and desktop data tables for the Lower Mississippi 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 (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington, and The Department of Homeland Security, United States Coast Guard Office of Incident Management and Preparedness, Washington, D.C.

**Native Data Set Environment:**

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 10.2) and SQL SERVER(R) (version 2005). The hardware configuration is PC's with Windows Operating System 7.

The Spatial_Data_Organization Information section refers only to the source files in the ARC export
Data_Quality_Information:

Attribute_Accuracy:

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

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

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

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:
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:
DEPARTMENT OF COMMERCE(DOC), NOAA (NOAA), NATIONAL OCEAN SERVICE(NOS), COASTAL SERVICES CENTER(CSC)

Publication_Date: 2013
Title: C-CAP ZONE 37/46 AREA POST-KATRINA LAND COVER
This layer is the post-Hurricane Katrina classification based on Landsat Thematic Mapper imagery. The C-CAP Zone 37/46 area post-Hurricane Katrina program list of products includes the classification of the 2005 era Landsat 5 data and change information.

Type of Source Media: ONLINE
Source Time Period of Content:

Time Period Information:

Range of Dates/Times:

Beginning Date: 2005
Ending Date: 2006

Source Currentness Reference: DATE OF PUBLICATION

Source Citation Abbreviation: NONE
Source Contribution: ESIL INFORMATION

Source Information:

Source Citation:

Citation Information:

Originator: GOOGLE EARTH
Publication Date: 2013
Title: GOOGLE EARTH IMAGERY
Geospatial Data Presentation Form: REMOTE-SENSING IMAGE
Other Citation Details:

Online Linkage: <http://www.google.com/earth/>
Source_Citation_Abbreviation: NONE
Source_Contribution: ESIL INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: MICROSOFT BING MAPS
Publication_Date: 2013
Title: BING AERIAL IMAGERY AND BIRDS EYE VIEW
Geospatial_Data_Presentation_Form: REMOTE-SENSING IMAGE
Other_Citation_Details: IMAGERY PRODUCED FOR MICROSOFT BING BY DIGITAL GLOBE, PICTOMETERY INTERNATIONAL CORP, AND NOKIA.
Online_Linkage: <http://www.bing.com/maps/>

Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 2011
Ending_Date: 2014

Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE
Source_Contribution: ESIL INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: U.S FISH AND WILDLIFE SERVICE (USFWS)
Publication_Date: 2010
Title: NATIONAL WETLANDS INVENTORY (NWI) - WETLANDS
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Publication_Information:

Publication_PLACE: WASHINGTON, D.C.
Publisher: U.S. FISH AND WILDLIFE SERVICE

Online_Linkage: <http://www.fws.gov/wetlands/>

Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:

Time_Period_Information:
The intertidal shoreline habitats were classified based on the 2010-2011 Bing aerial imagery; and 2011-2013 Google Earth aerial imagery. Shoreline features of 10 meters or greater in length were classified. In addition, wetland polygon datasets originally created by the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) and the NOAA Coastal Change Analysis Program (C-CAP) regional land cover dataset were modified and updated to be used in conjunction with the ESI shoreline. Where necessary, multiple types were described for each shoreline segment. See the Lineage section for additional information on the type of source data for this data layer. The ESI, biology, and human-use data are
compiled into the standard ESI digital data format. A second set of interviews with participating resource experts are conducted to review the compiled data. If necessary, edits to the ESIL data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 201405
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: 2207

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 45758

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 2217

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Geographic:

Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
**Geographic Coordinate Units**: Decimal degrees

**Geodetic Model**:

- **Horizontal Datum Name**: North American Datum of 1983
- **Ellipsoid Name**: Geodetic Reference System 80
- **Semi-major Axis**: 6378137.000000
- **Denominator of Flattening Ratio**: 298.257222

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**Entity and Attribute Information**:

**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, ESIL) is linked to the SOURCES table using the SOURCE_ID. The entity-relationship diagram describes relationships between attribute tables in the ESI data structure.

**Entity and Attribute Detail Citation**:

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

**Detailed Description**:

**Entity Type**:

- **Entity Type Label**: ESIL.AAT
- **Entity Type Definition**:
  
  The ESIL.AAT table contains attribute information for the vector lines representing linear shoreline features with ESI classification.
- **Entity Type Definition Source**: NOAA ESI Guidelines

**Attribute**:

- **Attribute Label**: ESI
- **Attribute Definition**:

  The item ESI contains values representing the ESI shoreline type. In many cases shorelines are ranked with multiple codes, such as "6B/3A" (listed landward to seaward from left to right). The first code, "6B", is the most landward shoreline type and the second code, "3A", is the shoreline type closest to the water. Singular shoreline types are listed below. No multiple codes are listed, but all multiple codes included in the data set can be assembled from the codes described. The ESI rankings progress from low to high susceptibility to oil spills. To determine the sensitivity of a particular intertidal shoreline habitat, the following factors are integrated: 1) Shoreline type (substrate, grain size, tidal elevation, origin); 2) Exposure to wave and tidal energy; 3) Biological productivity and sensitivity; 4) Ease of cleanup. Prediction of the behavior and persistence of oil in intertidal habitats is based on an understanding of the dynamics of the coastal environments, not just the substrate type and grain size. The intensity of energy expended upon a shoreline by wave action, tidal currents, and river currents directly affects the persistence of stranded oil. The need for shoreline cleanup activities is determined, in part, by the slowness of natural processes in removal of oil stranded on the shoreline. The potential for biological injury, and ease of cleanup of spilled oil are also important factors in the ESI ranking. Generally speaking, areas exposed to high levels of physical energy, such as wave action and tidal currents, and low biological activity rank...
low on the scale, whereas sheltered areas with associated high biological activity have the highest ranking.

Attribute Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: 1B
Enumerated Domain Value Definition: Exposed, Solid Man-made Structures
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: 3B
Enumerated Domain Value Definition: Exposed, Eroding Banks in Unconsolidated Sediments
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: 4
Enumerated Domain Value Definition: Sandy Bars and Gently Sloping Banks
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: 5
Enumerated Domain Value Definition: Mixed Sand and Gravel Bars and Gently Sloping Banks
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: 6A
Enumerated Domain Value Definition: Gravel Bars and Gently Sloping Banks
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: 6B
Enumerated Domain Value Definition: Riprap
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Enumerated Domain:
Enumerated_Domain_Value: 7
Enumerated_Domain_Value_Definition: Exposed Sand Flats
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 8A
Enumerated_Domain_Value_Definition: Sheltered Scarps in Clay or Mud
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 8B
Enumerated_Domain_Value_Definition: Sheltered, Solid Man-made Structures
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 8C
Enumerated_Domain_Value_Definition: Sheltered Riprap
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 8F
Enumerated_Domain_Value_Definition: Vegetated, Steeply Sloping Bluffs
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 9A
Enumerated_Domain_Value_Definition: Sheltered Sand/Mud Flats
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 9B
Enumerated_Domain_Value_Definition: Vegetated Low Banks
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:
**Attribute Domain Values:**

**Enumerated Domain:**

*Enumerated Domain Value: 10B*
*Enumerated Domain Value Definition: Freshwater Marshes*
*Enumerated Domain Value Definition Source: NOAA ESI Guidelines*

**Enumerated Domain:**

*Enumerated Domain Value: 10C*
*Enumerated Domain Value Definition: Swamps*
*Enumerated Domain Value Definition Source: NOAA ESI Guidelines*

**Enumerated Domain:**

*Enumerated Domain Value: 10D*
*Enumerated Domain Value Definition: Scrub-Shrub Wetlands*
*Enumerated Domain Value Definition Source: NOAA ESI Guidelines*

**Enumerated Domain:**

*Enumerated Domain Value: U*
*Enumerated Domain Value Definition: Unranked*
*Enumerated Domain Value Definition Source: NOAA ESI Guidelines*

**Attribute:**

*Attribute Label: LINE*
*Attribute Definition: Type of geographic feature.*
*Attribute Definition Source: NOAA ESI Guidelines*

**Enumerated Domain:**

*Enumerated Domain Value: S*
*Enumerated Domain Value Definition: Shoreline*
*Enumerated Domain Value Definition Source: NOAA ESI Guidelines*

**Attribute:**

*Attribute Label: SOURCE_ID*
*Attribute Definition: Source identifier that links to the SOURCES data table. This id indicates the source of a vector line segment.*
*Attribute Definition Source: NOAA ESI Guidelines*

**Range Domain:**

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

**Attribute_Label**: ENVIR  
**Attribute_Definition**: Type of regional environment.  
**Attribute_Definition_Source**: NOAA ESI Guidelines  
**Attribute_Domain_Values**:

**Enumerated_Domain**:

- **Enumerated_Domain_Value**: E  
  **Enumerated_Domain_Value_Definition**: Estuarine  
  **Enumerated_Domain_Value_Definition_Source**: NOAA ESI Guidelines

**Enumerated_Domain**:

- **Enumerated_Domain_Value**: R  
  **Enumerated_Domain_Value_Definition**: Riverine  
  **Enumerated_Domain_Value_Definition_Source**: NOAA ESI Guidelines

Attribute:

**Attribute_Label**: ESI_SOURCE  
**Attribute_Definition**: Source identifier that links to the SOURCES data table. This id indicates the source of the ESI classification of a line segment. Vector features that were not surveyed or do not qualify for an ESI classification have a value of -1.  
**Attribute_Definition_Source**: NOAA ESI Guidelines  
**Attribute_Domain_Values**:

**Range_Domain**:

- **Range_Domain_Minimum**: 1  
- **Range_Domain_Maximum**: N

Detailed_Description:

**Entity_Type**:

**Entity_Type_Label**: SOURCES  
**Entity_Type_Definition**:  
The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.  
**Entity_Type_Definition_Source**: NOAA ESI Guidelines

Attribute:

**Attribute_Label**: SOURCE_ID  
**Attribute_Definition**: Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID and ESI_Source in the ESI and HYDRO data layers.  
**Attribute_Definition_Source**: NOAA ESI Guidelines
Attribute Domain Values:

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: N

Attribute:

Attribute Label: ORIGINATOR
Attribute Definition: Author or developer of source material or data set.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: DATE_PUB
Attribute Definition:
Date of source material, publication, or date of personal communication with expert source.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: YYYYMM
Enumerated Domain Value Definition: YYYY for year and optionally MM for month
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: TITLE
Attribute Definition: Title of source material or data.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: DATA_FORMAT
Attribute Definition: The format of the source material.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: PUB_PLACE
Attribute Definition: Publication place.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.
Attribute:

Attribute_Label: PUBLISHER
Attribute_Definition: Publisher.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION
Attribute_Definition: Additional citation information.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: ONLINE_LINK
Attribute_Definition: Online computer resource URL.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SCALE
Attribute_Definition: Description of the source scale.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: TIME_PERIOD
Attribute_Definition: Date(s) of data collection that the source material is based upon.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Distribution_Information:

Distributor:

Contact_Information:

Contact_Person_Primary:
Contact Person: John Kaperick  
Contact Organization: NOAA, Office of Response and Restoration  

Contact Address:  
Address Type: Physical Address  
Address: 7600 Sand Point Way N.E.  
City: Seattle  
State or Province: Washington  
Postal Code: 98115-6349  

Contact Voice Telephone: (206) 526-6400  
Contact Facsimile Telephone: (206) 526-6329  

Resource Description: Downloadable Data  

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

Custom Order Process:  
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and 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: 201405  
Metadata Review Date: 201405  
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
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: ESIP (Environmental Sensitivity Index Shoreline Types - Polygons)

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

Metadata:

- Identification_Information
- Data_Quality_Information
- Spatial_Data_Organization_Information
- Spatial_Reference_Information
- Entity_and_Attribute_Information
- Distribution_Information
- Metadata_Reference_Information

Identification_Information:

Citation:

Citation_Information:

Originator:

Publication_Date: 201405

Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: ESIP (Environmental Sensitivity Index Shoreline Types - Polygons)

Edition: Second

Geospatial_Data_Presentation_Form: vector digital data

Series_Information:

Series_Name: None
Issue_Identification: Lower Mississippi River

Publication_Information:

Publication_Date: Seattle, Washington

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

Other_Citation_Details:
Description:

Abstract:
This data set contains vector polygons representing the shoreline and coastal habitats of the Lower Mississippi River classified according to the Environmental Sensitivity Index (ESI) classification system. This data set comprises a portion of the ESI data for Lower Mississippi 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 ESIL data layer, part of the larger Lower Mississippi 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: 1973
Ending_Date: 2014

Currentness_Reference:
The data were compiled during 2014. The currentness dates for this data range from 1973 to 2014 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_BoundingCoordinate: -91.70600
East_BoundingCoordinate: -90.37500
North_BoundingCoordinate: 31.02700
South_BoundingCoordinate: 29.93600

Keywords:

Theme:

Theme_Keyword_Thesaurus: ISO 19115 Topic Category
Theme Keyword: biota
Theme Keyword: environment
Theme:

Theme_Keyword_Thesaurus: None
Theme_Keyword: Environmental Monitoring
Theme_Keyword: ESI
Theme_Keyword: Sensitivity maps
Theme_Keyword: Coastal resources
Theme_Keyword: Oil spill planning
Theme_Keyword: Coastal Zone Management
Theme_Keyword: Wildlife

Place:

Place_Keyword_Thesaurus: None
Place_Keyword: Lower Mississippi River

Access_Constraints: None
Use_Constraints: DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Management boundaries are not to be considered legal boundaries. Edges may have been altered for cartographic processes. Besides the above warnings, 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 Lower Mississippi River ESI data.
Browse_Graphic_File_Type: JPEG

Browse_Graphic:

Browse_Graphic_File_Name: datafig2.jpg
Browse_Graphic_File_Description: Depicts the relationships between spatial data layers and desktop data tables for the Lower Mississippi 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 (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington, and The Department of Homeland Security, United States Coast Guard Office of Incident Management and Preparedness, Washington, D.C.

Native_Data_Set_Environment:
The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 10.2) and SQL SERVER(R) (version 2005). The hardware configuration is PC's with Windows Operating System 7.
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, esil.e00, esip.e00, fish.e00, hydro.e00, index.e00, invert.e00, mgt.e00, nests.e00, reptiles.e00, rivermiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut.e00, biofile.e00, biore.s.e00, breed.e00, breed_dt.e00, seasonal.e00, soc_dat.e00, soc_lut.e00, sources.e00, species.e00, and status.e00.

---

**Data_Quality_Information:**

**Attribute_Accuracy:**

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

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

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

**Positional_Accuracy:**

**Horizontal_Positional_Accuracy:**

**Horizontal_Positional_Accuracy_Report:**
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:**
DEPARTMENT OF COMMERCE(DOC), NOAA (NOAA), NATIONAL OCEAN SERVICE(NOS), COASTAL SERVICES CENTER(CSC)

**Publication_Date:** 2013

**Title:** C-CAP ZONE 37/46 AREA POST-KATRINA LAND COVER
THIS LAYER IS THE POST-HURRICANE KATRINA CLASSIFICATION BASED ON LANDSAT THEMATIC MAPPER IMAGERY. THE C-CAP ZONE 37/46 AREA POST-HURRICANE KATRINA PROGRAM LIST OF PRODUCTS INCLUDES THE CLASSIFICATION OF THE 2005 ERA LANDSAT 5 DATA AND CHANGE INFORMATION.

Source Information:

Source Citation:

Citation Information:

Originator: GOOGLE EARTH
Publication Date: 2013
Title: GOOGLE EARTH IMAGERY
Geospatial Data Presentation Form: REMOTE-SENSING IMAGE

Online Linkage: <http://www.google.com/earth/>
Source_Citation_Abbreviation: NONE
Source_Contribution: ESIP INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: MICROSOFT BING MAPS
Publication_Date: 2013
Title: BING AERIAL IMAGERY AND BIRDS EYE VIEW
Geospatial_Data_Presentation_Form: REMOTE-SENSING IMAGE
Other_Citation_Details:
IMAGERY PRODUCED FOR MICROSOFT BING BY DIGITAL GLOBE, PICTOMETRY INTERNATIONAL CORP, AND NOKIA.
Online_Linkage: <http://www.bing.com/maps/>

Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 2011
Ending_Date: 2014

Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE
Source_Contribution: ESIP INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: U.S FISH AND WILDLIFE SERVICE (USFWS)
Publication_Date: 2010
Title: NATIONAL WETLANDS INVENTORY (NWI) - WETLANDS
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Publication_Information:

Publication_PLACE: WASHINGTON, D.C.
Publisher: U.S. FISH AND WILDLIFE SERVICE

Online_Linkage: <http://www.fws.gov/wetlands/>

Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:

Time_Period_Information:
Range_of_Dates/Times:

Beginning_Date: 1973
Ending_Date: 2010

Source_Currentness_Reference: DATE OF SURVEY

Source_Citation_Abbreviation: NONE
Source_Contribution: ESIP INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator:
U.S. GEOLOGICAL SURVEY (USGS) IN COOPERATION WITH U.S. ENVIRONMENTAL PROTECTION AGENCY (USEPA) USDA FOREST SERVICE. AND OTHER FEDERAL, STATE AND LOCAL partners.

Publication_Date: 2013
Title: HYDROGRAPHY, NATIONAL HYDROGRAPHY DATASET (NHD)
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Publication_Information:

Publication Place: RESTON, VA
Publisher: US GEOLOGICAL SURVEY

Online_Linkage: <http://nhd.usgs.gov/>

Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 2004
Ending_Date: 2013

Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE
Source_Contribution: ESIP INFORMATION

Process_Step:

Process_Description:
The Lower Mississippi River shoreline was derived from the integration of the National Oceanic and Atmospheric Administration (NOAA) Continually Updated Shoreline Product (CUSP) (2000-2013); the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) dataset (1973-2010); the U.S. Geological Survey (USGS) National Hydrography Dataset (NHD), the NOAA Coastal Change Analysis Program (C-CAP) regional land cover dataset, and manual digitization at 1:4,000 from 2010-2011 Bing aerial and 2011-2013 Google Earth aerial imagery. The most recent shoreline was utilized from these data sources. See the Lineage section for additional information on the type of source data for this
data layer. The ESI, biology, and human-use data are compiled into the standard ESI digital data format. A second set of interviews with participating resource experts are conducted to review the compiled data. If necessary, edits to the ESIP data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 201405
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: 22351

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 22350

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 47280

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 519751

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Node, planar graph
Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Geographic:

Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees

Geodetic_Model:

Horizontal_Datum_Name: North American Datum of 1983
Ellipsoid_Name: Geodetic Reference System 80
Semi-major_Axis: 6378137.000000
Denominator_of_Flattening_Ratio: 298.257222

Entity_and_Attribute_Information:

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, ESIP) is linked to the SOURCES table using the SOURCE_ID. The entity-relationship diagram describes relationships between attribute tables in the ESI data structure.

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

Detailed_Description:

Entity_Type:

Entity_Type_Label: ESIP.PAT
Entity_Type_Definition:
The ESIP.PAT table contains attribute information for the vector polygons representing polygonal features with ESI classification.
Entity_Type_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: ESI
Attribute_Definition: The item ESI contains values representing the ESI polygon type.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 7
Enumerated_Domain_Value_Definition: Exposed Sand Flats
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 9A
Enumerated_Domain_Value_Definition: Sheltered Sand/Mud Flats
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 10B
Enumerated_Domain_Value_Definition: Freshwater Marshes
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 10C
Enumerated_Domain_Value_Definition: Swamps
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 10D
Enumerated_Domain_Value_Definition: Scrub-Shrub Wetlands
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: WATER_CODE
Attribute_Definition: Specifies a polygon as either water or land.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: L
Enumerated_Domain_Value_Definition: Land
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: W
Enumerated_Domain_Value_Definition: Water
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute:

Attribute_Label: ENVIR
Attribute_Definition: Type of regional environment.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: R
Enumerated_Domain_Value_Definition: Riverine
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: ESI_SOURCE
Attribute_Definition:
Source identifier that links to the SOURCES data table. This id indicates the source of the ESI classification of a polygon. Vector features that were not surveyed or do not qualify for an ESI classification have a value of -1.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOURCES
Entity_Type_Definition:
The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: SOURCE_ID
Attribute_Definition:
Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID and ESI_Source in the ESI and HYDRO data layers.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute Label: ORIGINATOR
Attribute Definition: Author or developer of source material or data set.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: DATE_PUB
Attribute Definition: Date of source material, publication, or date of personal communication with expert source.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: YYYYMM
Enumerated Domain Value Definition: YYYY for year and optionally MM for month
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: TITLE
Attribute Definition: Title of source material or data.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: DATA_FORMAT
Attribute Definition: The format of the source material.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: PUB_PLACE
Attribute Definition: Publication place.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: PUBLISHER
Attribute Definition: Publisher.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION
Attribute_Definition: Additional citation information.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: ONLINE_LINK
Attribute_Definition: Online computer resource URL.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SCALE
Attribute_Definition: Description of the source scale.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: TIME_PERIOD
Attribute_Definition: Date(s) of data collection that the source material is based upon.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Distribution_Information:

Distributor:

Contact_Information:

Contact_Person_Primary:

Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration

Contact_Address:

Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington  
Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400  
Contact_Facsimile_Telephone: (206) 526-6329

Resource_Description: Downloadable Data

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

Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and 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: 201405  
Metadata_Review_Date: 201405  
Metadata_Contact:

Contact_Person_Primary:

Contact_Person: Jill Petersen  
Contact_Organization: NOAA, Office of Response and Restoration

Contact_Position: GIS Manager
Contact_Address:

Address_Type: Physical Address  
Address: 7600 Sand Point Way, N.E.  
City: Seattle  
State_or_Province: Washington  
Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944  
Contact_Facsimile_Telephone: (206) 526-6329  
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata  

Generated by mp version 2.9.20 on Tue May 13 10:40:00 2014
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: FISH (Fish Polygons)

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

Metadata:

- Identification_Information
- Data_Quality_Information
- Spatial_Data_Organization_Information
- Spatial_Reference_Information
- Entity_and_Attribute_Information
- Distribution_Information
- Metadata_Reference_Information

Identification_Information:

Citation:

Originator:
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS),
Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle,
Washington.
Publication_Date: 201405
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: FISH (Fish Polygons)
Edition: Second
Geospatial_Data_Presentation_Form: vector digital data
Series_Information:

Series_Name: None
Issue_Identification: Lower Mississippi River

Publication_Information:

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

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

Abstract:
This data set contains sensitive biological resource data for estuarine, anadromous and freshwater fish species in the Lower Mississippi 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 ESI data for Lower Mississippi 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: 2014

Currentness_Reference:
The data were compiled during 2014. The currentness dates for this data range from 1997 to 2014 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_BoundingCoordinate: -91.70600
East_BoundingCoordinate: -90.37500
North_BoundingCoordinate: 31.02700
South_BoundingCoordinate: 29.93600

Keywords:

Theme:

Theme_Keyword_Thesaurus: ISO 19115 Topic Category
Theme_Keyword: biota
Theme_Keyword: environment

Theme:
Access_Constraints: None

Use_Constraints:

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Management boundaries are not to be considered legal boundaries. Edges may have been altered for cartographic processes. Besides the above warnings, 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 Lower Mississippi River ESI data.
Browse_Graphic_File_Type: JPEG

Browse_Graphic:

Browse_Graphic_File_Name: datafig2.jpg
Browse_Graphic_File_Description:
Depicts the relationships between spatial data layers and desktop data tables for the Lower Mississippi 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 (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington, and The Department of Homeland Security, United States Coast Guard Office of Incident Management and Preparedness, Washington, D.C.

Native_Data_Set_Environment:

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 10.2) and SQL SERVER(R) (version 2005). The hardware configuration is PC's with Windows Operating System 7.

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, esil.e00, esip.e00, fish.e00, hydro.e00, index.e00, invert.e00, mgt.e00, nests.e00, reptiles.e00, rivermiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut.e00, biofile.e00, biores.e00, breed.e00, breed_dt.e00, seasonal.e00, soc_dat.e00, soc_lut.e00, sources.e00, species.e00, and status.e00.

Data_Quality_Information:

Attribute_Accuracy:

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

Logical_Consistency_Report:
A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary node, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resources at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness_Report:
These data represent a synthesis of expert knowledge and digital data on fish distribution, concentration areas, and spawning areas in the Lower Mississippi River. These data do not necessarily represent all fish occurrences in Lower Mississippi River. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 76, Alligator gar, Lepisosteus spatula; 98, American eel, Anguilla rostrata; 104, Striped bass, Morone saxatilis; 107, Spotted seatrout, Cynoscion nebulosus; 109, Red drum, Sciaenops ocellatus; 111, Southern flounder, Paralichthys lethostigma; 116, Striped mullet, Mugil cephalus; 122, Black drum, Pogonias cromis; 143, Tarpon, Megalops atlanticus; 176, Yellow bullhead, Amiaurus natalis; 179, Largemouth bass, Micropterus salmoides; 190, White bass, Morone chrysops; 200, Blue catfish, Ictalurus furcatus; 201, Channel catfish, Ictalurus punctatus; 205, Freshwater drum, Aplodinotus grunnieus; 213, Gulf menhaden, Brevoortia patronus; 217, Gafftopsail catfish, Bagre marinus; 218, Bowfin, Amia calva; 236, Crappie, Pomoxis spp.; 257, Flatehead catfish, Pylodictis olivaris; 277, Paddlefish, Polyodon spathula; 281, Seatrout, Cynoscion sp.; 283, Killifish, Fundulus spp.; 317, Bull shark, Carcharhinus leucas; 319, Gulf sturgeon, Acipenser oxyrinchus desotoi; 379, Pipefish, Syngnathus spp.; 464, Longnose gar, Lepisosteus osseus; 472, Spotted gar, Lepisosteus oculatus; 598, Anchovies, Anchoa spp.; 647, Shovelnose sturgeon, Scaphirhynchus platorynchus; 1230,
Pallid sturgeon, Scaphirhynchus albus; 1231, Sunfish, Lepomis spp.; 1232, Buffalo, Ictiobus spp.; 1234, Croakers, n/a; 1235, Shad, Dorosoma spp.; 1240, Bluntface shiner, Cyprinella camura; 1241, Channel darter, Percina copelandi; 1242, Rainbow darter, Etheostoma caeruleum.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:
Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources. See the Lineage and Process_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: AULT, JERALD S. AND JIANGANG LUO
Publication_Date: 2012
Title: ATLANTIC TARPON SATELLITE TAGGING PROGRAM 2011
Geospatial_Data_Presentation_Form: DOCUMENT
Publication_Information:

Publication_Place: MIAMI, FL
Publisher: UNIVERSITY OF MIAMI RSMAS, TARPON & BONEFISH RESEARCH CENTER

Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 2011
Ending_Date: 2011

Source_Currentness_Reference: DATE OF SURVEY

Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION

Source_Information:
Sources of data used to depict fish distribution and seasonality for this data layer include Louisiana Department of Wildlife and Fisheries (LDWF) fishery independent monitoring data,
published information, and anecdotal information from resource experts at LDWF and the United States Fish and Wildlife Service (USFWS). Water bodies were grouped by LDWF into areas with similar species assemblages. A combination of fishery independent monitoring data and expert opinion was used to derive species concentration and seasonality information for each defined water body. Additional information on Gulf sturgeon was included based on published literature. The above digital and/or hardcopy sources were compiled by the project biologist to create the FISH data layer. Depending on the type of source data, three general approaches are used for compiling the data layer: 1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; 2) hardcopy maps are digitized at their source scale; 3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The ESI, biology, and human-use data are compiled into the standard ESI digital data format. A second set of interviews with participating resource experts are conducted to review the compiled data. If necessary, edits to the FISH data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 201405
Process_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: NOAA, Office of Response and Restoration
Contact_Person: Jill Petersen

Contact_Address:

Address_Type: Physical address
Address: 7600 Sand Point Way, N.E.
City: Seattle
State_orProvince: Washington
Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:

Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains
Point_and_Vector_Object_Count: 312

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 311
**SDTS_Terms_Description:**

**SDTS_Point_and_Vector_Object_Type:** Complete chain  
**Point_and_Vector_Object_Count:** 474

**SDTS_Terms_Description:**

**SDTS_Point_and_Vector_Object_Type:** Link  
**Point_and_Vector_Object_Count:** 98072

**SDTS_Terms_Description:**

**SDTS_Point_and_Vector_Object_Type:** Node, planar graph  
**Point_and_Vector_Object_Count:** 467

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**Spatial_Reference_Information:**

**Horizontal_Coordinate_System_Definition:**

**Geographic:**

- **Latitude_Resolution:** 0.0000001  
- **Longitude_Resolution:** 0.0000001  
- **Geographic_Coordinate_Units:** Decimal degrees

**Geodetic_Model:**

- **Horizontal_Datum_Name:** North American Datum of 1983  
- **Ellipsoid_Name:** Geodetic Reference System 80  
- **Semi-major_Axis:** 6378137.000000  
- **Denominator_of_Flattening_Ratio:** 298.257222

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**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 Lower Mississippi River atlas, the number is 233), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalties, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure. Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME,
GEN_SPEC, S, F, NHP, DATE_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G_SOURCE, S_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed_Description of the BREED data table. The link to the BIOFILE may be made through the BIO_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED_DT is the BREED item. A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G_SOURCE and S_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram describing relationships between attribute tables in the ESI data structure does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

Entity and Attribute Detail Citation:
A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines (<http://response.restoration.noaa.gov/esi_guidelines>).

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: NOAA ESI Guidelines

Attribute:

Attribute_Label: ID
Attribute_Definition:
An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (233), 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: "NEED TO ADD"
Range_Domain_Maximum: "NEED TO ADD"

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 the polygons and do not contain information.

**Attribute Definition Source:** NOAA

**Attribute Domain Values:**

**Range Domain:**

- **Range Domain Minimum:** "NEED TO ADD"
- **Range Domain Maximum:** "NEED TO ADD"

**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.

**Attribute Definition Source:** NOAA ESI Guidelines

**Attribute:**

- **Attribute Label:** RARNUM
- **Attribute Definition:**
  An identifier that links records in the BIO_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

**Attribute Definition Source:** NOAA

**Attribute Domain Values:**

**Range Domain:**

- **Range Domain Minimum:** "NEED TO ADD"
- **Range Domain Maximum:** "NEED TO ADD"

**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 (233), 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:** "NEED TO ADD"
- **Range Domain Maximum:** "NEED TO ADD"

**Detailed Description:**
**Entity_Type:**

**Entity_Type_Label:** BIORES

**Entity_Type_Definition:**
The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO_LUT data table to other associated data tables. See the Browse Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

**Entity_Type_Definition_Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute_Label:** RARNUM

**Attribute_Definition:**
An identifier that links records in the BIORES data table to records in the BIO_LUT data table or the flat format BIOFILE data table.

**Attribute_Definition_Source:** NOAA

**Attribute_Domain_Values:**

**Range_Domain:**

- **Range_Domain_Minimum:** "NEED TO ADD"
- **Range_Domain_Maximum:** "NEED TO ADD"

**Attribute:**

**Attribute_Label:** SPECIES_ID

**Attribute_Definition:**
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

**Attribute_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

**Range_Domain:**

- **Range_Domain_Minimum:** 1
- **Range_Domain_Maximum:** N

**Attribute:**

**Attribute_Label:** CONC

**Attribute_Definition:**
The field CONC refers to concentration, abundance, or density values of a species at a particular location. Categorical concentrations used for fish include ‘RARE’, ‘COMMON’, ‘ABUNDANT’ or ‘HIGHLY ABUNDANT’, listed in order from lowest to highest abundance. Other descriptions are used in the CONC field for areas of high seasonal abundance or importance.

**Attribute_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

**Unrepresentable_Domain:** Acceptable values change from atlas to atlas.

**Attribute:**

**Attribute_Label:** SEASON_ID
Attribute Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: N

Attribute:

Attribute Label: G_SOURCE
Attribute Definition:
Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.

Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: N

Attribute:

Attribute Label: S_SOURCE
Attribute Definition:
Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: N

Attribute:

Attribute Label: ELEMENT
Attribute Definition: Major categories of biological data.

Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: BIRD
Enumerated Domain Value Definition: Birds
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

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

Attribute_Domain_Values:

Enumerated_Domain:

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

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial mammals
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:  
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

- **Attribute_Label**: EL_SPE_SEA  
- **Attribute_Definition**:  
  Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

- **Attribute_Definition_Source**: NOAA ESI Guidelines

- **Attribute_Domain_Values**:

  Enumerated_Domain:
  - **Enumerated_Domain_Value**: E######_
  - **Enumerated_Domain_Value_Definition**:  
    Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').

- **Enumerated_Domain_Value_Definition_Source**: NOAA ESI Guidelines

Detailed_Description:

**Entity_Type**:

- **Entity_Type_Label**: SPECIES  
- **Entity_Type_Definition**:  
  The data table SPECIES identifies all species in the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness Report for list of layer specific species.

- **Entity_Type_Definition_Source**: NOAA ESI Guidelines

**Attribute**:

- **Attribute_Label**: SPECIES_ID  
- **Attribute_Definition**: Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

- **Attribute_Definition_Source**: NOAA ESI Guidelines

- **Attribute_Domain_Values**:

  Range_Domain:
  - **Range_Domain_Minimum**: 1  
  - **Range_Domain_Maximum**: N

**Attribute**:

- **Attribute_Label**: NAME  
- **Attribute_Definition**: Species common name for the entire ESI data set.

- **Attribute_Definition_Source**: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: GEN_SPEC
Attribute Definition: Species scientific name for the entire ESI data set.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: ELEMENT
Attribute Definition: Major categories of biological data.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: BIRD
Enumerated Domain Value Definition: Birds
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: FISH
Enumerated Domain Value Definition: Fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: M_MAMMAL
Enumerated Domain Value Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

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

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: SUBELEMENT
Attribute_Definition: Element subgroup delineating a logical grouping of species.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: alligator
Enumerated_Domain_Value_Definition: Alligator
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: bear
Enumerated_Domain_Value_Definition: Bear
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: bivalve
Enumerated_Domain_Value_Definition: Bivalve
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: crab
Enumerated_Domain_Value_Definition: Crab
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: crayfish
Enumerated_Domain_Value_Definition: Crayfish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: diadromous
Enumerated_Domain_Value_Definition: Diadromous fish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: diving
Enumerated_Domain_Value_Definition: Diving bird
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: e_nursery
Enumerated_Domain_Value_Definition: Estuarine nursery fish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: e_resident
Enumerated_Domain_Value_Definition: Estuarine resident fish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: freshwater
Enumerated_Domain_Value_Definition: Freshwater fish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: gull_tern
Enumerated_Domain_Value_Definition: Gull or tern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: invert
Enumerated_Domain_Value_Definition: Invertebrate
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: m_pelagic
Enumerated_Domain_Value_Definition: Marine pelagic fish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: passerine
Enumerated_Domain_Value_Definition: Passerine bird
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: raptor
Enumerated_Domain_Value_Definition: Raptor
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: shorebird
Enumerated_Domain_Value_Definition: Shorebird
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: shrimp
Enumerated_Domain_Value_Definition: Shrimp
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: turtle
Enumerated_Domain_Value_Definition: Turtle
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: wading
Enumerated_Domain_Value_Definition: Wading bird
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: waterfowl
Enumerated_Domain_Value_Definition: Waterfowl
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: NHP
Attribute_Definition: Natural Heritage Program global ranking.
Attribute_Definition_Source: Network of Natural Heritage Program
Attribute_Domain_Values:

Codeset_Domain:

Codeset_Name: NHP Global Conservation Status Rank
Codeset_Source: Natural Heritage Program

Attribute:

Attribute_Label: DATE_PUB
Attribute_Definition: Date of NHP listing.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 0
Enumerated_Domain_Value_Definition: Date unspecified
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: EL_SPE
Attribute_Definition: Concatenation of ELEMENT and SPECIES_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: E####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Detailed_Description:

Entity_Type:

Entity_Type_Label: SEASONAL
Entity_Type_Definition:
The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: T_MAMMAL
Enumerated Domain Value Definition: Terrestrial Mammals
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: SPECIES_ID
Attribute Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.
Attribute Definition Source: NOAA ESI Guidelines

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: N

Attribute:

Attribute Label: SEASON_ID
Attribute Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute Definition Source: NOAA ESI Guidelines

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: N
Attribute_Label: JAN
Attribute_Definition: January
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in January
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: FEB
Attribute_Definition: February
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in February
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: MAR
Attribute_Definition: March
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in March
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: APR
Attribute_Definition: April
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in April
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: MAY
Attribute_Definition: May
Attribute_Definition_Source: NOAA ESI Guidelines
**Attribute**

*Attribute Label*: JUN
*Attribute Definition*: June
*Attribute Definition Source*: NOAA ESI Guidelines

**Enumerated Domain**

- **Enumerated Domain Value**: X
- **Enumerated Domain Value Definition**: Present in May
- **Enumerated Domain Value Definition Source**: NOAA ESI Guidelines

**Attribute**

*Attribute Label*: JUL
*Attribute Definition*: July
*Attribute Definition Source*: NOAA ESI Guidelines

**Enumerated Domain**

- **Enumerated Domain Value**: X
- **Enumerated Domain Value Definition**: Present in June
- **Enumerated Domain Value Definition Source**: NOAA ESI Guidelines

**Attribute**

*Attribute Label*: AUG
*Attribute Definition*: August
*Attribute Definition Source*: NOAA ESI Guidelines

**Enumerated Domain**

- **Enumerated Domain Value**: X
- **Enumerated Domain Value Definition**: Present in August
- **Enumerated Domain Value Definition Source**: NOAA ESI Guidelines

**Attribute**

*Attribute Label*: SEP
*Attribute Definition*: September
*Attribute Definition Source*: NOAA ESI Guidelines

**Enumerated Domain**
**Enumerated Domain Value:** X
**Enumerated Domain Value Definition:** Present in September
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute:**

- **Attribute Label:** OCT
- **Attribute Definition:** October
- **Attribute Definition Source:** NOAA ESI Guidelines

**Enumerated Domain:**

- **Enumerated Domain Value:** X
- **Enumerated Domain Value Definition:** Present in October
- **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute:**

- **Attribute Label:** NOV
- **Attribute Definition:** November
- **Attribute Definition Source:** NOAA ESI Guidelines

**Enumerated Domain:**

- **Enumerated Domain Value:** X
- **Enumerated Domain Value Definition:** Present in November
- **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute:**

- **Attribute Label:** DEC
- **Attribute Definition:** December
- **Attribute Definition Source:** NOAA ESI Guidelines

**Enumerated Domain:**

- **Enumerated Domain Value:** X
- **Enumerated Domain Value Definition:** Present in December
- **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute:**

- **Attribute Label:** EL_SPE_SEA
- **Attribute Definition:** Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.
- **Attribute Definition Source:** NOAA ESI Guidelines

**Enumerated Domain:**

- **Enumerated Domain Value:** E######
Enumerated_Domain_Value_Definition:

Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Detailed_Description:

Entity_Type:

Entity_Type_Label: BREED

Entity_Type_Definition:
The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.

Entity_Type_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: EL_SPE_SEA

Attribute_Definition:

Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.

Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#######

Enumerated_Domain_Value_Definition:

Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: MONTH

Attribute_Definition:

Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.

Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: 12

Attribute:

Attribute_Label: BREED1

Attribute_Definition:

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is
"M_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T_MAMMAL.

**Attribute_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

*Enumerated_Domain:*

- **Enumerated_Domain_Value:** Y
  - **Enumerated_Domain_Value_Definition:** Life-history stage or activity present
  - **Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

- **Enumerated_Domain_Value:** N
  - **Enumerated_Domain_Value_Definition:** Life-history stage or activity not present or not reported
  - **Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

**Attribute: BREED2**

**Attribute_Label:** BREED2

**Attribute_Definition:**
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T_MAMMAL elements.

**Attribute_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

*Enumerated_Domain:*

- **Enumerated_Domain_Value:** Y
  - **Enumerated_Domain_Value_Definition:** Life-history stage or activity present
  - **Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

- **Enumerated_Domain_Value:** N
  - **Enumerated_Domain_Value_Definition:** Life-history stage or activity not present or not reported
  - **Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition: Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

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

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition: Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: BREED4
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T_MAMMAL elements.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:
**Enumerated_Domain:**

**Enumerated_Domain_Value:** Y  
**Enumerated_Domain_Value_Definition:** Life-history stage or activity present  
**Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** N  
**Enumerated_Domain_Value_Definition:** Life-history stage or activity not present or not reported  
**Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** -  
**Enumerated_Domain_Value_Definition:** Breed category not used or not appropriate for record(s) in question  
**Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute_Label:** BREED5  
**Attribute_Definition:** Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M_MAMMAL, HABITAT or T_MAMMAL elements.  
**Attribute_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** Y  
**Enumerated_Domain_Value_Definition:** Life-history stage or activity present  
**Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** N  
**Enumerated_Domain_Value_Definition:** Life-history stage or activity not present or not reported  
**Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** -
Enumerated_Domain_Value_Definition:
  Breed category not used or not appropriate for record(s) in question

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Detailed_Description:

Entity_Type:

  Entity_Type_Label: STATUS
  Entity_Type_Definition:
  The data table STATUS identifies the species that are listed as either threatened or endangered by a state, federal, or international authority. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
  Entity_Type_Definition_Source: NOAA ESI Guidelines

Attribute:

  Attribute_Label: ELEMENT
  Attribute_Definition: Major categories of biological data.
  Attribute_Definition_Source: NOAA ESI Guidelines
  Attribute_Domain_Values:

    Enumerated_Domain:
      Enumerated_Domain_Value: BIRD
      Enumerated_Domain_Value_Definition: Birds
      Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

    Enumerated_Domain:
      Enumerated_Domain_Value: FISH
      Enumerated_Domain_Value_Definition: Fish
      Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

    Enumerated_Domain:
      Enumerated_Domain_Value: HABITAT
      Enumerated_Domain_Value_Definition: Habitats and Plants
      Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

    Enumerated_Domain:
      Enumerated_Domain_Value: INVERT
      Enumerated_Domain_Value_Definition: Invertebrates
      Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

    Enumerated_Domain:

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

**Attribute Domain Values**:

*Enumerated Domain*:

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

**Attribute Domain Values**:

*Enumerated Domain*:

*Enumerated Domain Value*: T_MAMMAL
*Enumerated Domain Value Definition*: Terrestrial Mammals
*Enumerated Domain Value Definition Source*: NOAA ESI Guidelines

**Attribute**:

*Attribute Label*: SPECIES_ID
*Attribute Definition*: Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
*Attribute Definition Source*: NOAA ESI Guidelines

**Range Domain Values**:

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

**Attribute**:

*Attribute Label*: STATE
*Attribute Definition*: Two-letter state abbreviation.
*Attribute Definition Source*: NOAA ESI Guidelines

**Unrepresentable Domain**: Acceptable values change from atlas to atlas.

**Attribute**:

*Attribute Label*: COUNTRY
*Attribute Definition*: Three-letter country abbreviation.
*Attribute Definition Source*: NOAA ESI Guidelines

**Unrepresentable Domain**: Acceptable values change from atlas to atlas.

**Attribute**:

*Attribute Label*: S
**Attribute**

**Attribute Label:** F
**Attribute Definition:** Federal threatened or endangered status.
**Attribute Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

Enumerated Domain:

- **Enumerated Domain Value:** E
  **Enumerated Domain Value Definition:** Endangered on federal list
  **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

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

- **Enumerated Domain Value:** C
  **Enumerated Domain Value Definition:** Species of Special Concern
  **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines
Enumerated_Domain:

  Enumerated_Domain_Value: S
  Enumerated_Domain_Value_Definition: Threatened due to similarity of appearance
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

  Attribute_Label: I
  Attribute_Definition: International threatened or endangered status.
  Attribute_Definition_Source: NOAA ESI Guidelines

Enumerated_Domain:

  Enumerated_Domain_Value: E
  Enumerated_Domain_Value_Definition: Endangered on international list
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

  Enumerated_Domain_Value: T
  Enumerated_Domain_Value_Definition: Threatened on international list
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

  Enumerated_Domain_Value: C
  Enumerated_Domain_Value_Definition: Species of Special Concern
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

  Attribute_Label: S_DATE
  Attribute_Definition: Publication date of source material used to assign state status values for each species, if used.
  Attribute_Definition_Source: NOAA ESI Guidelines

Enumerated_Domain:

  Enumerated_Domain_Value: YYYYMM
  Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

  Attribute_Label: F_DATE
  Attribute_Definition: Publication date of source material used to assign federal status values for each species, if used.
**Attribute**

**Attribute label:** I_DATE

**Attribute definition:**
Publication date of source material used to assign international status values for each species, if used.

**Attribute definition source:** NOAA ESI Guidelines

**Attribute domain values:**

**Enumerated domain:**

**Enumerated domain value:** YYYYMM

**Enumerated domain value definition:** YYYY for year and optionally MM for month

**Enumerated domain value definition source:** NOAA ESI Guidelines

**Attribute:**

**Attribute label:** EL_SPE

**Attribute definition:** Concatenation of ELEMENT and SPECIES_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.

**Attribute definition source:** NOAA ESI Guidelines

**Attribute domain values:**

**Enumerated domain:**

**Enumerated domain value:** E#####

**Enumerated domain value definition:** Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').

**Enumerated domain value definition source:** NOAA ESI Guidelines

**Detailed description:**

**Entity type:** SOURCES

**Entity type label:** SOURCES

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

**Entity type definition source:** NOAA ESI Guidelines

**Attribute:**
Attribute: SOURCE_ID

Attribute Definition:
Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID and ESI_Source in the ESI and HYDRO data layers.

Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: N

Attribute: ORIGINATOR

Attribute Label: ORIGINATOR

Attribute Definition: Author or developer of source material or data set.

Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute: DATE_PUB

Attribute Label: DATE_PUB

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

Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: YYYYMM
Enumerated Domain Value Definition: YYYY for year and optionally MM for month
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute: TITLE

Attribute Label: TITLE

Attribute Definition: Title of source material or data.

Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute: DATA_FORMAT

Attribute Label: DATA_FORMAT

Attribute Definition: The format of the source material.

Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.
**Attribute**: PUB_PLACE
**Attribute Definition**: Publication place.
**Attribute Definition Source**: NOAA ESI Guidelines
**Attribute Domain Values**:

*Unrepresentable Domain*: Acceptable values change from atlas to atlas.

**Attribute**: PUBLISHER
**Attribute Definition**: Publisher.
**Attribute Definition Source**: NOAA ESI Guidelines
**Attribute Domain Values**:

*Unrepresentable Domain*: Acceptable values change from atlas to atlas.

**Attribute**: PUBLICATION
**Attribute Definition**: Additional citation information.
**Attribute Definition Source**: NOAA ESI Guidelines
**Attribute Domain Values**:

*Unrepresentable Domain*: Acceptable values change from atlas to atlas.

**Attribute**: ONLINE_LINK
**Attribute Definition**: Online computer resource URL.
**Attribute Definition Source**: NOAA ESI Guidelines
**Attribute Domain Values**:

*Unrepresentable Domain*: Acceptable values change from atlas to atlas.

**Attribute**: SCALE
**Attribute Definition**: Description of the source scale.
**Attribute Definition Source**: NOAA ESI Guidelines
**Attribute Domain Values**:

*Unrepresentable Domain*: Acceptable values change from atlas to atlas.

**Attribute**: TIME_PERIOD
**Attribute Definition**: Date(s) of data collection that the source material is based upon.
**Attribute Definition Source**: NOAA ESI Guidelines
**Attribute Domain Values**:

*Unrepresentable Domain*: Acceptable values change from atlas to atlas.

---

**Distribution Information:**
Distributor:

Contact Information:

Contact Person Primary:

Contact Person: John Kaperick
Contact Organization: NOAA, Office of Response and Restoration

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Postal Code: 98115-6349

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Resource Description: Downloadable Data

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

Custom Order Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to
make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export,
MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and 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: 201405
Metadata Review Date: 201405
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
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: HYDRO (Hydrography Lines and Polygons)

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

Metadata:

- Identification_Information
- Data_Quality_Information
- Spatial_Data_Organization_Information
- Spatial_Reference_Information
- Entity_and_Attribute_Information
- Distribution_Information
- Metadata_Reference_Information

**Identification_Information:**

**Citation:**

**Originator:**

**Publication_Date:** 201405

**Title:**
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: HYDRO (Hydrography Lines and Polygons)

**Edition:** Second

**Geospatial_Data_Presentation_Form:** vector digital data

**Series_Information:**

**Series_Name:** None

**Issue_Identification:** Lower Mississippi River

**Publication_Information:**

**Publication_Date:** Seattle, Washington

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

**Other_Citation_Details:**
Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and...
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 Lower Mississippi River. This data set comprises a portion of the ESI data for Lower Mississippi 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 ESIL & ESIP data layers, part of the larger Lower Mississippi 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: 1973
Ending_Date: 2014

Currentness_Reference:
The data were compiled during 2014. The currentness dates for this data range from 1973 to 2014 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -91.70600
East_Bounding_Coordinate: -90.37500
North_Bounding_Coordinate: 31.02700
South_Bounding_Coordinate: 29.93600

Keywords:

Theme:

Theme_Keyword_Thesaurus: ISO 19115 Topic Category
Theme_Keyword: biota
Theme_Keyword: environment

Theme:

Theme_Keyword_Thesaurus: None
Theme_Keyword: Environmental Monitoring  
Theme_Keyword: ESI  
Theme_Keyword: Sensitivity maps  
Theme_Keyword: Coastal resources  
Theme_Keyword: Oil spill planning  
Theme_Keyword: Coastal Zone Management  
Theme_Keyword: Wildlife  
Theme_Keyword: Hydrography  

Place:  
Place_Keyword_Thesaurus: None  
Place_Keyword: Lower Mississippi River  

Access_Constraints: None  
Use_Constraints:  
DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Management boundaries are not to be considered legal boundaries. Edges may have been altered for cartographic processes. Besides the above warnings, 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 Lower Mississippi River ESI data.  
Browse_Graphic_File_Type: JPEG  

Browse_Graphic:  
Browse_Graphic_File_Name: datafig2.jpg  
Browse_Graphic_File_Description: Depicts the relationships between spatial data layers and desktop data tables for the Lower Mississippi 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 (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington, and The Department of Homeland Security, United States Coast Guard Office of Incident Management and Preparedness, Washington, D.C.  

Native_Data_Set_Environment:  
The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 10.2) and SQL SERVER(R) (version 2005). The hardware configuration is PC's with Windows Operating System 7. 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, esil.e00, esip.e00, fish.e00, hydro.e00,
Data Quality Information:

Attribute Accuracy:

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

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

Completeness Report:
These data represent linear and polygonal hydrography for Lower Mississippi River. See also the ESIL & ESIP data layers, part of the larger Lower Mississippi River ESI database, for additional ESI information.

Positional Accuracy:

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

Lineage:

Source Information:

Source Citation:

Citation Information:

Originator: GOOGLE EARTH
Publication Date: 2013
Title: GOOGLE EARTH IMAGERY
Geospatial Data Presentation Form: REMOTE-SENSING IMAGE
Citation Information:

Originator: RESEARCH PLANNING, INC.
Publication_Date: 2014
Title: INDEX
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: UNPUBLISHED

Source Scale Denominator: 24000
Type_of_Source_Media: DIGITAL
Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2014

Source_Currentness_Reference: DATE OF SURVEY

Source_Citation_Abbreviation: NONE
Source_Contribution: HYDRO INFORMATION

Source Information:

Source_Citation:

Citation Information:

Originator: U.S FISH AND WILDLIFE SERVICE (USFWS)
Publication_Date: 2010
Title: NATIONAL WETLANDS INVENTORY (NWI) - WETLANDS
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Publication Information:

Publication Place: WASHINGTON, D.C.
Publisher: U.S. FISH AND WILDLIFE SERVICE

Online Linkage: <http://www.fws.gov/wetlands/>

Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 1973
Ending_Date: 2010

Source_Currentness_Reference: DATE OF SURVEY

Source_Citation_Abbreviation: NONE
Source_Contribution: HYDRO INFORMATION

Source Information:
Process_Description:
The Lower Mississippi River shoreline was derived from the integration of the National
Oceanic and Atmospheric Administration (NOAA) Continually Updated Shoreline Product
(CUSP) (2000-2013); the U.S. Fish and Wildlife Service (FWS) National Wetlands Inventory
(NWI) dataset (1973-2010); the U.S. Geological Survey (USGS) National Hydrography
Dataset (NHD), the NOAA Coastal Change Analysis Program (C-CAP) regional land cover
dataset, and manual digitization at 1:4,000 from 2010-2011 Bing aerial and 2011-2013
Google Earth aerial imagery. The most recent shoreline was utilized from these data sources.
The above digital and/or hardcopy sources were compiled to create the HYDRO data layer.
Depending on the type of source data, four general approaches are used for compiling the data
layer: 1) hardcopy maps are digitized at their source scale; 2) digital data layers are evaluated
and used "as is" or integrated with the other data sources; 3) overflight classifications are
digitized from the scanned and registered hardcopy field maps; and/or 4) classifications are
interpreted from oblique gps referenced photography or video taken during the overflights.
After the initial shoreline classification, these data are edgematched and checked for logical
consistency errors. Review maps are plotted at 1:24,000 scale for verification of polygonal and
linear attributes. See the Lineage section for additional information on the type of source data
for this data layer. The ESI, biology, and human-use data are compiled into the standard ESI
digital data format. A second set of interviews with participating resource experts are
conducted to review the compiled data. If necessary, edits to the HYDRO data layer are made
based on the recommendations of the resource experts, and final hardcopy maps and digital
data are created.

Process_Date: 201405
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: 3878

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 3877

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 9604

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 340187

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 9498
Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Geographic:

   Latitude_Resolution: 0.0000001  
   Longitude_Resolution: 0.0000001  
   Geographic_Coordinate_Units: Decimal degrees

Geodetic_Model:

   Horizontal_Datum_Name: North American Datum of 1983  
   Ellipsoid_Name: Geodetic Reference System 80  
   Semi-major_Axis: 6378137.000000  
   Denominator_of_Flattening_Ratio: 298.257222

Entity_and_Attribute_Information:

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 relationships between attribute tables in the ESI data structure.

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

Detailed_Description:

Entity_Type:

   Entity_Type_Label: HYDRO.AAT  
   Entity_Type_Definition:
   The HYDRO.AAT table contains attribute information for the vector lines representing linear hydrography features in the HYDRO data layer.  
   Entity_Type_Definition_Source: NOAA ESI Guidelines

Attribute:

   Attribute_Label: LINE  
   Attribute_Definition: Type of geographic feature.  
   Attribute_Definition_Source: NOAA ESI Guidelines  
   Attribute_Domain_Values:

   Enumerated_Domain:

   Enumerated_Domain_Value: H  
   Enumerated_Domain_Value_Definition: Hydrography  
   Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
**Attribute**:

*Attribute Label*: SOURCE_ID
*Attribute Definition*: Source identifier that links to the SOURCES data table. This id indicates the source of a vector line segment.
*Attribute Definition Source*: NOAA ESI Guidelines

**Range Domain**:

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

**Detailed Description**:

*Entity Type*:

*Entity Type Label*: HYDRO.PAT
*Entity Type Definition*: The HYDRO.PAT table contains attribute information for the vector polygons representing polygonal hydrography features in the HYDRO data layer.
*Entity Type Definition Source*: NOAA ESI Guidelines

**Attribute**:

*Attribute Label*: WATER_CODE
*Attribute Definition*: Specifies a polygon as either water or land.
*Attribute Definition Source*: NOAA ESI Guidelines

**Enumerated Domain**:

*Enumerated Domain Value*: L
*Enumerated Domain Value Definition*: Land
*Enumerated Domain Value Definition Source*: NOAA ESI Guidelines
**Enumerated Domain Value**: W  
**Enumerated Domain Value Definition**: Water  
**Enumerated Domain Value Definition Source**: NOAA ESI Guidelines

**Detailed Description**:

**Entity Type**:

- **Entity Type Label**: ANNO.GEOG  
- **Entity Type Definition**: The spatial data layer HYDRO contains label points representing annotation for geographic features.  
- **Entity Type Definition Source**: NOAA ESI Guidelines

**Detailed Description**:

**Entity Type**:

- **Entity Type Label**: ANNO.HYDRO  
- **Entity Type Definition**: The spatial data layer HYDRO contains label points representing annotation for water features.  
- **Entity Type Definition Source**: NOAA ESI Guidelines

**Detailed Description**:

**Entity Type**:

- **Entity Type Label**: ANNO.SOC  
- **Entity Type Definition**: The spatial data layer HYDRO contains label points representing annotation for socioeconomic features.  
- **Entity Type Definition Source**: NOAA ESI Guidelines

**Detailed Description**:

**Entity Type**:

- **Entity Type Label**: SOURCES  
- **Entity Type Definition**: The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.  
- **Entity Type Definition Source**: NOAA ESI Guidelines

**Attribute**:

- **Attribute Label**: SOURCE_ID  
- **Attribute Definition**: Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID and ESI_Source in the ESI and HYDRO data layers.  
- **Attribute Definition Source**: NOAA ESI Guidelines  
- **Attribute Domain Values**: 

---
Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:

Attribute_Label: ORIGINATOR
Attribute_Definition: Author or developer of source material or data set.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATE_PUB
Attribute_Definition: Date of source material, publication, or date of personal communication with expert source.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: TITLE
Attribute_Definition: Title of source material or data.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATA_FORMAT
Attribute_Definition: The format of the source material.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUB_PLACE
Attribute_Definition: Publication place.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
**Attribute**

**Attribute_Label:** PUBLISHER  
**Attribute_Definition:** Publisher.  
**Attribute_Definition_Source:** NOAA ESI Guidelines  
**Attribute_Domain_Values:**

*Unrepresentable_Domain:* Acceptable values change from atlas to atlas.

**Attribute**

**Attribute_Label:** PUBLICATION  
**Attribute_Definition:** Additional citation information.  
**Attribute_Definition_Source:** NOAA ESI Guidelines  
**Attribute_Domain_Values:**

*Unrepresentable_Domain:* Acceptable values change from atlas to atlas.

**Attribute**

**Attribute_Label:** ONLINE_LINK  
**Attribute_Definition:** Online computer resource URL.  
**Attribute_Definition_Source:** NOAA ESI Guidelines  
**Attribute_Domain_Values:**

*Unrepresentable_Domain:* Acceptable values change from atlas to atlas.

**Attribute**

**Attribute_Label:** SCALE  
**Attribute_Definition:** Description of the source scale.  
**Attribute_Definition_Source:** NOAA ESI Guidelines  
**Attribute_Domain_Values:**

*Unrepresentable_Domain:* Acceptable values change from atlas to atlas.

**Attribute**

**Attribute_Label:** TIME PERIOD  
**Attribute_Definition:** Date(s) of data collection that the source material is based upon.  
**Attribute_Definition_Source:** NOAA ESI Guidelines  
**Attribute_Domain_Values:**

*Unrepresentable_Domain:* Acceptable values change from atlas to atlas.

**Distribution_Information:**

**Distributor:**

**Contact_Information:**

**Contact_Person_Primary:**

**Contact_Person:** John Kaperick  
**Contact_Organization:** NOAA, Office of Response and Restoration
Contact_Address:

Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329

Resource_Description: Downloadable Data

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

Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and 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: 201405
Metadata_Review_Date: 201405
Metadata_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager
Contact_Address:

Address_Type: Physical Address
Address: 7600 Sand Point Way, N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: INDEX (Overlapping Polygons (REGIONS))

Metadata:

- Identification_Information
- Data_Quality_Information
- Spatial_Data_Organization_Information
- Spatial_Reference_Information
- Entity_and_Attribute_Information
- Distribution_Information
- Metadata_Reference_Information

Identification_Information:

Citation:

Originator:

Publication_Date: 201405

Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: INDEX (Overlapping Polygons (REGIONS))

Edition: Second

Geospatial_Data_Presentation_Form: vector digital data

Series_Information:

Series_Name: None
Issue_Identification: Lower Mississippi River

Publication_Information:

Publication_Place: Seattle, Washington

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

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

Abstract:
This data set contains vector polygons grouped into regions representing the boundaries of all hardcopy cartographic products produced as part of the Environmental Sensitivity Index (ESI) for Lower Mississippi River. This data set comprises a portion of the ESI data for Lower Mississippi 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: 2014

Currentness_Reference:
The data were compiled during 2014. The currentness date for this data is 2014 and is documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -91.70600
East_Bounding_Coordinate: -90.37500
North_Bounding_Coordinate: 31.02700
South_Bounding_Coordinate: 29.93600

Keywords:

Theme:

Theme_Keyword_Thesaurus: ISO 19115 Topic Category
Theme_Keyword: biota
Theme_Keyword: environment

Theme:

Theme_Keyword_Thesaurus: None
Theme_Keyword: Environmental Monitoring
Theme_Keyword: ESI
Use_Constraints:
DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Management boundaries are not to be considered legal boundaries. Edges may have been altered for cartographic processes. Besides the above warnings, 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 Lower Mississippi River ESI data.
Browse_Graphic_File_Type: JPEG

Browse_Graphic:

Browse_Graphic_File_Name: datafig2.jpg
Browse_Graphic_File_Description: Depicts the relationships between spatial data layers and desktop data tables for the Lower Mississippi 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 (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington, and The Department of Homeland Security, United States Coast Guard Office of Incident Management and Preparedness, Washington, D.C.

Native_Data_Set_Environment:
The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 10.2) and SQL SERVER(R) (version 2005). The hardware configuration is PC's with Windows Operating System 7.
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, esil.e00, esip.e00, fish.e00, hydro.e00, index.e00, invert.e00, mgt.e00, nests.e00, reptiles.e00, rivermiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut.e00, biofile.e00, biorees.e00, breed.e00, breed_dt.e00, seasonal.e00, soc_dat.e00, soc_lut.e00, sources.e00,
Data_Quality_Information:

Attribute_Accuracy:

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

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

Completeness_Report:
These data represent the boundaries of all hardcopy cartographic products and digital data extents produced as part of the Lower Mississippi River ESI atlas.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:
The index polygons in this data layer were generated in ArcInfo by defining corner coordinates. 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 may have been developed from pre-existing digital and hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: RESEARCH PLANNING, INC
Publication_Date: 2014
Title: INDEX
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: UNPUBLISHED
Process Step:

Process_Description:
Primarily, 1:24,000 polygons were used to provide boundaries for cartographic products. The polygons were tiled and arranged in a way as to best capture the shoreline product. In some cases these polygons overlapped due to scale versus features depicted. An index region was added to handle the overlap and aid in map production.

Process_Date: 201405

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: 24
**SDTS_Terms_Description:**

**SDTS_Point_and_Vector_Object_Type:** Area point  
**Point_and_Vector_Object_Count:** 23

**SDTS_Terms_Description:**

**SDTS_Point_and_Vector_Object_Type:** Complete chain  
**Point_and_Vector_Object_Count:** 61

**SDTS_Terms_Description:**

**SDTS_Point_and_Vector_Object_Type:** Link  
**Point_and_Vector_Object_Count:** 94

**SDTS_Terms_Description:**

**SDTS_Point_and_Vector_Object_Type:** Node, planar graph  
**Point_and_Vector_Object_Count:** 39

---

**Spatial_Reference_Information:**

**Horizontal_Coordinate_System_Definition:**

**Geographic:**

- **Latitude_Resolution:** 0.0000001  
- **Longitude_Resolution:** 0.0000001  
- **Geographic_Coordinate_Units:** Decimal degrees

**Geodetic_Model:**

- **Horizontal_Datum_Name:** North American Datum of 1983  
- **Ellipsoid_Name:** Geodetic Reference System 80  
- **Semi-major_Axis:** 6378137.000000  
- **Denominator_of_Flattening_Ratio:** 298.257222

---

**Entity_and_Attribute_Information:**

**Overview_Description:**

**Entity_and_Attribute_Overview:**

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

**Entity_and_Attribute_Detail_Citation:**

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

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**Detailed_Description:**

**Entity_Type:**
Entity_Type_Label: INDEX.PATINDEX

Entity_Type_Definition:
The INDEX.PATINDEX table contains attribute information for the vector polygons grouped into regions, representing the boundaries of the maps and digital data boundaries used in the creation of the ESI atlas.

Entity_Type_Definition_Source: NOAA ESI Guidelines

Attribute:

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

Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: 16

Attribute:

Attribute_Label: TOPO-NAME
Attribute_Definition:
USGS Topographic map name, short description of location, or atlas name.

Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

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

Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 24000
Enumerated_Domain_Value_Definition: Scale = 1:24,000
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

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

Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Range_Domain:
Attribute:

Attribute_Label: PAGESIZE
Attribute_Definition:
PAGESIZE contains the value of the width and height of the map in the final map product.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 11,17
Enumerated_Domain_Value_Definition: Page size = 11" by 17"
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Distribution_Information:

Distributor:

Contact_Information:

Contact_Person_Primary:

Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration

Contact_Address:

Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329

Resource_Description: Downloadable Data

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

Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and 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
and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata_Reference_Information:

Metadata_Date: 201405
Metadata_Review_Date: 201405
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
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: INVERT (Invertebrate Polygons)

Metadata:

- Identification_Information
- Data_Quality_Information
- Spatial_Data_Organization_Information
- Spatial_Reference_Information
- Entity_and_Attribute_Information
- Distribution_Information
- Metadata_Reference_Information

Identification_Information:

Citation:

Originator:

Publication_Date: 201405

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

Edition: Second

Geospatial_Data_Presentation_Form: vector digital data

Series_Information:

Series_Name: None

Issue_Identification: Lower Mississippi River

Publication_Information:

Publication_PLACE: Seattle, Washington

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

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

Abstract:
This data set contains sensitive biological resource data for estuarine and freshwater invertebrate species in the Lower Mississippi River. Vector polygons in this data set represent invertebrate distributions. Species specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer. This data set comprises a portion of the ESI data for Lower Mississippi 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: 1985
Ending_Date: 2014

Currentness_Reference:
The data were compiled during 2014. The currentness dates for this data range from 1985 to 2014 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_BoundingCoordinate: -91.70600
East_BoundingCoordinate: -90.37500
North_BoundingCoordinate: 31.02700
South_BoundingCoordinate: 29.93600

Keywords:

Theme:
Theme_Keyword_Thesaurus: ISO 19115 Topic Category
Theme_Keyword: biota
Theme_Keyword: environment

Theme:
Access_Constraints: None
Use_Constraints:
DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Management boundaries are not to be considered legal boundaries. Edges may have been altered for cartographic processes. Besides the above warnings, 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 Lower Mississippi 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 (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington, and The Department of Homeland Security, United States Coast Guard Office of Incident Management and Preparedness, Washington, D.C.

Native_Data_Set_Environment:
The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 10.2) and SQL SERVER(R) (version 2005). The hardware configuration is PC's with Windows Operating System 7.
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, esil.e00, esip.e00, fish.e00, hydro.e00, index.e00, invert.e00, mgt.e00, nests.e00, reptiles.e00, rivermiles.e00, soccon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut.e00, biofile.e00, biores.e00, breed.e00, breed_dt.e00, seasonal.e00, soc_dat.e00, soc_lut.e00, sources.e00, species.e00, and status.e00.

Data_Quality_Information:

Attribute_Accuracy:

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

Logical_Consistency_Report:
A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary node, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resources at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness_Report:
These data represent a synthesis of survey data, published literature and expert knowledge on invertebrate distributions. These data do not necessarily represent all invertebrate occurrences in Lower Mississippi River. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 49, Blue crab, Callinectes sapidus; 50, White shrimp, Litopenaeus setiferus; 51, Brown shrimp, Farfantepenaeus aztecus; 82, Atlantic rangia, Rangia cuneata; 84, Red swamp crawfish, Procambarus clarkii; 408, River shrimp, Macrobrachium sp.; 642, Crayfish, n/a.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:
Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base
maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources. See the Lineage and Process_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

**Lineage:**

**Source Information:**

**Source Citation:**

**Citation Information:**

*Originator:* BAUER, RAYMOND T. AND JAMES DELAHOUSSAYE  
*Publication Date:* 2008  
*Title:* LIFE HISTORY MIGRATIONS OF THE AMPHIDROMOUS RIVER SHRIMP MACHROBRACHIUM OHIONE FROM A LARGE RIVER SYSTEM  
*Geospatial Data Presentation Form:* DOCUMENT  
*Other Citation Details:* JOURNAL OF CRUSTACEAN BIOLOGY, 28(4):622-632

*Type of Source Media:* ONLINE  
*Source Time Period of Content:*  
  
  **Time Period Information:**  
  
  *Single Date/Time:*  
  
  *Calendar Date:* 2008

**Source Currentness Reference:** DATE OF PUBLICATION

*Source Citation Abbreviation:* NONE  
*Source Contribution:* INVERT INFORMATION

**Source Information:**

**Source Citation:**

**Citation Information:**

*Originator:* LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES (LDWF)  
*Publication Date:* 2013  
*Title:* DISTRIBUTION, SEASONALITY AND ABUNDANCE OF INLAND FISHERIES RESOURCES  
*Geospatial Data Presentation Form:* EXPERT KNOWLEDGE  
*Other Citation Details:* UNPUBLISHED

*Type of Source Media:* PERSONAL COMMUNICATION  
*Source Time Period of Content:*  
  
  **Time Period Information:**
Single_Date/Time:

Calendar_Date: 2013

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE
Source_Contribution: INVERT INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES (LDWF)
Publication_Date: 2013
Title: MARINE FISHERIES MONITORING DATABASE
Geospatial_Data_Presentation_Form: TABULAR DIGITAL DATA
Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 2003
Ending_Date: 2012

Source_Currentness_Reference: DATE OF SURVEY

Source_Citation_Abbreviation: NONE
Source_Contribution: INVERT INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES (LDWF)
Publication_Date: 2014
Title: DISTRIBUTION, ABUNDANCE AND SEASONALITY OF INLAND FISHERIES RESOURCES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:

Time_Period_Information:
Source_Citation: NOAA'S ESTUARINE LIVING MARINE RESOURCES (ELMR) DATABASE

Publication_Date: 2000
Title: NOAA'S ESTUARINE LIVING MARINE RESOURCES (ELMR) DATABASE
Geospatial_Data_Presentation_Form: TABULAR DIGITAL DATA
Publication_Information:
Publication_Place: SILVER SPRING, MD
Publisher: NOAA's OCEAN SERVICE, NATIONAL CENTERS FOR COASTAL AND OCEAN SCIENCE (NCCOS)

Online_Linkage: <http://ccma.nos.noaa.gov/ecosystems/estuaries/elmr.aspx>

Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:

Range_of_Dates/Times:
Beginning_Date: 1985
Ending_Date: 2000

Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation: FEMALE DOWNSTREAM-HATCHING MIGRATION OF THE RIVER SHRIMP MACROBRACHIUM OHIONE IN THE LOWER MISSISSIPPI

Originator: OLIVIER, TYLER J. AND RAYMOND T. BAUER
Publication_Date: 2011
Title: FEMALE DOWNSTREAM-HATCHING MIGRATION OF THE RIVER SHRIMP MACROBRACHIUM OHIONE IN THE LOWER MISSISSIPPI
Sources of data used to depict invert distribution and seasonality for this data layer include Louisiana Department of Wildlife and Fisheries (LDWF) fishery independent monitoring data, published information, and anecdotal information from resource experts from LDWF. Data for Lake Pontchartrain species was derived from LDWF’s marine fisheries sampling data. River shrimp distributions were digitized based on published literature describing their movement in the Atchafalaya and Mississippi River. All other invertebrates mapped were based on expert knowledge.

The above digital and/or hardcopy sources were compiled by the project biologist to create the INVERT data layer. Depending on the type of source data, three general approaches are used for compiling the data layer: 1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; 2) hardcopy maps are digitized at their source scale; 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 ESI, biology, and human-use data are compiled into the standard ESI digital data format. A second set of interviews with participating resource experts are conducted to review the compiled data. If necessary, edits to the INVERT data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Document: 201405
Process_Contact:

Contact_Information:

Contact_Organization: NOAA, Office of Response and Restoration
Contact Person: Jill Petersen

Contact Address:

Address Type: Physical address
Address: 7600 Sand Point Way, N.E.
City: Seattle
State or Province: Washington
Postal Code: 98115-6349

Contact Voice Telephone: (206) 526-6944
Contact Facsimile Telephone: (206) 526-6329
Contact Electronic Mail Address: Jill.Petersen@noaa.gov

Spatial Data Organization Information:

Direct Spatial Reference Method: Vector

Point and Vector Object Information:

SDTS Terms Description:

SDTS Point and Vector Object Type: GT-polygon composed of chains
Point and Vector Object Count: 60

SDTS Terms Description:

SDTS Point and Vector Object Type: Area point
Point and Vector Object Count: 59

SDTS Terms Description:

SDTS Point and Vector Object Type: Complete chain
Point and Vector Object Count: 148

SDTS Terms Description:

SDTS Point and Vector Object Type: Link
Point and Vector Object Count: 44999

SDTS Terms Description:

SDTS Point and Vector Object Type: Node, planar graph
Point and Vector Object Count: 144

Spatial Reference Information:

Horizontal Coordinate System Definition:

Geographic:

Latitude Resolution: 0.0000001
Longitude Resolution: 0.0000001
Geographic Coordinate Units: Decimal degrees
Geodetic Model:

Horizontal Datum Name: North American Datum of 1983
Ellipsoid Name: Geodetic Reference System 80
Semi-major Axis: 6378137.000000
Denominator of Flattening Ratio: 298.257222

Entity and Attribute Information:

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 Lower Mississippi River atlas, the number is 233), 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.

Entity and Attribute Detail Citation:

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

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 distributions. 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:** NOAA ESI Guidelines

**Attribute:**

**Attribute Label:** ID
**Attribute Definition:**
An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (233), 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:** "NEED TO ADD"
**Range Domain Maximum:** "NEED TO ADD"

**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 the polygons and do not contain information.

**Attribute Definition Source:** NOAA

**Attribute Domain Values:**

**Range Domain:**

**Range Domain Minimum:** "NEED TO ADD"
**Range Domain Maximum:** "NEED TO ADD"

**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:** NOAA ESI Guidelines

**Attribute:**
Attribute Label: RARNUM
Attribute Definition:
An identifier that links records in the BIO_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.
Attribute Definition Source: NOAA
Attribute Domain Values:

Range Domain:

Range Domain Minimum: "NEED TO ADD"
Range Domain Maximum: "NEED TO ADD"

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 (233), 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: "NEED TO ADD"
Range Domain Maximum: "NEED TO ADD"

Detailed Description:

Entity Type:

Entity Type Label: BIORES
Entity Type Definition:
The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO_LUT data table to other associated data tables. See the Browse Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity Type Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: RARNUM
Attribute Definition:
An identifier that links records in the BIORES data table to records in the BIO_LUT data table or the flat format BIOFILE data table.
Attribute Definition Source: NOAA
Attribute Domain Values:

Range Domain:

Range Domain Minimum: "NEED TO ADD"
Range Domain Maximum: "NEED TO ADD"

Attribute:
Attribute Label: SPECIES_ID
Attribute Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: N

Attribute:

Attribute Label: CONC
Attribute Definition:
The field CONC refers to concentration, abundance, or density values of a species at a particular location. Categorical concentrations used for fish include ‘RARE’, ‘COMMON’, ‘ABUNDANT’ or ‘HIGHLY ABUNDANT’, listed in order from lowest to highest abundance.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: SEASON_ID
Attribute Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: N

Attribute:

Attribute Label: G_SOURCE
Attribute Definition:
Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: N

Attribute:
Attribute Label: S_SOURCE
Attribute Definition: Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Range Domain:

  Range Domain Minimum: 1
  Range Domain Maximum: N

Attribute Label: ELEMENT
Attribute Definition: Major categories of biological data.
Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

  Enumerated Domain Value: BIRD
  Enumerated Domain Value Definition: Birds
  Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

  Enumerated Domain Value: FISH
  Enumerated Domain Value Definition: Fish
  Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

  Enumerated Domain Value: M_MAMMAL
  Enumerated Domain Value Definition: Marine mammals
  Enumerated Domain Value Definition Source: NOAA ESI Guidelines
Attribute

Attribute_Domain_Values:

Enumerated_Domain:

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

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial mammals
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: EL_SPE
Attribute_Definition:
    Concatenation of ELEMENT and SPECIES_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
    Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: EL_SPE_SEA
Attribute_Definition:
    Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
    Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Detailed_Description:
Entity_Type:

Entity_Type_Label: SPECIES
Entity_Type_Definition:
The data table SPECIES identifies all species in the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness Report for list of layer specific species.
Entity_Type_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: NOAA ESI Guidelines

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:

Attribute_Label: NAME
Attribute_Definition: Species common name for the entire ESI data set.
Attribute_Definition_Source: NOAA ESI Guidelines

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: GEN_SPEC
Attribute_Definition: Species scientific name for the entire ESI data set.
Attribute_Definition_Source: NOAA ESI Guidelines

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: NOAA ESI Guidelines

Enumerated_Domain:

Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
**Attribute Domain Values:**

**Enumerated Domain:**

- **Enumerated Domain Value:** FISH
  - **Enumerated Domain Value Definition:** Fish
  - **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

**Enumerated Domain:**

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

**Attribute Domain Values:**

**Enumerated Domain:**

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

**Attribute Domain Values:**

**Enumerated Domain:**

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

**Attribute Domain Values:**

**Enumerated Domain:**

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

**Attribute Domain Values:**

**Enumerated Domain:**

- **Enumerated Domain Value:** T_MAMMAL
  - **Enumerated Domain Value Definition:** Terrestrial Mammals
  - **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute Label:** SUBELEMENT
**Attribute Definition:** Element subgroup delineating a logical grouping of species.
**Attribute Definition Source:** NOAA ESI Guidelines
**Attribute Domain Values:**

**Enumerated Domain:**
Enumerated_Domain_Value: alligator
Enumerated_Domain_Value_Definition: Alligator
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: bear
Enumerated_Domain_Value_Definition: Bear
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: bivalve
Enumerated_Domain_Value_Definition: Bivalve
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: crab
Enumerated_Domain_Value_Definition: Crab
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: crayfish
Enumerated_Domain_Value_Definition: Crayfish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: diadromous
Enumerated_Domain_Value_Definition: Diadromous fish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: diving
Enumerated_Domain_Value_Definition: Diving bird
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:
Enumerated Domain Value: e_nursery
Enumerated Domain Value Definition: Estuarine nursery fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: e_resident
Enumerated Domain Value Definition: Estuarine resident fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: freshwater
Enumerated Domain Value Definition: Freshwater fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: gull_tern
Enumerated Domain Value Definition: Gull or tern
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: invert
Enumerated Domain Value Definition: Invertebrate
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: m_pelagic
Enumerated Domain Value Definition: Marine pelagic fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: passerine
Enumerated Domain Value Definition: Passerine bird
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:
Attribute Domain Values:

Enumerated Domain:

- **Enumerated Domain Value**: raptor
  - **Enumerated Domain Value Definition**: Raptor
  - **Enumerated Domain Value Definition Source**: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

- **Enumerated Domain Value**: shorebird
  - **Enumerated Domain Value Definition**: Shorebird
  - **Enumerated Domain Value Definition Source**: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

- **Enumerated Domain Value**: shrimp
  - **Enumerated Domain Value Definition**: Shrimp
  - **Enumerated Domain Value Definition Source**: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

- **Enumerated Domain Value**: turtle
  - **Enumerated Domain Value Definition**: Turtle
  - **Enumerated Domain Value Definition Source**: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

- **Enumerated Domain Value**: wading
  - **Enumerated Domain Value Definition**: Wading bird
  - **Enumerated Domain Value Definition Source**: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

- **Enumerated Domain Value**: waterfowl
  - **Enumerated Domain Value Definition**: Waterfowl
  - **Enumerated Domain Value Definition Source**: NOAA ESI Guidelines

Attribute:

- **Attribute Label**: NHP
- **Attribute Definition**: Natural Heritage Program global ranking.
- **Attribute Definition Source**: Network of Natural Heritage Program
- **Attribute Domain Values**:

Codeset Domain:

- **Codeset Name**: NHP Global Conservation Status Rank
- **Codeset Source**: Natural Heritage Program
Attribute:

Attribute Label: DATE_PUB
Attribute Definition: Date of NHP listing.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: YYYYMM
Enumerated Domain Value Definition: YYYY for year and optionally MM for month
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: 0
Enumerated Domain Value Definition: Date unspecified
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: EL_SPE
Attribute Definition: Concatenation of ELEMENT and SPECIES_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: E#####
Enumerated Domain Value Definition: Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Detailed_Description:

Entity_Type:

Entity Type Label: SEASONAL
Entity Type Definition: The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity Type Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: ELEMENT
Attribute Definition: Major categories of biological data.
Attribute_Domain_Values:

Enumerated_Domain:

  Enumerated_Domain_Value: BIRD
  Enumerated_Domain_Value_Definition: Birds
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Enumerated_Domain:

  Enumerated_Domain_Value: FISH
  Enumerated_Domain_Value_Definition: Fish
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Enumerated_Domain:

  Enumerated_Domain_Value: HABITAT
  Enumerated_Domain_Value_Definition: Habitats and plants
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Enumerated_Domain:

  Enumerated_Domain_Value: INVERT
  Enumerated_Domain_Value_Definition: Invertebrates
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Enumerated_Domain:

  Enumerated_Domain_Value: M_MAMMAL
  Enumerated_Domain_Value_Definition: Marine Mammals
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Enumerated_Domain:

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

Enumerated_Domain:

  Enumerated_Domain_Value: T_MAMMAL
  Enumerated_Domain_Value_Definition: Terrestrial Mammals
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute:

Attribute Label: SPECIES_ID
Attribute Definition:
  Numeric identifier for each species that is unique within each element and refers to a
  nationwide ESI species list maintained at NOAA.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

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

Attribute:

Attribute Label: SEASON_ID
Attribute Definition:
  Numeric identifier for the unique monthly presence and life history characteristics of each
  species at a given location.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

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

Attribute:

Attribute Label: JAN
Attribute Definition: January
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

  Enumerated Domain:
  
  Enumerated Domain Value: X
  Enumerated Domain Value Definition: Present in January
  Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: FEB
Attribute Definition: February
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

  Enumerated Domain:
  
  Enumerated Domain Value: X
  Enumerated Domain Value Definition: Present in February
  Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:
**Attribute**

*Attribute Label:* MAR
*Attribute Definition:* March
*Attribute Definition Source:* NOAA ESI Guidelines

*Enumerated Domain:*

*Enumerated Domain Value:* X
*Enumerated Domain Value Definition:* Present in March
*Enumerated Domain Value Definition Source:* NOAA ESI Guidelines

**Attribute**

*Attribute Label:* APR
*Attribute Definition:* April
*Attribute Definition Source:* NOAA ESI Guidelines

*Enumerated Domain:*

*Enumerated Domain Value:* X
*Enumerated Domain Value Definition:* Present in April
*Enumerated Domain Value Definition Source:* NOAA ESI Guidelines

**Attribute**

*Attribute Label:* MAY
*Attribute Definition:* May
*Attribute Definition Source:* NOAA ESI Guidelines

*Enumerated Domain:*

*Enumerated Domain Value:* X
*Enumerated Domain Value Definition:* Present in May
*Enumerated Domain Value Definition Source:* NOAA ESI Guidelines

**Attribute**

*Attribute Label:* JUN
*Attribute Definition:* June
*Attribute Definition Source:* NOAA ESI Guidelines

*Enumerated Domain:*

*Enumerated Domain Value:* X
*Enumerated Domain Value Definition:* Present in June
*Enumerated Domain Value Definition Source:* NOAA ESI Guidelines

**Attribute**

*Attribute Label:* JUL
*Attribute Definition:* July
*Attribute Definition Source:* NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in July
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: AUG
Attribute_Definition: August
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in August
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: SEP
Attribute_Definition: September
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in September
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: OCT
Attribute_Definition: October
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in October
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: NOV
Attribute_Definition: November
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:
Attribute:

\[\text{Attribute Label: DEC} \]
\[\text{Attribute Definition: December} \]
\[\text{Attribute Definition Source: NOAA ESI Guidelines} \]

\[\text{Attribute Domain Values:} \]
\[\text{Enumerated Domain:} \]
\[\text{Enumerated Domain Value: X} \]
\[\text{Enumerated Domain Value Definition: Present in December} \]
\[\text{Enumerated Domain Value Definition Source: NOAA ESI Guidelines} \]

Attribute:

\[\text{Attribute Label: EL_SPE_SEA} \]
\[\text{Attribute Definition:} \]
\[\text{Concatenation of ELEMENT, SPECIES ID, and SEASON ID. This item links records in the} \]
\[\text{SEASONAL data table to records in the BIORES and BREED data tables.} \]
\[\text{Attribute Definition Source: NOAA ESI Guidelines} \]

\[\text{Attribute Domain Values:} \]
\[\text{Enumerated Domain:} \]
\[\text{Enumerated Domain Value: E#####} \]
\[\text{Enumerated Domain Value Definition:} \]
\[\text{Where E is the first character of ELEMENT, the next five characters are} \]
\[\text{SPECIES ID, and the last two characters are SEASON ID (e.g. ELEMENT =} \]
\[\text{‘BIRD’, SPECIES ID = 1 and SEASON ID = 1; EL_SPE_SEA = ‘B000101’).} \]
\[\text{Enumerated Domain Value Definition Source: NOAA ESI Guidelines} \]

Detailed Description:

Entity Type:

\[\text{Entity Type Label: BREED} \]
\[\text{Entity Type Definition:} \]
\[\text{The data table BREED identifies the monthly presence of certain life-history stages or} \]
\[\text{activities for each species at a given location.} \]
\[\text{Entity Type Definition Source: NOAA ESI Guidelines} \]

Attribute:

\[\text{Attribute Label: EL_SPE_SEA} \]
\[\text{Attribute Definition:} \]
\[\text{Concatenation of ELEMENT, SPECIES ID, and SEASON ID. This item links records in the} \]
\[\text{BREED data table to records in the BIORES and SEASONAL data tables.} \]
\[\text{Attribute Definition Source: NOAA ESI Guidelines} \]

\[\text{Attribute Domain Values:} \]
\[\text{Enumerated Domain:} \]
Enumerated Domain Value: E########

Enumerated Domain Value Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').

Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: MONTH
Attribute Definition:
Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.
Attribute Definition Source: NOAA ESI Guidelines

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: 12

Attribute:

Attribute Label: BREED1
Attribute Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T_MAMMAL.
Attribute Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: Y
Enumerated Domain Value Definition: Life-history stage or activity present
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: N
Enumerated Domain Value Definition: Life-history stage or activity not present or not reported
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: -
Enumerated Domain Value Definition:
Breed category not used or not appropriate for record(s) in question
**Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute_Label:** BREED2

**Attribute_Definition:**
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T_MAMMAL elements.

**Attribute_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** Y

**Enumerated_Domain_Value_Definition:** Life-history stage or activity present

**Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** N

**Enumerated_Domain_Value_Definition:** Life-history stage or activity not present or not reported

**Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** -

**Enumerated_Domain_Value_Definition:** Breed category not used or not appropriate for record(s) in question

**Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute_Label:** BREED3

**Attribute_Definition:**
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = internesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.

**Attribute_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** Y

**Enumerated_Domain_Value_Definition:** Life-history stage or activity present

**Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines
**Attribute**:

*Attribute_Label*: BREED4

*Attribute_Definition*:
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T_MAMMAL elements.

*Attribute_Definition_Source*: NOAA ESI Guidelines

**Attribute_Domain_Values**:

*Enumerated_Domain*:

*Enumerated_Domain_Value*: Y
*Enumerated_Domain_Value_Definition*: Life-history stage or activity present
*Enumerated_Domain_Value_Definition_Source*: NOAA ESI Guidelines

**Attribute_Domain_Values**:

*Enumerated_Domain*:

*Enumerated_Domain_Value*: N
*Enumerated_Domain_Value_Definition*: Life-history stage or activity not present or not reported
*Enumerated_Domain_Value_Definition_Source*: NOAA ESI Guidelines

**Attribute_Domain_Values**:

*Enumerated_Domain*:

*Enumerated_Domain_Value*: -
*Enumerated_Domain_Value_Definition*: Breed category not used or not appropriate for record(s) in question
*Enumerated_Domain_Value_Definition_Source*: NOAA ESI Guidelines
**Attribute Label:** BREED5  
**Attribute Definition:**  
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M_MAMMAL, HABITAT or T_MAMMAL elements.  
**Attribute Definition Source:** NOAA ESI Guidelines  
**Attribute Domain Values:**

- **Enumerated Domain:**
  - **Enumerated Domain Value:** Y  
  **Enumerated Domain Value Definition:** Life-history stage or activity present  
  **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

- **Enumerated Domain:**
  - **Enumerated Domain Value:** N  
  **Enumerated Domain Value Definition:** Life-history stage or activity not present or not reported  
  **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

- **Enumerated Domain:**
  - **Enumerated Domain Value:** -  
  **Enumerated Domain Value Definition:** Breed category not used or not appropriate for record(s) in question  
  **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Detailed Description:**

**Entity Type:**

- **Entity Type Label:** STATUS  
  **Entity Type Definition:**  
  The data table STATUS identifies the species that are listed as either threatened or endangered by a state, federal, or international authority. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.  
  **Entity Type Definition Source:** NOAA ESI Guidelines

**Attribute:**

- **Attribute Label:** ELEMENT  
  **Attribute Definition:** Major categories of biological data.  
  **Attribute Definition Source:** NOAA ESI Guidelines  
  **Attribute Domain Values:**

- **Enumerated Domain:**
  - **Enumerated Domain Value:** BIRD
Attribute: SPECIES_ID

Attribute Definition: Numeric identifier for each species that is unique within each element and refers to a
nationwide master ESI species list maintained at NOAA.

Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: N

Attribute:

Attribute Label: STATE
Attribute Definition: Two-letter state abbreviation.
Attribute Definition Source: NOAA ESI Guidelines

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: COUNTRY
Attribute Definition: Three-letter country abbreviation.
Attribute Definition Source: NOAA ESI Guidelines

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: S
Attribute Definition: State threatened or endangered status.
Attribute Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: E
Enumerated Domain Value Definition: Endangered on state list
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: C
Enumerated Domain Value Definition: Species of Special Concern
Enumerated Domain Value Definition Source: NOAA ESI Guidelines
Attribute:

Attribute_Label: F
Attribute_Definition: Federal threatened or endangered status.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: I
Attribute_Definition: International threatened or endangered status.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
**Attribute:**

*Attribute Label:* S\_DATE  
*Attribute Definition:* Publication date of source material used to assign state status values for each species, if used.  
*Attribute Definition Source:* NOAA ESI Guidelines  
*Attribute Domain Values:*

**Enumerated Domain:**

*Enumerated Domain Value:* YYYYMM  
*Enumerated Domain Value Definition:* YYYY for year and optionally MM for month  
*Enumerated Domain Value Definition Source:* NOAA ESI Guidelines

**Attribute:**

*Attribute Label:* F\_DATE  
*Attribute Definition:* Publication date of source material used to assign federal status values for each species, if used.  
*Attribute Definition Source:* NOAA ESI Guidelines  
*Attribute Domain Values:*

**Enumerated Domain:**

*Enumerated Domain Value:* YYYYMM  
*Enumerated Domain Value Definition:* YYYY for year and optionally MM for month  
*Enumerated Domain Value Definition Source:* NOAA ESI Guidelines

**Attribute:**

*Attribute Label:* I\_DATE  
*Attribute Definition:* Publication date of source material used to assign international status values for each species, if used.  
*Attribute Definition Source:* NOAA ESI Guidelines  
*Attribute Domain Values:*

**Enumerated Domain:**

*Enumerated Domain Value:* YYYYMM  
*Enumerated Domain Value Definition:* YYYY for year and optionally MM for month  
*Enumerated Domain Value Definition Source:* NOAA ESI Guidelines

**Attribute:**

*Attribute Label:* EL\_SPE  
*Attribute Definition:* Concatenation of ELEMENT and SPECIES\_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.  
*Attribute Definition Source:* NOAA ESI Guidelines  
*Attribute Domain Values:*
**Enumerated_Domain:**

**Enumerated_Domain_Value:** E####

**Enumerated_Domain_Value_Definition:**

Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').

**Enumerated_Domain_Value_Definition_Source:** NOAA ESI Guidelines

**Detailed_Description:**

**Entity_Type:**

**Entity_Type_Label:** SOURCES

**Entity_Type_Definition:**

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

**Entity_Type_Definition_Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute_Label:** SOURCE_ID

**Attribute_Definition:**

Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID and ESI_Source in the ESI and HYDRO data layers.

**Attribute_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

**Range_Domain:**

**Range_Domain_Minimum:** 1

**Range_Domain_Maximum:** N

**Attribute:**

**Attribute_Label:** ORIGINATOR

**Attribute_Definition:** Author or developer of source material or data set.

**Attribute_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

**Unrepresentable_Domain:** Acceptable values change from atlas to atlas.

**Attribute:**

**Attribute_Label:** DATE_PUB

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

**Attribute_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: TITLE
Attribute_Definition: Title of source material or data.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATA_FORMAT
Attribute_Definition: The format of the source material.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUB_PLACE
Attribute_Definition: Publication place.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLISHER
Attribute_Definition: Publisher.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION
Attribute_Definition: Additional citation information.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: ONLINE_LINK
Attribute_Definition: Online computer resource URL.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:

Attribute_Label: SCALE
Attribute_Definition: Description of the source scale.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: TIME_PERIOD
Attribute_Definition: Date(s) of data collection that the source material is based upon.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Distribution_Information:

Distributor:

Contact_Information:

Contact_Person_Primary:

Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration

Contact_Address:

Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329

Resource_Description: Downloadable Data

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

Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and 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*: 201405  
*Metadata_Review_Date*: 201405  
*Metadata_Contact*:  

**Contact_Information:**

*Contact_Person_Primary*:  
*Contact_Person*: Jill Petersen  
*Contact_Organization*: NOAA, Office of Response and Restoration  
*Contact_Position*: GIS Manager  
*Contact_Address*:  
*Address_Type*: Physical Address  
*Address*: 7600 Sand Point Way, N.E.  
*City*: Seattle  
*State_or_Province*: Washington  
*Postal_Code*: 98115-6349  
*Contact_Voice_Telephone*: (206) 526-6944  
*Contact_Facsimile_Telephone*: (206) 526-6329  
*Contact_Electronic_Mail_Address*: Jill.Petersen@noaa.gov  

*Metadata_Standard_Name*: Content Standards for Digital Geospatial Metadata  

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Generated by *mp* version 2.9.20 on Tue May 13 10:39:43 2014
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: MGT (Management Area Polygons)

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

Metadata:

- Identification_Information
- Data_Quality_Information
- Spatial_Data_Organization_Information
- Spatial_Reference_Information
- Entity_and_Attribute_Information
- Distribution_Information
- Metadata_Reference_Information

Identification_Information:

Citation:

Originator:

Publication_Date: 201405

Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: MGT (Management Area Polygons)

Edition: Second

Geospatial_Data_Presentation_Form: vector digital data

Series_Information:

Series_Name: None

Issue_Identification: Lower Mississippi River

Publication_Information:

Publication_PLACE: Seattle, Washington

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

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

Abstract:
This data set contains human-use data detailing management areas, including designated critical habitats, National Wildlife Refuges, state wildlife management areas and reserves, and properties of The Nature Conservancy (TNC) for the Lower Mississippi River. Vector polygons in this data set represent management areas. Location specific type and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer. This data set comprises a portion of the ESI data for Lower Mississippi 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 data layer, part of the larger Lower Mississippi 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: 2011
Ending_Date: 2014

Currentness_Reference:
The data were compiled during 2014. The currentness dates for this data range from 2011 to 2014 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_BoundingCoordinate: -91.70600
East_BoundingCoordinate: -90.37500
North_BoundingCoordinate: 31.02700
South_BoundingCoordinate: 29.93600

Keywords:

Theme:

Theme_Keyword_Thesaurus: ISO 19115 Topic Category
Theme_Keyword: biota
Theme_Keyword: environment
Theme:

Theme_Keyword_Thesaurus: None
Theme_Keyword: Environmental Monitoring
Theme_Keyword: ESI
Theme_Keyword: Sensitivity maps
Theme_Keyword: Coastal resources
Theme_Keyword: Oil spill planning
Theme_Keyword: Coastal Zone Management
Theme_Keyword: Wildlife
Theme_Keyword: Management

Place:

Place_Keyword_Thesaurus: None
Place_Keyword: Lower Mississippi River

Access_Constraints: None

Use_Constraints:
DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Management boundaries are not to be considered legal boundaries. Edges may have been altered for cartographic processes. Besides the above warnings, 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 Lower Mississippi River ESI data.
Browse_Graphic_File_Type: JPEG

Browse_Graphic:

Browse_Graphic_File_Name: datafig2.jpg
Browse_Graphic_File_Description:
Depicts the relationships between spatial data layers and desktop data tables for the Lower Mississippi 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 (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington, and The Department of Homeland Security, United States Coast Guard Office of Incident Management and Preparedness, Washington, D.C.

Native_Data_Set_Environment:
The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 10.2) and SQL SERVER(R) (version 2005). The hardware configuration is PC's
Data_Quality_Information:

Attribute_Accuracy:

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

Logical_Consistency_Report:
A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary node, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resources at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

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

Positional_Accuracy:

Horizontal_Positional_Accuracy:

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

Lineage:

Source Information:

Source Citation:

Citation Information:

Originator: LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES (LDWF)
Publication Date: 2011
Title: WMA_REFUGE_LDWF_2011
Geospatial Data Presentation Form: VECTOR DIGITAL DATA
Publication Information:

Publication Place: BATON ROUGE, LA
Publisher: LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES

Online Linkage: <http://www.wlf.louisiana.gov/>

Type of Source Media: EMAIL
Source Time Period of Content:

Time Period Information:

Single Date/Time:

Calendar Date: 2011

Source Currentness Reference: DATE OF PUBLICATION

Source Citation Abbreviation: NONE
Source Contribution: MGT INFORMATION

Source Information:

Source Citation:

Citation Information:

Originator:

LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES (LDWF) - STEVE SMITH
Publication Date: 2014
Title: WILDLIFE MANAGEMENT AREAS OF LOUISIANA
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: 2014

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE
Source_Contribution: MGT INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: THE NATURE CONSERVANCY (TNC)
Publication_Date: 2014
Title: THE NATURE CONSERVANCY LANDS
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: 2014

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE
Source_Contribution: MGT INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: U.S. FISH AND WILDLIFE SERVICE (USFWS)
Publication_Date: 2012
Title: FINAL CRITICAL HABITAT POLYGONS
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Publication_Information:

Publication.Place: FORT COLLINS, CO
Publisher: UNITED STATES FISH AND WILDLIFE SERVICE (ECOS)

Online_Linkage: <http://criticalhabitat.fws.gov/crithab/>

Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:

Time_Period_Information:
Sources of data used to depict human-use resources in this data layer include digital datasets provided by the Louisiana Department of Wildlife and Fisheries (LDWF), U.S. Fish and Wildlife Service (USFWS), and the Nature Conservancy (TNC). Critical Habitat - Designated critical habitat was mapped for black bear. The data were downloaded from the USFWS Critical Habitat Portal. Management Areas - State Wildlife management areas and wildlife refuges were provided by LDWF and mapped as ESI type 'Management Area'. Nature Conservancy - Boundaries of TNC properties and easements were provided by TNC. Wildlife Refuge - Boundaries of National Wildlife Refuges were provided by the USFWS, Region 4. 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 ESI, biology, and human-use data are compiled into the standard ESI digital data format. A second set of interviews with participating resource experts are conducted to review the compiled
data. If necessary, edits to the MGT data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 201405
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: 35

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 34

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 60

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 7025

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 44
Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Geographic:

Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees

Geodetic_Model:

Horizontal_Datum_Name: North American Datum of 1983
Ellipsoid_Name: Geodetic Reference System 80
Semi-major_Axis: 6378137.000000
Denominator_of_Flattening_Ratio: 298.257222

Entity_and_Attribute_Information:

Overview_Description:

Entity_and_Attribute_Oversview:

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 Lower Mississippi River, the number is 233). ID is a unique combination of the atlas number (233), 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.

Entity_and_Attribute_Detail_Citation:

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

Detailed_Description:

Entity_Type:

Entity_Type_Label: MGT.PAT
Entity_Type_Definition:

The MGT.PAT table contains attribute information for the vector polygons representing critical habitats, National Wildlife Refuges, state wildlife managed areas and reserves, and properties of The Nature Conservancy (TNC). 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: NOAA ESI Guidelines

Attribute:

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

**Attribute**

**Label**: ID
**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 (233), element number (11), and record number. ID values of 9999 are holes in polygons and do not contain information.
**Definition Source**: NOAA
**Domain Values**:

**Enumerated Domain**:

- **Enumerated Domain Value**: CH
  - **Definition**: Designated Critical Habitat
  - **Definition Source**: NOAA ESI Guidelines

- **Enumerated Domain Value**: MA
  - **Definition**: Management Area
  - **Definition Source**: NOAA ESI Guidelines

- **Enumerated Domain Value**: MR
  - **Definition**: Multiple Records - Signifies that multiple types overlap in the polygon
  - **Definition Source**: NOAA ESI Guidelines

- **Enumerated Domain Value**: NC
  - **Definition**: Nature Conservancy
  - **Definition Source**: NOAA ESI Guidelines

- **Enumerated Domain Value**: WR
  - **Definition**: Wildlife Refuge
  - **Definition Source**: NOAA ESI Guidelines
**Attribute:**

**Attribute Label:** HUNUM  
**Attribute Definition:**  
An identifier that links records in the SOC_LUT data table to records in the SOC_DAT data table. HUNUM values of 0 are holes in the polygons and do not contain information.  
**Attribute Definition Source:** NOAA  
**Attribute Domain Values:**

**Range Domain:**

- **Range Domain Minimum:** "NEED TO ADD"  
- **Range Domain Maximum:** "NEED TO ADD"

**Detailed Description:**

**Entity Type:**

**Entity Type Label:** SOC_LUT  
**Entity Type Definition:**  
The data table SOC_LUT is a lookup table that contains items necessary for linking vector objects in the human-use data layers with the SOC_DAT data table. See the Browse Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.  
**Entity Type Definition Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute Label:** HUNUM  
**Attribute Definition:**  
An identifier that links records in the SOC_LUT data table to records in the SOC_DAT data table. HUNUM values of 0 are holes in the polygons and do not contain information.  
**Attribute Definition Source:** NOAA  
**Attribute Domain Values:**

**Range Domain:**

- **Range Domain Minimum:** "NEED TO ADD"  
- **Range Domain Maximum:** "NEED TO ADD"

**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 (233), 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:**
Detailed_Description:

Entity_Type:

Entity_Type_Label: SOC_DAT
Entity_Type_Definition:
The data table SOC_DAT contains both human-use attribute data and items necessary for linking the human-use spatial data layers to the SOURCES data table. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: HUNUM
Attribute_Definition:
An identifier that links records in the SOC_DAT data table to records in the SOC_LUT data table. HUNUM values of 0 are holes in the polygons and do not contain information.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:

Attribute_Label: TYPE
Attribute_Definition:
The human-use features depicted on the maps are those that could be impacted by an oil spill or could provide access for response operations.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: AIRPORT
Enumerated_Domain_Value_Definition: Airport
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: ARCHAEOLOGICAL SITE
Enumerated_Domain_Value_Definition: Archaeological Site
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: BOAT RAMP
Enumerated_Domain_Value_Definition: Boat Ramp
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: CRITICAL HABITAT
Enumerated_Domain_Value_Definition: Designated Critical Habitat
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FACILITY
Enumerated_Domain_Value_Definition: Facility
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FERRY
Enumerated_Domain_Value_Definition: Ferry
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HELIPORT
Enumerated_Domain_Value_Definition: Heliport
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: LOCK AND DAM
Enumerated_Domain_Value_Definition: Lock and Dam
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: MANAGEMENT AREA
Enumerated_Domain_Value_Definition: Management Area
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:
Enumerated Domain Value: MARINA
Enumerated Domain Value Definition: Marina
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: NATURE CONSERVANCY
Enumerated Domain Value Definition: Nature Conservancy
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: PORT
Enumerated Domain Value Definition: Port
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: WATER INTAKE
Enumerated Domain Value Definition: Water Intake
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: WILDLIFE REFUGE
Enumerated Domain Value Definition: Wildlife Refuge
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: NAME
Attribute Definition: The feature name.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: CONTACT
Attribute Definition: Contact person or entity.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute: PHONE
Attribute_Label: PHONE
Attribute_Definition: Contact telephone number.
Attribute_Definition_Source: NOAA ESI Guidelines

Enumerated_Domain:

Enumerated_Domain_Value: Any character
Enumerated_Domain_Value_Definition: Free text
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute: G_SOURCE
Attribute_Label: G_SOURCE
Attribute_Definition: Geographic source identifier that links records in the SOC_DAT data table to records in the SOURCES data table.
Attribute_Definition_Source: NOAA ESI Guidelines

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute: A_SOURCE
Attribute_Label: A_SOURCE
Attribute_Definition: Attribute source identifier that links records in the SOC_DAT data table to records in the SOURCES data table.
Attribute_Definition_Source: NOAA ESI Guidelines

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOURCES
Entity_Type_Definition: The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: SOURCE_ID
Attribute_Definition: Source identifier that links records in the SOURCES data table to the items GSOURCE and
A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID and ESI_Source in the ESI and HYDRO data layers.

Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:

Attribute_Label: ORIGINATOR
Attribute_Definition: Author or developer of source material or data set.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATE_PUB
Attribute_Definition: Date of source material, publication, or date of personal communication with expert source.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: TITLE
Attribute_Definition: Title of source material or data.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATA_FORMAT
Attribute_Definition: The format of the source material.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUB_PLACE
Attribute_Definition: Publication place.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute: PUBLISHER
Attribute Definition: Publisher.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:
Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute: PUBLICATION
Attribute Label: PUBLICATION
Attribute Definition: Additional citation information.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:
Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute: ONLINE_LINK
Attribute Label: ONLINE_LINK
Attribute Definition: Online computer resource URL.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:
Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute: SCALE
Attribute Label: SCALE
Attribute Definition: Description of the source scale.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:
Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute: TIME_PERIOD
Attribute Label: TIME_PERIOD
Attribute Definition: Date(s) of data collection that the source material is based upon.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:
Unrepresentable Domain: Acceptable values change from atlas to atlas.

Distribution Information:
Distributor:

Contact Information:
Contact_Person_Primary:

Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration

Contact_Address:

Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329

Resource_Description: Downloadable Data

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

Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and 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: 201405
Metadata_Review_Date: 201405
Metadata_Contact:

Contact_Person_Primary:

Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration

Contact_Position: GIS Manager
Contact_Address:

Address_Type: Physical Address
Address: 7600 Sand Point Way, N.E.
City: Seattle
State_or_Province: Washington
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: NESTS (Nest Points)

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

Metadata:

- Identification_Information
- Data_Quality_Information
- Spatial_Data_Organization_Information
- Spatial_Reference_Information
- Entity_and_Attribute_Information
- Distribution_Information
- Metadata_Reference_Information

Identification_Information:

Citation:

Originator:
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS),
Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle,
Washington.
Publication_Date: 201405
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River:
NESTS (Nest Points)
Edition: Second
Geospatial_Data_Presentation_Form: vector digital data
Series_Information:
Series_Name: None
Issue_Identification: Lower Mississippi River

Publication_Information:

Publication Place: Seattle, Washington
Publisher:
NOAA's Ocean Service, Office of Response and Restoration (OR&R), Emergency
Response Division (ERD).

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

Abstract:
This data set contains sensitive biological resource data for wading birds, diving birds, and terns in the Lower Mississippi River. Vector points in this data set represent bird nesting sites. Species specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer. This data set comprises a portion of the ESI data for Lower Mississippi 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 BIRDS data layer, part of the larger Lower Mississippi River ESI database, for additional bird information.

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

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 1990
Ending_Date: 2014

Currentness_Reference:
The data were compiled during 2014. The currentness dates for this data range from 1990 to 2014 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -91.70600
East_Bounding_Coordinate: -90.37500
North_Bounding_Coordinate: 31.02700
South_Bounding_Coordinate: 29.93600

Keywords:

Theme:

Theme_Keyword_Thesaurus: ISO 19115 Topic Category
Theme_Keyword: biota
Theme_Keyword: environment
**Theme:**

- Theme_Keyword_Thesaurus: None
- Theme_Keyword: Environmental Monitoring
- Theme_Keyword: ESI
- Theme_Keyword: Sensitivity maps
- Theme_Keyword: Coastal resources
- Theme_Keyword: Oil spill planning
- Theme_Keyword: Coastal Zone Management
- Theme_Keyword: Wildlife
- Theme_Keyword: Nest
- Theme_Keyword: Bird

**Place:**

- Place_Keyword_Thesaurus: None
- Place_Keyword: Lower Mississippi River

**Access_Constraints:** None

**Use_Constraints:**

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Management boundaries are not to be considered legal boundaries. Edges may have been altered for cartographic processes. Besides the above warnings, 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 Lower Mississippi River ESI data.
- Browse_Graphic_File_Type: JPEG

**Browse_Graphic:**

- Browse_Graphic_File_Name: datafig2.jpg
- Browse_Graphic_File_Description: Depicts the relationships between spatial data layers and desktop data tables for the Lower Mississippi 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 (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington, and The Department of Homeland Security, United States Coast Guard Office of Incident Management and Preparedness, Washington, D.C.

**Native_Data_Set_Environment:**

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 10.2) and SQL SERVER(R) (version 2005). The hardware configuration is PC's...
with Windows Operating System 7.  
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, esil.e00, esip.e00, fish.e00, hydro.e00, index.e00, invert.e00, mgt.e00, nests.e00, reptiles.e00, rivermiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut.e00, biofile.e00, biore.e00, breed.e00, breed_dt.e00, seasonal.e00, soc_dat.e00, soc_lut.e00, sources.e00, species.e00, and status.e00.

**Data_Quality_Information:**

**Attribute_Accuracy:**

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

**Logical_Consistency_Report:**
A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary node, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resources at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

**Completeness_Report:**
These data represent a synthesis of digital data on bird nesting sites. See also the BIRDS data layer, part of the larger Lower Mississippi River ESI database, for additional bird information. These data do not necessarily represent all nest occurrences in Lower Mississippi River. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 54, Great blue heron, Ardea herodias; 87, Little blue heron, Egretta caerulea; 88, Great egret, Ardea alba; 89, Snowy egret, Egretta thula; 90, Black-crowned night-heron, Nycticorax nycticorax; 93, Cattle egret, Bubulcus ibis; 94, Tricolored heron, Egretta tricolor; 115, White ibis, Eudocimus albus; 116, Roseate spoonbill, Ajaia ajaja; 121, Anhinga, Anhinga anhinga; 617, White-faced or Glossy ibis, Plegadis spp.; 905, Interior least tern, Sternula antillarum athenas.

**Positional_Accuracy:**

**Horizontal_Positional_Accuracy:**
Horizontal_Positional_Accuracy_Report:
Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources. See the Lineage and Process_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator:
BARATARIA-TERREBONNE NATIONAL ESTUARY PROGRAM (BTNEP) - RICHARD DEMAY
Publication_Date: 2006
Title: 2006 BTNEP SEABIRD AND WADING BIRD NESTING SURVEY
Geospatial_Data_Presentation_Form: SPREADSHEET
Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:
Beginning_Date: 2006
Ending_Date: 2006

Source_Currentness_Reference: DATE OF SURVEY

Source_Citation_Abbreviation: NONE
Source_Contribution: NESTS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator:
BARATARIA-TERREBONNE NATIONAL ESTUARY PROGRAM (BTNEP) - RICHARD DEMAY
Publication_Date: 2008
Title: SEASONAL ABUNDANCE OF BIRDS IN SOUTHEAST LOUISIANA
Source Information:

Source Citation:

Citation Information:

Originator: MARTIN, R.P. AND G.D. LESTER
Publication Date: 1990
Title: ATLAS AND CENSUS OF WADING BIRD AND SEABIRD NESTING COLONIES IN LOUISIANA, 1990
Geospatial Data Presentation Form: DOCUMENT
Publication Information:

Publication Place: LOUISIANA
Publisher:
LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES, LOUISIANA NATURAL HERITAGE PROGRAM

Other Citation Details: SPECIAL PUBLICATION NO. 3
Two main sources of data were used to depict nest distribution and seasonality for this data layer. U.S. Fish and Wildlife Service (USFWS) provided a point location of a historical nest site for Interior least tern. In addition, Barataria-Terrebonne National Estuary Program (BTNEP) provided 2006 nesting survey data with geographic locations of nesting waterbird colonies.

The above digital and/or hardcopy sources were compiled by the project biologist to create the NESTS data layer. Depending on the type of source data, three general approaches are used for compiling the data layer: 1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; 2) hardcopy maps are digitized at their source scale; 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 ESI, biology, and human-use data are compiled into the standard ESI digital data format. A second set of interviews with participating resource experts are conducted to review the compiled data. If necessary, edits to the NESTS data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 201405
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: Area point
Point_and_Vector_Object_Count: 5

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:
**Geographic:**

*Latitude Resolution: 0.0000001*
*Longitude Resolution: 0.0000001*
*Geographic Coordinate Units: Decimal degrees*

**Geodetic Model:**

*Horizontal Datum Name: North American Datum of 1983*
*Ellipsoid Name: Geodetic Reference System 80*
*Semi-major Axis: 6378137.000000*
*Denominator of Flattening Ratio: 298.257222*

**Entity and Attribute Information:**

**Overview Description:**

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, NESTS) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Lower Mississippi River atlas, the number is 233), 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.
A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines (<http://response.restoration.noaa.gov/esi_guidelines>).

**Detailed_Description:**

**Entity_Type:**

<table>
<thead>
<tr>
<th>Entity_Type_Label</th>
<th>NESTS.PAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity_Type_Definition:</td>
<td>The NESTS.PAT table contains attribute information for the vector points in this data set representing bird nesting 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.</td>
</tr>
<tr>
<td>Entity_Type_Definition_Source:</td>
<td>NOAA ESI Guidelines</td>
</tr>
</tbody>
</table>

**Attribute:**

<table>
<thead>
<tr>
<th>Attribute_Label</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attribute_Definition:</td>
<td>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 (233), element number (5), and record number. ID values of 9999 are holes in polygons and do not contain information.</td>
</tr>
<tr>
<td>Attribute_Definition_Source:</td>
<td>NOAA</td>
</tr>
<tr>
<td>Attribute_Domain_Values:</td>
<td>Range_Domain:</td>
</tr>
<tr>
<td></td>
<td>Range_Domain_Minimum: &quot;NEED TO ADD&quot;</td>
</tr>
<tr>
<td></td>
<td>Range_Domain_Maximum: &quot;NEED TO ADD&quot;</td>
</tr>
</tbody>
</table>

**Attribute:**

<table>
<thead>
<tr>
<th>Attribute_Label</th>
<th>RARNUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attribute_Definition:</td>
<td>An identifier that links directly to the BIORES table or the flat format BIOFILE table. RARNUM values of 0 are holes in the polygons and do not contain information.</td>
</tr>
<tr>
<td>Attribute_Definition_Source:</td>
<td>NOAA</td>
</tr>
<tr>
<td>Attribute_Domain_Values:</td>
<td>Range_Domain:</td>
</tr>
<tr>
<td></td>
<td>Range_Domain_Minimum: &quot;NEED TO ADD&quot;</td>
</tr>
<tr>
<td></td>
<td>Range_Domain_Maximum: &quot;NEED TO ADD&quot;</td>
</tr>
</tbody>
</table>

**Detailed_Description:**

**Entity_Type:**

<table>
<thead>
<tr>
<th>Entity_Type_Label</th>
<th>BIO_LUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity_Type_Definition:</td>
<td>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</td>
</tr>
</tbody>
</table>

section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

**Entity_Type_Definition_Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute_Label:** RARNUM  
**Attribute_Definition:**  
An identifier that links records in the BIO_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.  
**Attribute_Definition_Source:** NOAA  
**Attribute_Domain_Values:**

**Range_Domain:**

- **Range_Domain_Minimum:** "NEED TO ADD"  
- **Range_Domain_Maximum:** "NEED TO ADD"

**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 (233), element number (5), and record number. ID values of 9999 are holes in polygons and do not contain information.  
**Attribute_Definition_Source:** NOAA  
**Attribute_Domain_Values:**

**Range_Domain:**

- **Range_Domain_Minimum:** "NEED TO ADD"  
- **Range_Domain_Maximum:** "NEED TO ADD"

**Detailed_Description:**

**Entity_Type:**

**Entity_Type_Label:** BIORES  
**Entity_Type_Definition:**  
The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO_LUT data table to other associated data tables. See the Browse Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.  
**Entity_Type_Definition_Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute_Label:** RARNUM  
**Attribute_Definition:**  
An identifier that links records in the BIORES data table to records in the BIO_LUT data table or the flat format BIOFILE data table.  
**Attribute_Definition_Source:** NOAA  
**Attribute_Domain_Values:**
Range_Domain:

Range_Domain_Minimum: "NEED TO ADD"
Range_Domain_Maximum: "NEED TO ADD"

Attribute:

Attribute_Label: SPECIES_ID
Attribute_Definition:
    Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

    Range_Domain:

    Range_Domain_Minimum: 1
    Range_Domain_Maximum: N

Attribute:

Attribute_Label: CONC
Attribute_Definition:
    Concentrations represent a single count of breeding pairs per species for each site and were taken directly from Barataria-Terrebonne National Estuary Program (BTNEP) 2006 nesting survey data. The interior least tern nesting site was assigned a concentration of 'POTENTIAL' because nesting does not regularly occur at this site, and has not occurred at this site in several years.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

    Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SEASON_ID
Attribute_Definition:
    Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

    Range_Domain:

    Range_Domain_Minimum: 1
    Range_Domain_Maximum: N

Attribute:

Attribute_Label: G_SOURCE
Attribute_Definition:
    Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Range_DOMAIN:

Range_DOMAIN_Minimum: 1
Range_DOMAIN_Maximum: N

Attribute:

Attribute_Label: S_SOURCE
Attribute_Definition: Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Range_DOMAIN:

Range_DOMAIN_Minimum: 1
Range_DOMAIN_Maximum: N

Attribute:

Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_DOMAIN:

Enumerated_DOMAIN_Value: BIRD
Enumerated_DOMAIN_Value_Definition: Birds
Enumerated_DOMAIN_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_DOMAIN:

Enumerated_DOMAIN_Value: FISH
Enumerated_DOMAIN_Value_Definition: Fish
Enumerated_DOMAIN_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_DOMAIN:

Enumerated_DOMAIN_Value: HABITAT
Enumerated_DOMAIN_Value_Definition: Habitats and plants
Enumerated_DOMAIN_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_DOMAIN:

Enumerated_DOMAIN_Value: INVERT
Enumerated_DOMAIN_Value_Definition: Invertebrates
Enumerated_DOMAIN_Value_Definition_Source: NOAA ESI Guidelines
Attribute: EL_SPE
Attribute Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: M_MAMMAL
Enumerated Domain Value Definition: Marine mammals
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Enumerated Domain:

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

Enumerated Domain:

Enumerated Domain Value: T_MAMMAL
Enumerated Domain Value Definition: Terrestrial mammals
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute: EL_SPE_SEA
Attribute Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: E########
Enumerated Domain Value Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').

**Enumerated_Domain_Value_Definition_Source**: NOAA ESI Guidelines

**Detailed_Description**:

**Entity_Type**:

**Entity_Type_Label**: SPECIES
**Entity_Type_Definition**: The data table SPECIES identifies all species in the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness Report for list of layer specific species.
**Entity_Type_Definition_Source**: NOAA ESI Guidelines

**Attribute**:

**Attribute_Label**: SPECIES_ID
**Attribute_Definition**: Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
**Attribute_Definition_Source**: NOAA ESI Guidelines

**Attribute_Domain_Values**:

**Range_Domain**:

- **Range_Domain_Minimum**: 1
- **Range_Domain_Maximum**: N

**Attribute**:

**Attribute_Label**: NAME
**Attribute_Definition**: Species common name for the entire ESI data set.
**Attribute_Definition_Source**: NOAA ESI Guidelines

**Unrepresentable_Domain**: Acceptable values change from atlas to atlas.

**Attribute**:

**Attribute_Label**: GEN_SPEC
**Attribute_Definition**: Species scientific name for the entire ESI data set.
**Attribute_Definition_Source**: NOAA ESI Guidelines

**Unrepresentable_Domain**: Acceptable values change from atlas to atlas.

**Attribute**:

**Attribute_Label**: ELEMENT
**Attribute_Definition**: Major categories of biological data.
**Attribute_Definition_Source**: NOAA ESI Guidelines

**Attribute_Domain_Values**:
Enumerated_Domain:

  Enumerated_Domain_Value: BIRD
  Enumerated_Domain_Value_Definition: Birds
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

  Enumerated_Domain_Value: FISH
  Enumerated_Domain_Value_Definition: Fish
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

  Enumerated_Domain_Value: HABITAT
  Enumerated_Domain_Value_Definition: Habitats and plants
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

  Enumerated_Domain_Value: INVERT
  Enumerated_Domain_Value_Definition: Invertebrates
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

  Enumerated_Domain_Value: M_MAMMAL
  Enumerated_Domain_Value_Definition: Marine Mammals
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

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

Attribute_Domain_Values:

Enumerated_Domain:

  Enumerated_Domain_Value: T_MAMMAL
  Enumerated_Domain_Value_Definition: Terrestrial Mammals
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute Label: SUBELEMENT
Attribute Definition: Element subgroup delineating a logical grouping of species.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

  Enumerated Domain Value: alligator
  Enumerated Domain Value Definition: Alligator
  Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

  Enumerated Domain Value: bear
  Enumerated Domain Value Definition: Bear
  Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

  Enumerated Domain Value: diving
Enumerated Domain Value Definition: Diving bird
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: e_nursery
Enumerated Domain Value Definition: Estuarine nursery fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: e_resident
Enumerated Domain Value Definition: Estuarine resident fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: freshwater
Enumerated Domain Value Definition: Freshwater fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: gull_tern
Enumerated Domain Value Definition: Gull or tern
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: invert
Enumerated Domain Value Definition: Invertebrate
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: m_pelagic
Enumerated Domain Value Definition: Marine pelagic fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: passerine
Enumerated_Domain_Value_Definition: Passerine bird
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: raptor
Enumerated_Domain_Value_Definition: Raptor
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: shorebird
Enumerated_Domain_Value_Definition: Shorebird
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: shrimp
Enumerated_Domain_Value_Definition: Shrimp
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: turtle
Enumerated_Domain_Value_Definition: Turtle
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: wading
Enumerated_Domain_Value_Definition: Wading bird
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: waterfowl
Enumerated_Domain_Value_Definition: Waterfowl
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: NHP
Attribute_Definition: Natural Heritage Program global ranking.
Attribute_Definition_Source: Network of Natural Heritage Program
**Attribute Domain Values:**

**Codeset Domain:**

**Codeset Name:** NHP Global Conservation Status Rank  
**Codeset Source:** Natural Heritage Program

**Attribute:**

**Attribute Label:** DATE_PUB  
**Attribute Definition:** Date of NHP listing.  
**Attribute Definition Source:** NOAA ESI Guidelines

**Enumerated Domain:**

**Enumerated Domain Value:** YYYYMM  
**Enumerated Domain Value Definition:** YYYY for year and optionally MM for month  
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** 0  
**Enumerated Domain Value Definition:** Date unspecified  
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute Label:** EL_SPE  
**Attribute Definition:** Concatenation of ELEMENT and SPECIES_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.  
**Attribute Definition Source:** NOAA ESI Guidelines

**Enumerated Domain:**

**Enumerated Domain Value:** E####

**Enumerated Domain Value Definition:**  
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').  
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Detailed Description:**

**Entity Type:**

**Entity Type Label:** SEASONAL  
**Entity Type Definition:** The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables.
in the ESI data structure.

*Entity_Type_Definition_Source:* NOAA ESI Guidelines

**Attribute:**

*Attribute_Label:* ELEMENT
*Attribute_Definition:* Major categories of biological data.
*Attribute_Definition_Source:* NOAA ESI Guidelines

**Attribute_Domain_Values:**

*Enumerated_Domain:*

*Enumerated_Domain_Value:* BIRD
*Enumerated_Domain_Value_Definition:* Birds
*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines

**Attribute_Domain_Values:**

*Enumerated_Domain:*

*Enumerated_Domain_Value:* FISH
*Enumerated_Domain_Value_Definition:* Fish
*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines

**Attribute_Domain_Values:**

*Enumerated_Domain:*

*Enumerated_Domain_Value:* HABITAT
*Enumerated_Domain_Value_Definition:* Habitats and plants
*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines

**Attribute_Domain_Values:**

*Enumerated_Domain:*

*Enumerated_Domain_Value:* INVERT
*Enumerated_Domain_Value_Definition:* Invertebrates
*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines

**Attribute_Domain_Values:**

*Enumerated_Domain:*

*Enumerated_Domain_Value:* M_MAMMAL
*Enumerated_Domain_Value_Definition:* Marine Mammals
*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines

**Attribute_Domain_Values:**

*Enumerated_Domain:*

*Enumerated_Domain_Value:* REPTILE
*Enumerated_Domain_Value_Definition:* Reptiles and Amphibians
*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines
**Attribute Domain Values:**

**Enumerated Domain:**

*Enumerated Domain Value: T_MAMMAL*
*Enumerated Domain Value Definition: Terrestrial Mammals*
*Enumerated Domain Value Definition Source: NOAA ESI Guidelines*

**Attribute:**

*Attribute Label: SPECIES_ID*
*Attribute Definition: Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.*
*Attribute Definition Source: NOAA ESI Guidelines*

**Attribute Domain Values:**

**Range Domain:**

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

**Attribute:**

*Attribute Label: SEASON_ID*
*Attribute Definition: Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.*
*Attribute Definition Source: NOAA ESI Guidelines*

**Attribute Domain Values:**

**Range Domain:**

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

**Attribute:**

*Attribute Label: JAN*
*Attribute Definition: January*
*Attribute Definition Source: NOAA ESI Guidelines*

**Attribute Domain Values:**

*Enumerated Domain:*

*Enumerated Domain Value: X*
*Enumerated Domain Value Definition: Present in January*
*Enumerated Domain Value Definition Source: NOAA ESI Guidelines*

**Attribute:**

*Attribute Label: FEB*
*Attribute Definition: February*
*Attribute Definition Source: NOAA ESI Guidelines*

**Attribute Domain Values:**
Enumerated_Domain:

    Enumerated_Domain_Value: X
    Enumerated_Domain_Value_Definition: Present in February
    Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

    Attribute_Label: MAR
    Attribute_Definition: March
    Attribute_Definition_Source: NOAA ESI Guidelines
    Attribute_Domain_Values:

Enumerated_Domain:

    Enumerated_Domain_Value: X
    Enumerated_Domain_Value_Definition: Present in March
    Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

    Attribute_Label: APR
    Attribute_Definition: April
    Attribute_Definition_Source: NOAA ESI Guidelines
    Attribute_Domain_Values:

Enumerated_Domain:

    Enumerated_Domain_Value: X
    Enumerated_Domain_Value_Definition: Present in April
    Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

    Attribute_Label: MAY
    Attribute_Definition: May
    Attribute_Definition_Source: NOAA ESI Guidelines
    Attribute_Domain_Values:

Enumerated_Domain:

    Enumerated_Domain_Value: X
    Enumerated_Domain_Value_Definition: Present in May
    Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

    Attribute_Label: JUN
    Attribute_Definition: June
    Attribute_Definition_Source: NOAA ESI Guidelines
    Attribute_Domain_Values:

Enumerated_Domain:

    Enumerated_Domain_Value: X
Enumerated Domain Value Definition: Present in June
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: JUL
Attribute Definition: July
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: X
Enumerated Domain Value Definition: Present in July
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: AUG
Attribute Definition: August
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: X
Enumerated Domain Value Definition: Present in August
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: SEP
Attribute Definition: September
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: X
Enumerated Domain Value Definition: Present in September
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: OCT
Attribute Definition: October
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: X
Enumerated Domain Value Definition: Present in October
Enumerated Domain Value Definition Source: NOAA ESI Guidelines
**Attribute:** NOV
**Attribute Label:** NOV
**Attribute Definition:** November
**Attribute Definition Source:** NOAA ESI Guidelines
**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** X
**Enumerated Domain Value Definition:** Present in November
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute Label:** DEC
**Attribute Definition:** December
**Attribute Definition Source:** NOAA ESI Guidelines
**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** X
**Enumerated Domain Value Definition:** Present in December
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute Label:** EL_SPE_SEA
**Attribute Definition:** Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.
**Attribute Definition Source:** NOAA ESI Guidelines
**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** E#######
**Enumerated Domain Value Definition:**
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Detailed Description:**

**Entity Type:**

**Entity Type Label:** BREED
**Entity Type Definition:**
The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.
**Entity Type Definition Source:** NOAA ESI Guidelines

**Attribute:**
Attribute Label: EL_SPE_SEA
Attribute Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.
Attribute Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: E####
Enumerated Domain Value Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: MONTH
Attribute Definition:
Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.
Attribute Definition Source: NOAA ESI Guidelines

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: 12

Attribute:

Attribute Label: BREED1
Attribute Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T_MAMMAL.
Attribute Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: Y
Enumerated Domain Value Definition: Life-history stage or activity present
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: N
Enumerated Domain Value Definition: Life-history stage or activity not present or not reported
Enumerated Domain Values:

Enumerated Domain:

Enumerated Domain Value: -
Enumerated Domain Value Definition: Breed category not used or not appropriate for record(s) in question
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: BREED2
Attribute Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M_MAMMAL" then BREED2 = hatching; if ELEMENT is "M_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: Y
Enumerated Domain Value Definition: Life-history stage or activity present
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: N
Enumerated Domain Value Definition: Life-history stage or activity not present or not reported
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: -
Enumerated Domain Value Definition: Breed category not used or not appropriate for record(s) in question
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: BREED3
Attribute Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = internesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or
T_MAMMAL elements.

Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: Y
Enumerated Domain Value Definition: Life-history stage or activity present
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: N
Enumerated Domain Value Definition: Life-history stage or activity not present or not reported
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: -
Enumerated Domain Value Definition: Breed category not used or not appropriate for record(s) in question
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: BREED4
Attribute Definition:
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T_MAMMAL elements.
Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: Y
Enumerated Domain Value Definition: Life-history stage or activity present
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: N
Enumerated Domain Value Definition: Life-history stage or activity not present or not reported
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:
Enumerated Domain:

Enumerated Domain Value: -
Enumerated Domain Value Definition:
  Breed category not used or not appropriate for record(s) in question
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: BREED5
Attribute Definition:
  Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M_MAMMAL, HABITAT or T_MAMMAL elements.
Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: Y
Enumerated Domain Value Definition: Life-history stage or activity present
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: N
Enumerated Domain Value Definition: Life-history stage or activity not present or not reported
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: -
Enumerated Domain Value Definition:
  Breed category not used or not appropriate for record(s) in question
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Detailed_Description:

Entity Type:

Entity Type Label: STATUS
Entity Type Definition:
  The data table STATUS identifies the species that are listed as either threatened or endangered by a state, federal, or international authority. See the Browse Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity Type Definition Source: NOAA ESI Guidelines

Attribute:
Attribute Label: ELEMENT
Attribute Definition: Major categories of biological data.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

    Enumerated Domain Value: BIRD
    Enumerated Domain Value Definition: Birds
    Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

    Enumerated Domain Value: FISH
    Enumerated Domain Value Definition: Fish
    Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

    Enumerated Domain Value: HABITAT
    Enumerated Domain Value Definition: Habitats and Plants
    Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

    Enumerated Domain Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: SPECIES_ID
Attribute_Definition: Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:

Attribute_Label: STATE
Attribute_Definition: Two-letter state abbreviation.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: COUNTRY
Attribute_Definition: Three-letter country abbreviation.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: S
Attribute_Definition: State threatened or endangered status.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on state list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on state list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: F
Attribute_Definition: Federal threatened or endangered status.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: I
Attribute_Definition: International threatened or endangered status.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on international list
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: C
Enumerated Domain Value Definition: Species of Special Concern
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: S_DATE
Attribute Definition:
Publication date of source material used to assign state status values for each species, if used.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: YYYYMM
Enumerated Domain Value Definition: YYYY for year and optionally MM for month
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: F_DATE
Attribute Definition:
Publication date of source material used to assign federal status values for each species, if used.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: YYYYMM
Enumerated Domain Value Definition: YYYY for year and optionally MM for month
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: I_DATE
Attribute Definition:
Publication date of source material used to assign international status values for each species, if used.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: YYYYMM
Enumerated Domain Value Definition: YYYY for year and optionally MM for month
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:
**Attribute Label:** EL_SPE  
**Attribute Definition:**  
Concatenation of ELEMENT and SPECIES_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.  
**Attribute Definition Source:** NOAA ESI Guidelines  
**Attribute Domain Values:**  
**Enumerated Domain:**  
**Enumerated Domain Value:** E####  
**Enumerated Domain Value Definition:** Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').  
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines  

**Detailed Description:**  

**Entity Type:**  
**Entity Type Label:** SOURCES  
**Entity Type Definition:** The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.  
**Entity Type Definition Source:** NOAA ESI Guidelines  

**Attribute:**  
**Attribute Label:** SOURCE_ID  
**Attribute Definition:** Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID and ESI_Source in the ESI and HYDRO data layers.  
**Attribute Definition Source:** NOAA ESI Guidelines  
**Attribute Domain Values:**  
**Range Domain:**  
**Range Domain Minimum:** 1  
**Range Domain Maximum:** N  

**Attribute:**  
**Attribute Label:** ORIGINATOR  
**Attribute Definition:** Author or developer of source material or data set.  
**Attribute Definition Source:** NOAA ESI Guidelines  
**Attribute Domain Values:**  
**Unrepresentable Domain:** Acceptable values change from atlas to atlas.  

**Attribute:**  
**Attribute Label:** DATE_PUB  
**Attribute Definition:**
Date of source material, publication, or date of personal communication with expert source.

*Attribute Definition Source:* NOAA ESI Guidelines

**Attribute Domain Values:**

*Enumerated Domain:*

- **Enumerated Domain Value:** YYYYMM
  - **Enumerated Domain Value Definition:** YYYY for year and optionally MM for month
  - **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

*Attribute:*

- **Attribute Label:** TITLE
  - **Attribute Definition:** Title of source material or data.
  - **Attribute Definition Source:** NOAA ESI Guidelines

*Attribute Domain Values:*

- **Unrepresentable Domain:** Acceptable values change from atlas to atlas.

*Attribute:*

- **Attribute Label:** DATA_FORMAT
  - **Attribute Definition:** The format of the source material.
  - **Attribute Definition Source:** NOAA ESI Guidelines

*Attribute Domain Values:*

- **Unrepresentable Domain:** Acceptable values change from atlas to atlas.

*Attribute:*

- **Attribute Label:** PUB_PLACE
  - **Attribute Definition:** Publication place.
  - **Attribute Definition Source:** NOAA ESI Guidelines

*Attribute Domain Values:*

- **Unrepresentable Domain:** Acceptable values change from atlas to atlas.

*Attribute:*

- **Attribute Label:** PUBLISHER
  - **Attribute Definition:** Publisher.
  - **Attribute Definition Source:** NOAA ESI Guidelines

*Attribute Domain Values:*

- **Unrepresentable Domain:** Acceptable values change from atlas to atlas.

*Attribute:*

- **Attribute Label:** PUBLICATION
  - **Attribute Definition:** Additional citation information.
  - **Attribute Definition Source:** NOAA ESI Guidelines

*Attribute Domain Values:*

- **Unrepresentable Domain:** Acceptable values change from atlas to atlas.
Attribute Label: ONLINE_LINK
Attribute Definition: Online computer resource URL.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: SCALE
Attribute Definition: Description of the source scale.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: TIME_PERIOD
Attribute Definition:
Date(s) of data collection that the source material is based upon.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Distribution Information:

Distributor:

Contact Information:

Contact Person Primary:

Contact Person: John Kaperick
Contact Organization: NOAA, Office of Response and Restoration

Contact Address:

Address Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State or Province: Washington
Postal Code: 98115-6349

Contact Voice Telephone: (206) 526-6400
Contact Facsimile Telephone: (206) 526-6329

Resource Description: Downloadable Data
Distribution Liability:

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

Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to
make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export,
MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and 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: 201405
Metadata_Review_Date: 201405
Metadata_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration

Contact_Position: GIS Manager
Contact_Address:

Address_Type: Physical Address
Address: 7600 Sand Point Way, N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata

Generated by mp version 2.9.20 on Tue May 13 10:39:55 2014
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: REPTILES (Reptile Polygons)

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

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:

Publication_Date: 201405
Title: Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: REPTILES (Reptile Polygons)
Edition: Second
Geospatial_Data_Presentation_Form: vector digital data

Series_Information:

Series_Name: None
Issue_Identification: Lower Mississippi River

Publication_Information:

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

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

Abstract:
This data set contains sensitive biological resource data for riverine turtles and American alligator in the Lower Mississippi River. Vector polygons in this data set represent reptile distribution and nesting areas. Species specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer. This data set comprises a portion of the ESI data for Lower Mississippi 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: 2008
Ending_Date: 2014

Currentness_Reference:
The data were compiled during 2014. The currentness dates for this data range from 2008 to 2014 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_BoundingCoordinate: -91.70600
East_BoundingCoordinate: -90.37500
North_BoundingCoordinate: 31.02700
South_BoundingCoordinate: 29.93600

Keywords:

Theme:

Theme_Keyword_Thesaurus: ISO 19115 Topic Category
Theme_Keyword: biota
Theme_Keyword: environment
DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Management boundaries are not to be considered legal boundaries. Edges may have been altered for cartographic processes. Besides the above warnings, 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 Lower Mississippi River ESI data.  
**Browse_Graphic_File_Type:** JPEG

**Browse_Graphic:**

**Browse_Graphic_File_Name:** datafig2.jpg  
**Browse_Graphic_File_Description:** Depicts the relationships between spatial data layers and desktop data tables for the Lower Mississippi 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 (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington, and The Department of Homeland Security, United States Coast Guard Office of Incident Management and Preparedness, Washington, D.C.

**Native_Data_Set_Environment:**

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 10.2) and SQL SERVER(R) (version 2005). The hardware configuration is PC's with Windows Operating System 7.

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, esil.e00, esip.e00, fish.e00, hydro.e00, index.e00, invert.e00, mgt.e00, nests.e00, reptiles.e00, rivermiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut.e00, biofile.e00, biores.e00, breed.e00, breed_dt.e00, seasonal.e00, soc_dat.e00, soc_lut.e00, sources.e00, species.e00, and status.e00.

Data_Quality_Information:

Attribute_Accuracy:

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

Logical_Consistency_Report:
A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary node, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resources at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness_Report:
These data represent a synthesis of expert knowledge, published documents, survey data, and digital data on reptile distribution and nesting areas. These data do not necessarily represent all reptile occurrences in Lower Mississippi River. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 3, American alligator, Alligator mississippiensis; 180, Alligator snapping turtle, Macrochelys temminckii; 214, Southern map turtle, Graptemys ouachitensis; 215, Smooth softshell, Apalone mutica.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:
Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base
maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources. See the Lineage and Process_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

**Lineage:**

**Source Information:**

**Source Citation:**

**Citation Information:**

**Originator:**

LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES (LDWF), COASTAL AND NONGAME RESOURCES DIVISION'S ALLIGATOR PROGRAM

**Publication Date:** 2012

**Title:** FIVE YEAR (2008-2012) AVERAGE ALLIGATOR NEST DENSITY

**Geospatial Data Presentation Form:** VECTOR DIGITAL DATA

**Other Citation Details:** UNPUBLISHED

**Type of Source Media:** EMAIL

**Source Time Period of Content:**

**Time Period Information:**

**Range of Dates/Times:**

**Beginning Date:** 2008

**Ending Date:** 2012

**Source Currentness Reference:** DATE OF SURVEY

**Source Citation Abbreviation:** NONE

**Source Contribution:** REPTILES INFORMATION

**Source Information:**

**Source Citation:**

**Citation Information:**

**Originator:** LOUISIANA NATURAL HERITAGE PROGRAM (LNHP)

**Publication Date:** 2014

**Title:** RIVERINE TURTLE DISTRIBUTION

**Geospatial Data Presentation Form:** VECTOR DIGITAL DATA

**Other Citation Details:** UNPUBLISHED

**Type of Source Media:** EMAIL

**Source Time Period of Content:**

**Time Period Information:**
Two main sources of data were used to depict reptile distribution and seasonality for this data layer: 1) digital data provided by LDWF-Louisiana Natural Heritage Program (LNHP) depicting the distribution of riverine turtles and 2) digital survey data provided by LDWF depicting alligator nest densities. Riverine turtles - The distribution of the smooth softshell, Alligator snapping turtle and the Ouachita map turtle were provided by LNHP. Alligators - Estimated American alligator nest densities were provided by LDWF, based on 2008-2012 surveys. LDWF ranked habitat quality based on nest density, and areas considered to be ‘excellent’, ‘high’, or ‘medium’ quality habitat were included in the atlas. Alligators may be found in lower densities throughout the area of interest. The LDWF-LNHP provided information for some of the federally and state listed species and species of conservation concern for display in the ESI atlas and accompanying digital data in 2014. The available LNHP data sets are to be used for oil spill response and spill response planning only. These
data represent existing information known to the LNHP at the time of the request and should never be substituted for consultation with the LNHP.

The above digital and/or hardcopy sources were compiled by the project biologist to create the REPTILES data layer. Depending on the type of source data, three general approaches are used for compiling the data layer: 1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; 2) hardcopy maps are digitized at their source scale; 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 ESI, biology, and human-use data are compiled into the standard ESI digital data format. A second set of interviews with participating resource experts are conducted to review the compiled data. If necessary, edits to the REPTILES data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 201405
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: 23

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 22

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Complete chain
Point and Vector Object Count: 111

SDTS_Terms_Description:

SDTS Point and Vector Object Type: Link
Point and Vector Object Count: 47796

SDTS_Terms_Description:

SDTS Point and Vector Object Type: Node, planar graph
Point and Vector Object Count: 110

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Geographic:

Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees

Geodetic_Model:

Horizontal_Datum_Name: North American Datum of 1983
Ellipsoid_Name: Geodetic Reference System 80
Semi-major_Axis: 6378137.000000
Denominator_of_Flattening_Ratio: 298.257222

Entity_and_Attribute_Information:

Overview_Description:

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, REPTILES) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Lower Mississippi River atlas, the number is 233), 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.

Entity and Attribute Detail Citation:
A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines (<http://response.restoration.noaa.gov/esi_guidelines>).

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 reptile distribution and nesting 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: NOAA ESI Guidelines

Attribute:

Attribute_Label: ID
Attribute_Definition:
An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (233), 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: "NEED TO ADD"
Range_Domain_Maximum: "NEED TO ADD"

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 the polygons and do not contain information.

Attribute_Definition_Source: NOAA
**Attribute_Domain_Values:**

**Range_Domain:**

*Range_Domain_Minimum:* "NEED TO ADD"
*Range_Domain_Maximum:* "NEED TO ADD"

**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:* NOAA ESI Guidelines

**Attribute:**

*Attribute_Label:* RARNUM

*Attribute_Definition:* An identifier that links records in the BIO_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute_Definition_Source:* NOAA

*Attribute_Domain_Values:* 

*Range_Domain:* 

*Range_Domain_Minimum:* "NEED TO ADD"
*Range_Domain_Maximum:* "NEED TO ADD"

**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 (233), 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:* "NEED TO ADD"
*Range_Domain_Maximum:* "NEED TO ADD"

**Detailed_Description:**

**Entity_Type:**

*Entity_Type_Label:* BIORES
**Entity_Type_Definition:**
The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO_LUT data table to other associated data tables. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

**Entity_Type_Definition_Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute_Label:** RARNUM
**Attribute_Definition:** An identifier that links records in the BIORES data table to records in the BIO_LUT data table or the flat format BIOFILE data table.
**Attribute_Definition_Source:** NOAA

**Range_Domain:**

- **Range_Domain_Minimum:** "NEED TO ADD"
- **Range_Domain_Maximum:** "NEED TO ADD"

**Attribute:**

**Attribute_Label:** SPECIES_ID
**Attribute_Definition:** Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
**Attribute_Definition_Source:** NOAA ESI Guidelines

**Range_Domain:**

- **Range_Domain_Minimum:** 1
- **Range_Domain_Maximum:** N

**Attribute:**

**Attribute_Label:** CONC
**Attribute_Definition:** The field CONC refers to concentration, abundance, or density values. Concentrations are reported as ranges (XX AC/NEST) for mapped alligator nesting areas.
**Attribute_Definition_Source:** NOAA ESI Guidelines

**Unrepresentable_Domain:** Acceptable values change from atlas to atlas.

**Attribute:**

**Attribute_Label:** SEASON_ID
**Attribute_Definition:** Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
**Attribute_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**
Range_Domain:

    Range_Domain_Minimum: 1
    Range_Domain_Maximum: N

Attribute:

    Attribute_Label: G_SOURCE
    Attribute_Definition: Geophysical source identifier that links records in the BIORES data table to records in the SOURCES data table.
    Attribute_Definition_Source: NOAA ESI Guidelines
    Attribute_Domain_Values:

        Range_Domain:

            Range_Domain_Minimum: 1
            Range_Domain_Maximum: N

Attribute:

    Attribute_Label: S_SOURCE
    Attribute_Definition: Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.
    Attribute_Definition_Source: NOAA ESI Guidelines
    Attribute_Domain_Values:

        Range_Domain:

            Range_Domain_Minimum: 1
            Range_Domain_Maximum: N

Attribute:

    Attribute_Label: ELEMENT
    Attribute_Definition: Major categories of biological data.
    Attribute_Definition_Source: NOAA ESI Guidelines
    Attribute_Domain_Values:

        Enumerated_Domain:

            Enumerated_Domain_Value: BIRD
            Enumerated_Domain_Value_Definition: Birds
            Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

        Attribute_Domain_Values:

            Enumerated_Domain:

                Enumerated_Domain_Value: FISH
                Enumerated_Domain_Value_Definition: Fish
                Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

        Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

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

Attribute_Domain_Values:

Enumerated_Domain:

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

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial mammals
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: EL_SPE
Attribute_Definition: Concatenation of ELEMENT and SPECIES_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition: Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute:

**Attribute_Label**: EL_SPE_SEA  
**Attribute_Definition:** Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.  
**Attribute_Definition_Source**: NOAA ESI Guidelines

**Enumerated_Domain:**

- **Enumerated_Domain_Value**: E#######  
- **Enumerated_Domain_Value_Definition:** Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').  
- **Enumerated_Domain_Value_Definition_Source**: NOAA ESI Guidelines

Detailed_Description:

**Entity_Type:**

- **Entity_Type_Label**: SPECIES  
- **Entity_Type_Definition:** The data table SPECIES identifies all species in the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness Report for list of layer specific species.  
- **Entity_Type_Definition_Source**: NOAA ESI Guidelines

Attribute:

**Attribute_Label**: SPECIES_ID  
**Attribute_Definition:** Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.  
**Attribute_Definition_Source**: NOAA ESI Guidelines

**Range_Domain:**

- **Range_Domain_Minimum**: 1  
- **Range_Domain_Maximum**: N

Attribute:

**Attribute_Label**: NAME  
**Attribute_Definition**: Species common name for the entire ESI data set.  
**Attribute_Definition_Source**: NOAA ESI Guidelines

**Unrepresentable_Domain**: Acceptable values change from atlas to atlas.
Attribute Label: GENSPEC
Attribute Definition: Species scientific name for the entire ESI data set.
Attribute Definition Source: NOAA ESI Guidelines

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: ELEMENT
Attribute Definition: Major categories of biological data.
Attribute Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: BIRD
Enumerated Domain Value Definition: Birds
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: FISH
Enumerated Domain Value Definition: Fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Enumerated Domain:

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

Enumerated Domain:

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

Enumerated Domain:

Enumerated Domain Value: M_MAMMAL
Enumerated Domain Value Definition: Marine Mammals
Enumerated Domain Value Definition Source: NOAA ESI Guidelines
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: SUBELEMENT
Attribute_Definition: Element subgroup delineating a logical grouping of species.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: alligator
Enumerated_Domain_Value_Definition: Alligator
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: bear
Enumerated_Domain_Value_Definition: Bear
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: bivalve
Enumerated_Domain_Value_Definition: Bivalve
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: crab
Enumerated_Domain_Value_Definition: Crab
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: crayfish
Enumerated_Domain_Value_Definition: Crayfish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: diving
Enumerated Domain Value Definition: Diving bird
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: e_nursery
Enumerated Domain Value Definition: Estuarine nursery fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: e_resident
Enumerated Domain Value Definition: Estuarine resident fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: freshwater
Enumerated Domain Value Definition: Freshwater fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: gull_tern
Enumerated Domain Value Definition: Gull or tern
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: invert
Enumerated Domain Value Definition: Invertebrate
Enumerated Domain Value Definition Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: m_pelagic
Enumerated_Domain_Value_Definition: Marine pelagic fish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: passerine
Enumerated_Domain_Value_Definition: Passerine bird
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: raptor
Enumerated_Domain_Value_Definition: Raptor
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: shorebird
Enumerated_Domain_Value_Definition: Shorebird
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: shrimp
Enumerated_Domain_Value_Definition: Shrimp
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: turtle
Enumerated_Domain_Value_Definition: Turtle
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: wading
Enumerated_Domain_Value_Definition: Wading bird
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute: Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: waterfowl
Enumerated_Domain_Value_Definition: Waterfowl
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute: Attribute_Label: NHP
Attribute_Definition: Natural Heritage Program global ranking.
Attribute_Definition_Source: Network of Natural Heritage Program
Attribute_Domain_Values:

Codeset_Domain:

Codeset_Name: NHP Global Conservation Status Rank
Codeset_Source: Natural Heritage Program

Attribute: Attribute_Label: DATE_PUB
Attribute_Definition: Date of NHP listing.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 0
Enumerated_Domain_Value_Definition: Date unspecified
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute: Attribute_Label: EL_SPE
Attribute_Definition: Concatenation of ELEMENT and SPECIES_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E####
Enumerated_Domain_Value_Definition: Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE =
Detailed_Description:

Entity_Type:

Entity_Type_Label: SEASONAL
Entity_Type_Definition:
The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

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

Attribute_Domain_Values:

Enumerated_Domain:

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

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: SPECIES_ID
Attribute_Definition: Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:

Attribute_Label: SEASON_ID
Attribute_Definition: Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:

Attribute_Label: JAN
Attribute_Definition: January
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:
 Attribute:  

Attribute_Label: FEB  
Attribute_Definition: February  
Attribute_Definition_Source: NOAA ESI Guidelines  

Enumerated_Domain:  

Enumerated_Domain_Value: X  
Enumerated_Domain_Value_Definition: Present in February  
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines  

Attribute:  

Attribute_Label: MAR  
Attribute_Definition: March  
Attribute_Definition_Source: NOAA ESI Guidelines  

Enumerated_Domain:  

Enumerated_Domain_Value: X  
Enumerated_Domain_Value_Definition: Present in March  
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines  

Attribute:  

Attribute_Label: APR  
Attribute_Definition: April  
Attribute_Definition_Source: NOAA ESI Guidelines  

Enumerated_Domain:  

Enumerated_Domain_Value: X  
Enumerated_Domain_Value_Definition: Present in April  
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines  

Attribute:  

Attribute_Label: MAY  
Attribute_Definition: May  
Attribute_Definition_Source: NOAA ESI Guidelines  

Enumerated_Domain:  

Enumerated_Domain_Value: X  
Enumerated_Domain_Value_Definition: Present in May
**Attribute:**

*Attribute Label:* JUN  
*Attribute Definition:* June  
*Attribute Definition Source:* NOAA ESI Guidelines  
*Attribute Domain Values:*

**Enumerated Domain:**

*Enumerated Domain Value:* X  
*Enumerated Domain Value Definition:* Present in June  
*Enumerated Domain Value Definition Source:* NOAA ESI Guidelines

**Attribute:**

*Attribute Label:* JUL  
*Attribute Definition:* July  
*Attribute Definition Source:* NOAA ESI Guidelines  
*Attribute Domain Values:*

**Enumerated Domain:**

*Enumerated Domain Value:* X  
*Enumerated Domain Value Definition:* Present in July  
*Enumerated Domain Value Definition Source:* NOAA ESI Guidelines

**Attribute:**

*Attribute Label:* AUG  
*Attribute Definition:* August  
*Attribute Definition Source:* NOAA ESI Guidelines  
*Attribute Domain Values:*

**Enumerated Domain:**

*Enumerated Domain Value:* X  
*Enumerated Domain Value Definition:* Present in August  
*Enumerated Domain Value Definition Source:* NOAA ESI Guidelines

**Attribute:**

*Attribute Label:* SEP  
*Attribute Definition:* September  
*Attribute Definition Source:* NOAA ESI Guidelines  
*Attribute Domain Values:*

**Enumerated Domain:**

*Enumerated Domain Value:* X  
*Enumerated Domain Value Definition:* Present in September  
*Enumerated Domain Value Definition Source:* NOAA ESI Guidelines

**Attribute:**
**Attribute Label:** OCT
**Attribute Definition:** October
**Attribute Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** X
**Enumerated Domain Value Definition:** Present in October
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute Label:** NOV
**Attribute Definition:** November
**Attribute Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** X
**Enumerated Domain Value Definition:** Present in November
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute Label:** DEC
**Attribute Definition:** December
**Attribute Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** X
**Enumerated Domain Value Definition:** Present in December
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute Label:** EL_SPE_SEA
**Attribute Definition:** Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the SEASONAL data table to records in the BIORES and BREAT data tables.
**Attribute Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** E####
**Enumerated Domain Value Definition:** Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines
Detailed_Description:

Entity_Type:

Entity_Type_Label: BREED
Entity_Type_Definition:
The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.
Entity_Type_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E############
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: MONTH
Attribute_Definition:
Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1  
Range_Domain_Maximum: 12

Attribute:

Attribute_Label: BREED1
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T_MAMMAL.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: BREED2
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating;
if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs;
if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M_MAMMAL" then BREED2 = calving.
This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -
Breed category not used or not appropriate for record(s) in question

*Attribute*:

**Attribute Label**: BREED3

**Attribute Definition**: Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = internesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.

*Attribute Definition Source*: NOAA ESI Guidelines

*Attribute Domain Values*:

- **Enumerated Domain**: 
  - **Enumerated Domain Value**: Y
    *Enumerated Domain Value Definition*: Life-history stage or activity present
    *Enumerated Domain Value Definition Source*: NOAA ESI Guidelines
  - **Enumerated Domain Value**: N
    *Enumerated Domain Value Definition*: Life-history stage or activity not present or not reported
    *Enumerated Domain Value Definition Source*: NOAA ESI Guidelines
  - **Enumerated Domain Value**: -
    *Enumerated Domain Value Definition*: Breed category not used or not appropriate for record(s) in question
    *Enumerated Domain Value Definition Source*: NOAA ESI Guidelines

**Attribute**: 

**Attribute Label**: BREED4

**Attribute Definition**: Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T_MAMMAL elements.

*Attribute Definition Source*: NOAA ESI Guidelines

*Attribute Domain Values*:

- **Enumerated Domain**: 
  - **Enumerated Domain Value**: Y
    *Enumerated Domain Value Definition*: Life-history stage or activity present
    *Enumerated Domain Value Definition Source*: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: N
  Enumerated Domain Value Definition: Life-history stage or activity not present or not reported
  Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: Y
  Enumerated Domain Value Definition: Life-history stage or activity present
  Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: N
  Enumerated Domain Value Definition: Life-history stage or activity not present or not reported
  Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: -
  Enumerated Domain Value Definition: Breed category not used or not appropriate for record(s) in question
  Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: BREED5
Attribute Definition:
  Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M_MAMMAL, HABITAT or T_MAMMAL elements.
  Attribute Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: Y
  Enumerated Domain Value Definition: Life-history stage or activity present
  Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: N
  Enumerated Domain Value Definition: Life-history stage or activity not present or not reported
  Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Detailed Description:
Entity_Type:

Entity>Type_Label: STATUS

Entity_Type_Definition:
The data table STATUS identifies the species that are listed as either threatened or endangered by a state, federal, or international authority. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Description: Reptiles and Amphibians
Enumerated_Domain_Value_Description_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Description: Terrestrial Mammals
Enumerated_Domain_Value_Description_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: SPECIES_ID
Attribute_Description:
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Description_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:

Attribute_Label: STATE
Attribute_Description: Two-letter state abbreviation.
Attribute_Description_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: COUNTRY
Attribute_Description: Three-letter country abbreviation.
Attribute_Description_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: S
Attribute_Description: State threatened or endangered status.
Attribute_Description_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:
**Attribute**: 

*Attribute Label*: F 
*Attribute Definition*: Federal threatened or endangered status. 
*Attribute Definition Source*: NOAA ESI Guidelines

**Attribute Domain Values**:

**Enumerated Domain**:

*Enumerated Domain Value*: E  
*Enumerated Domain Value Definition*: Endangered on federal list 
*Enumerated Domain Value Definition Source*: NOAA ESI Guidelines

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

*Enumerated Domain Value*: C  
*Enumerated Domain Value Definition*: Species of Special Concern 
*Enumerated Domain Value Definition Source*: NOAA ESI Guidelines

**Attribute**: 

*Attribute Label*: I 
*Attribute Definition*: International threatened or endangered status. 
*Attribute Definition Source*: NOAA ESI Guidelines

**Attribute Domain Values**:

**Enumerated Domain**:

*Enumerated Domain Value*: E  
*Enumerated Domain Value Definition*: Endangered on state list 
*Enumerated Domain Value Definition Source*: NOAA ESI Guidelines

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

*Enumerated Domain Value*: C  
*Enumerated Domain Value Definition*: Species of Special Concern 
*Enumerated Domain Value Definition Source*: NOAA ESI Guidelines
Enumerated_Domain:

Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: S_DATE
Attribute_Definition:
    Publication date of source material used to assign state status values for each species, if used.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: F_DATE
Attribute_Definition:
    Publication date of source material used to assign federal status values for each species, if used.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: I_DATE
Attribute_Definition:
    Publication date of source material used to assign international status values for each species,
if used.

Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOURCES
Entity_Type_Definition:
The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: SOURCE_ID
Attribute_Definition:
Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID and ESI_Source in the ESI and HYDRO data layers.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute: ORIGINATOR
Attribute_Definition: Author or developer of source material or data set.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute: DATE_PUB
Attribute_Definition: Date of source material, publication, or date of personal communication with expert source.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute: TITLE
Attribute_Definition: Title of source material or data.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute: DATA_FORMAT
Attribute_Definition: The format of the source material.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute: PUB_PLACE
Attribute_Definition: Publication place.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute: PUBLISHER
Attribute_Definition: Publisher.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION
Attribute_Definition: Additional citation information.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: ONLINE_LINK
Attribute_Definition: Online computer resource URL.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SCALE
Attribute_Definition: Description of the source scale.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: TIME_PERIOD
Attribute_Definition:
    Date(s) of data collection that the source material is based upon.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Distribution_Information:

Distributor:

Contact_Information:

Contact_Person_Primary:

  Contact_Person: John Kaperick
  Contact_Organization: NOAA, Office of Response and Restoration

Contact_Address:

  Address_Type: Physical Address
  Address: 7600 Sand Point Way N.E.
  City: Seattle
State or Province: Washington
Postal Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329

Resource_Description: Downloadable Data

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

Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and 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: 201405
Metadata_Review_Date: 201405
Metadata_Contact:

Contact_Information:

Contact_Person_Primary:
Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way, N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata

Generated by mp version 2.9.20 on Tue May 13 10:39:47 2014
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: RIVER MILES (River Mile Marker Points)

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

Metadata:

- Identification_Information
- Data_Quality_Information
- Spatial_Data_Organization_Information
- Spatial_Reference_Information
- Entity_and_Attribute_Information
- Distribution_Information
- Metadata_Reference_Information

Identification_Information:

Citation:

Originator:
Publication_Date: 201405
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: RIVER MILES (River Mile Marker Points)
Edition: Second
Geospatial_Data_Presentation_Form: vector digital data

Series_Information:

Series_Name: None
Issue_Identification: Lower Mississippi River

Publication_Information:

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

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

Abstract:
This data set contains human-use resource data depicting sequential river mile marker positions of navigable inland waterways and the Gulf Intracoastal Waterway for the Lower Mississippi River. Vector points in this data set represent river mile marker positions. This data set comprises a portion of the ESI data for Lower Mississippi 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: 2013

Currentness_Reference:
The data were compiled during 2014. The currentness date for this data is 2013 and is documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -91.70600
East_Bounding_Coordinate: -90.37500
North_Bounding_Coordinate: 31.02700
South_Bounding_Coordinate: 29.93600

Keywords:

Theme:

Theme_Keyword_Thesaurus: ISO 19115 Topic Category
Theme_Keyword: biota
Theme_Keyword: environment

Theme:

Theme_Keyword_Thesaurus: None
Theme_Keyword: Environmental Monitoring
Theme_Keyword: ESI
Access_Constraints: None
Use_Constraints:
DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Management boundaries are not to be considered legal boundaries. Edges may have been altered for cartographic processes. Besides the above warnings, 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 Lower Mississippi River ESI data.
Browse_Graphic_File_Type: JPEG

Browse_Graphic:

Browse_Graphic_File_Name: datafig2.jpg
Browse_Graphic_File_Description: Depicts the relationships between spatial data layers and desktop data tables for the Lower Mississippi 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 (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington, and The Department of Homeland Security, United States Coast Guard Office of Incident Management and Preparedness, Washington, D.C.

Native_Data_Set_Environment:
The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 10.2) and SQL SERVER(R) (version 2005). The hardware configuration is PC's with Windows Operating System 7. 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, esil.e00, esip.e00, fish.e00, hydro.e00, index.e00, invert.e00, mgt.e00, nests.e00, reptiles.e00, rivermiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut.e00,
Data_Quality_Information:

Attribute_Accuracy:

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

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

Completeness_Report:
These data represent available digital data on river mile markers.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

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

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator:
NAVIGATION DATA CENTER, UNITED STATES ARMY CORPS OF ENGINEERS (USACE)
Publication_Date: 2013
Title: WATERWAY MILE MARKER DATABASE
Geospatial_Data_Presentation_Form: SPREADSHEET
Online_Linkage: <http://www.navigationdatacenter.us/data/datamile.htm>

Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 2013
Ending_Date: 2013

Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE
Source_Contribution: RIVERMILES INFORMATION

Process_Step:

Process_Description:
The data used to depict river mile markers was derived from the U.S. Army Corps of Engineers (USACE) waterway mile marker database. Locations of river mile markers were provided as latitudinal and longitudinal coordinates that were projected and used "as is".

Process_Date: 201405
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: Area point
Point_and_Vector_Object_Count: 1347
**Spatial_Reference_Information:**

**Horizontal_Coordinate_System_Definition:**

- **Geographic:**
  - *Latitude Resolution:* 0.0000001
  - *Longitude Resolution:* 0.0000001
  - *Geographic_Coordinate_Units:* Decimal degrees

**Geodetic_Model:**

- *Horizontal_Datum_Name:* North American Datum of 1983
- *Ellipsoid_Name:* Geodetic Reference System 80
- *Semi-major_Axis:* 6378137.000000
- *Denominator_of_Flattening_Ratio:* 298.257222

---

**Entity_and_Attribute_Information:**

**Overview_Description:**

**Entity_and_Attribute_Overview:**
In addition to this geographic data layer, a data table, SOURCES, is used to store information on where this dataset was obtained and who can be contacted for more information. See the Browse Graphic section for a link to this entity-relationship diagram, which describes the relationship between this geographic data layer and its related data table.

**Entity_and_Attribute_Detail_Citation:**
A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines (<http://response.restoration.noaa.gov/esi_guidelines>).

**Detailed_Description:**

**Entity_Type:**

**Entity_Type_Label:** RIVERMILES.PAT

**Entity_Type_Definition:**
The RIVERMILES.PAT table contains human-use resource data depicting sequential river mile marker positions of navigable inland waterways and the Gulf Intracoastal Waterway for the Lower Mississippi River.

**Entity_Type_Definition_Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute_Label:** MILE

**Attribute_Definition:**
The mile marker number showing the position of navigable inland waterways and the Gulf Intracoastal Waterway for the Lower Mississippi River.

**Attribute_Definition_Source:** NOAA ESI Guidelines

**Attribute_Domain_Values:**

**Range_Domain:**
**Attribute:**

**AttributeLabel:** RIVER_NAME  
**AttributeDefinition:** The name of the waterway that is associated with a specific mile marker number showing the position of navigable inland waterways and the Gulf Intracoastal Waterway for the Lower Mississippi River.  
**AttributeDefinitionSource:** NOAA ESI Guidelines  
**AttributeDomainValues:**

**RangeDomain:**

- **RangeDomainMinimum:** "NEED TO ADD"  
- **RangeDomainMaximum:** "NEED TO ADD"

**Attribute:**

**AttributeLabel:** G_SOURCE  
**AttributeDefinition:** Geographic source identifier that links records in this data layer to records in the SOURCES data table.  
**AttributeDefinitionSource:** NOAA ESI Guidelines  
**AttributeDomainValues:**

**RangeDomain:**

- **RangeDomainMinimum:** 1  
- **RangeDomainMaximum:** N

**Attribute:**

**AttributeLabel:** A_SOURCE  
**AttributeDefinition:** Attribute source identifier that links records in this data layer to records in the SOURCES data table.  
**AttributeDefinitionSource:** NOAA ESI Guidelines  
**AttributeDomainValues:**

**RangeDomain:**

- **RangeDomainMinimum:** 1  
- **RangeDomainMaximum:** N

**DetailedDescription:**

**EntityType:**

**EntityTypeLabel:** SOURCES  
**EntityTypeDefinition:** 
The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
**Entity_Type_Definition_Source**: NOAA ESI Guidelines

**Attribute**: 

**Attribute_Label**: SOURCE_ID  
**Attribute_Definition**:  
Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in this data layer; G_SOURCE and A_SOURCE in the SOC_DAT data table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID and ESI_Source in the ESI and HYDRO data layers.  
**Attribute_Definition_Source**: NOAA ESI Guidelines  
**Attribute_Domain_Values**:  

**Range_Domain**:  
- **Range_Domain_Minimum**: 1  
- **Range_Domain_Maximum**: N

**Attribute**: 

**Attribute_Label**: ORIGINATOR  
**Attribute_Definition**:  
Author or developer of source material or data set.  
**Attribute_Definition_Source**: NOAA ESI Guidelines  
**Attribute_Domain_Values**:  

**Unrepresentable_Domain**: Acceptable values change from atlas to atlas.

**Attribute**: 

**Attribute_Label**: DATE_PUB  
**Attribute_Definition**:  
Date of source material, publication, or date of personal communication with expert source.  
**Attribute_Definition_Source**: NOAA ESI Guidelines  
**Attribute_Domain_Values**:  

**Enumerated_Domain**:  
- **Enumerated_Domain_Value**: YYYYMM  
- **Enumerated_Domain_Value_Definition**: YYYY for year and optionally MM for month  
- **Enumerated_Domain_Value_Definition_Source**: NOAA ESI Guidelines

**Attribute**: 

**Attribute_Label**: TITLE  
**Attribute_Definition**:  
Title of source material or data.  
**Attribute_Definition_Source**: NOAA ESI Guidelines  
**Attribute_Domain_Values**:  

**Unrepresentable_Domain**: Acceptable values change from atlas to atlas.

**Attribute**: 

**Attribute_Label**: DATA_FORMAT  
**Attribute_Definition**:  
The format of the source material.  
**Attribute_Definition_Source**: NOAA ESI Guidelines
Attribute: PUB_PLACE
Attribute Definition: Publication place.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute: PUBLISHER
Attribute Definition: Publisher.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute: PUBLICATION
Attribute Definition: Additional citation information.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute: ONLINE_LINK
Attribute Definition: Online computer resource URL.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute: SCALE
Attribute Definition: Description of the source scale.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute: TIME_PERIOD
Attribute Definition:
Date(s) of data collection that the source material is based upon.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:
Distribution_Information:

Distributor:

Contact_Information:

Contact_Person_Primary:

Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration

Contact_Address:

Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329

Resource_Description: Downloadable Data

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

Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and 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: 201405
Metadata_Review_Date: 201405
Metadata_Contact:

Contact_Person_Primary:

Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration

Contact_Position: GIS Manager
Contact_Address:

Address_Type: Physical Address
Address: 7600 Sand Point Way, N.E.
City: Seattle
State_orProvince: Washington
Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata

Generated by mp version 2.9.20 on Tue May 13 10:40:12 2014
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: SOCECON (Socioeconomic Resource Points)

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

Metadata:

- Identification_Information
- Data_Quality_Information
- Spatial_Data_Organization_Information
- Spatial_Reference_Information
- Entity_and_Attribute_Information
- Distribution_Information
- Metadata_Reference_Information

Identification_Information:

Citation:

Originator:

Publication_Date: 201405
Title: Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: SOCECON (Socioeconomic Resource Points)
Edition: Second
Geospatial_Data_Presentation_Form: vector digital data

Publication_Information:

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

Other_Citation_Details:

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

Description:

Abstract:
This data set contains human-use resource data depicting the locations of airports, archaeological sites, boat ramps, commercial dock facilities, ferry terminals, heliports, locks and dams, major and minor ports, marinas, and water intakes for the Lower Mississippi River. Vector points in this data set represent human-use site locations. Location specific type and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer. This data set comprises a portion of the ESI data for Lower Mississippi 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 data layer, part of the larger Lower Mississippi 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: 2004
Currentness Reference:
The data were compiled during 2014. The currentness dates for this data range from 2004 to 2014 and are documented in the Lineage section.

Status:
Progress: Complete
Maintenance and Update Frequency: None Scheduled

Spatial Domain:
Bounding Coordinates:

- West Bounding Coordinate: -91.70600
- East Bounding Coordinate: -90.37500
- North Bounding Coordinate: 31.02700
- South Bounding Coordinate: 29.93600

Keywords:
Theme:

- Theme Keyword Thesaurus: ISO 19115 Topic Category
- Theme Keyword: biota
- Theme Keyword: environment

Theme:

- Theme Keyword Thesaurus: None
- Theme Keyword: Environmental Monitoring
- Theme Keyword: ESI
- Theme Keyword: Sensitivity maps
- Theme Keyword: Coastal resources
- Theme Keyword: Oil spill planning
- Theme Keyword: Coastal Zone Management
- Theme Keyword: Wildlife
- Theme Keyword: Socioeconomic

Place:

- Place Keyword Thesaurus: None
- Place Keyword: Lower Mississippi River

Access Constraints: None
Use Constraints:
DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Management boundaries are not to be considered legal boundaries. Edges may have been altered for cartographic processes. Besides the above warnings, 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 Lower Mississippi River ESI data.
Browse Graphic File Type: JPEG

Browse Graphic:

Browse Graphic File Name: datafig2.jpg
Browse Graphic File Description: Depicts the relationships between spatial data layers and desktop data tables for the Lower Mississippi 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 (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington, and The Department of Homeland Security, United States Coast Guard Office of Incident Management and Preparedness, Washington, D.C.

Native Data Set Environment:
The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO® (version 10.2) and SQL SERVER® (version 2005). The hardware configuration is PC's with Windows Operating System 7.

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, esil.e00, esp.e00, fish.e00, hydro.e00, index.e00, invert.e00, mgt.e00, reptiles.e00, rivermiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut.e00, biofile.e00, biores.e00, breed.e00, breed_dt.e00, seasonal.e00, soc_dat.e00, soc_lut.e00, sources.e00, species.e00, and status.e00.

Data Quality Information:

Attribute Accuracy:

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

Logical Consistency Report:
A multi-stage error checking process, described in the above Attribute Accuracy Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary node, etc.), and SQL SERVER® to ARC/INFO® 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 subject to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resources at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness Report:
These data represent a synthesis of expert knowledge and available digital data on socioeconomic resources. See also the MGT data layer, part of the larger Lower Mississippi River ESI database, for additional human-use information. These data do not necessarily represent all human-use sites in Lower Mississippi River.

Positional Accuracy:

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

Lineage:

Source Information:

Source Citation:

Citation Information:

Originator:
FEDERAL AVIATION ADMINISTRATION (FAA) AERONAUTICAL INFORMATION SERVICES, ATA-100
Publication Date: 2011
Title: AIRPORTS
Geospatial Data Presentation Form: VECTOR DIGITAL DATA
Publication Information:

Publication Place: WASHINGTON, D.C.
Publisher:
RESEARCH AND INNOVATIVE TECHNOLOGY ADMINISTRATION'S BUREAU OF TRANSPORTATION STATISTICS (rita/bts)

Online Linkage:

Type of Source Media: ONLINE
Source Time Period of Content:
Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 2011
Ending_Date: 2013

Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: GOOGLE EARTH
Publication_Date: 2013
Title: GOOGLE EARTH IMAGERY
Geospatial_Data_Presentation_Form: REMOTE-SENSING IMAGE
Other_Citation_Details:
Online_Linkage: <http://www.google.com/earth/>

Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 2010
Ending_Date: 2013

Source_Currentness_Reference: DATE OF SURVEY

Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator:
LOUISIANA DEPARTMENT OF CULTURE, RECREATION AND TOURISM, OFFICE OF CULTURAL DEVELOPMENT, DIVISION OF ARCHAEOLOGY
Publication_Date: 2014
Title: PRESENCE OF ARCHAEOLOGICAL SITES BY 30 SECOND GRID CELLS
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: 2014

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION

Source_Information:

Source_Citation:
Sources of data used to depict human-use resources in this data layer include digital datasets provided by the Federal Aviation
Administration (FAA), U.S. Army Corps of Engineers (USACE), Louisiana Department of Transportation and Development (LDOTD), Louisiana Oil Spill Coordinator's Office (LOSCO), Louisiana Department of Culture, Recreation and Tourism (LCRT), and the Louisiana Department of Health and Hospitals (LDHH). Airport / Heliport - Information on the locations of airports and heliports was downloaded from the National Transportation Atlas Databases maintained by the FAA. Archeological Site - Presence of archeological sites within a 30-second grid cell were provided by LCRT. Point locations depicted in the database mark the center of a grid cell containing an archeological site, and may or may not coincide with the actual location of the site. Boat Ramps and Marinas - Locations of boat ramps and marinas were provided by LOSCO. Marinas were defined as any facility with fuel or a store. All other points were mapped as boat ramps. Additional boat ramps were digitized based on USACE navigation maps of the Mississippi River. Ports and commercial docks were mapped as facilities in the database. Shallow and deep draft port locations were obtained from LDOTD and locations of waterfront commercial and industrial facilities with docks were downloaded from the National Transportation Atlas Database. Ferry - Locations of ferry crossings were provided by LDOTD. Ferry landings are shown as points. The actual routes are not depicted. Lock and Dam - Locations of locks and dams were downloaded from the National Transportation Atlas Database. These data were compiled by the USACE. Water Intake - Locations of drinking water intakes were provided by the LDHH. Additional locations were digitized from the USACE 2007 navigation atlas. For locations digitized based on USACE 2007 atlas, Google Earth was used to guide the digitization.

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 ESI, biology, and human-use data are compiled into the standard ESI digital data format. A second set of interviews with participating resource experts are conducted to review the compiled data. If necessary, edits to the SOCECON data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 201405
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: Area point
Point_and_Vector_Object_Count: 1348

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Geographic:

Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees

Geodetic_Model:

Horizontal_Datum_Name: North American Datum of 1983
Ellipsoid_Name: Geodetic Reference System 80
Semi-major_Axis: 6378137.000000
Denominator_of_Flattening_Ratio: 298.257222
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 Lower Mississippi River, the number is 233). ID is a unique combination of the atlas number (233), 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.

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

The SOCECON.PAT table contains attribute information for the vector points representing airports, archaeological sites, boat ramps, commercial dock facilities, ferry terminals, heliports, locks and dams, major and minor ports, marinas, and water intakes. 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.

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.

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Enumerated_Domain_Value_Definition: Facility
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HP
Enumerated_Domain_Value_Definition: Heliport
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: LD
Enumerated_Domain_Value_Definition: Lock and Dam
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M
Enumerated_Domain_Value_Definition: Marina
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: PT
Enumerated_Domain_Value_Definition: Port
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: WI
Enumerated_Domain_Value_Definition: Water Intake
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: ID
Attribute_Definition:
An identifier that links vector objects in the human-use data layers to records in the SOC_LUT data table. ID is a concatenation of atlas number (233), element number (10), 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: "NEED TO ADD"
Range_Domain_Maximum: "NEED TO ADD"

Attribute:

Attribute_Label: HUNUM
Attribute_Definition:
An identifier that links directly to the SOC_DAT table. HUNUM values of 0 are holes in the polygons and do not contain information.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: "NEED TO ADD"
Range_Domain_Maximum: "NEED TO ADD"

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOC_LUT
**Entity Type Definition:**

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

**Entity Type Definition Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute Label:** HUNUM

**Attribute Definition:**

An identifier that links records in the SOC_LUT data table to records in the SOC_DAT data table. HUNUM values of 0 are holes in the polygons and do not contain information.

**Attribute Definition Source:** NOAA

**Attribute Domain Values:**

**Range Domain:**

- **Range Domain Minimum:** "NEED TO ADD"
- **Range Domain Maximum:** "NEED TO ADD"

**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 (233), element number (10), 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:** "NEED TO ADD"
- **Range Domain Maximum:** "NEED TO ADD"

**Detailed Description:**

**Entity Type:**

**Entity Type Label:** SOC_DAT

**Entity Type Definition:**

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

**Entity Type Definition Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute Label:** HUNUM

**Attribute Definition:**

An identifier that links records in the SOC_DAT data table to records in the SOC_LUT data table. HUNUM values of 0 are holes in the polygons and do not contain information.

**Attribute Definition Source:** NOAA

**Attribute Domain Values:**

**Range Domain:**

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

**Attribute:**

**Attribute Label:** TYPE

**Attribute Definition:**

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

**Attribute Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

**Enumerated Domain:**

- **Enumerated Domain Value:** AIRPORT
- **Enumerated Domain Value Definition:** Airport
- **Enumerated Domain Value Definition Source:** NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: ARCHAEOLOGICAL SITE
Enumerated_Domain_Value_Definition: Archaeological Site
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Enumerated_Domain:

Enumerated_Domain_Value: BOAT RAMP
Enumerated_Domain_Value_Definition: Boat Ramp
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Enumerated_Domain:

Enumerated_Domain_Value: CRITICAL HABITAT
Enumerated_Domain_Value_Definition: Designated Critical Habitat
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Enumerated_Domain:

Enumerated_Domain_Value: FACILITY
Enumerated_Domain_Value_Definition: Facility
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Enumerated_Domain:

Enumerated_Domain_Value: FERRY
Enumerated_Domain_Value_Definition: Ferry
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Enumerated_Domain:

Enumerated_Domain_Value: HELIPORT
Enumerated_Domain_Value_Definition: Heliport
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Enumerated_Domain:

Enumerated_Domain_Value: LOCK AND DAM
Enumerated_Domain_Value_Definition: Lock and Dam
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Enumerated_Domain:

Enumerated_Domain_Value: MANAGEMENT AREA
Enumerated_Domain_Value_Definition: Management Area
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Enumerated_Domain:

Enumerated_Domain_Value: MARINA
Enumerated_Domain_Value_Definition: Marina
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Enumerated_Domain:
Enumerated_Domain_Value: NATURE CONSERVANCY
Enumerated_Domain_Value_Definition: Nature Conservancy
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: PORT
Enumerated_Domain_Value_Definition: Port
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: WATER INTAKE
Enumerated_Domain_Value_Definition: Water Intake
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: WILDLIFE REFUGE
Enumerated_Domain_Value_Definition: Wildlife Refuge
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: NAME
Attribute_Definition: The feature name.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: CONTACT
Attribute_Definition: Contact person or entity.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PHONE
Attribute_Definition: Contact telephone number.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Any character
Enumerated_Domain_Value_Definition: Free text
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: G_SOURCE
Attribute_Definition: Geographic source identifier that links records in the SOC_DAT data table to records in the SOURCES data table.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
**Attribute**

**Attribute Label:** A_SOURCE  
**Attribute Definition:** Attribute source identifier that links records in the SOC_DAT data table to records in the SOURCES data table.  
**Attribute Definition Source:** NOAA ESI Guidelines  
**Attribute Domain Values:**  

Range Domain:  

Range Domain Minimum: 1  
Range Domain Maximum: N

**Detailed Description:**

**Entity Type:**

**Entity Type Label:** SOURCES  
**Entity Type Definition:** The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.  
**Entity Type Definition Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute Label:** SOURCE_ID  
**Attribute Definition:** Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID and ESI_Source in the ESI and HYDRO data layers.  
**Attribute Definition Source:** NOAA ESI Guidelines  
**Attribute Domain Values:**  

Range Domain:  

Range Domain Minimum: 1  
Range Domain Maximum: N

**Attribute:**

**Attribute Label:** ORIGINATOR  
**Attribute Definition:** Author or developer of source material or data set.  
**Attribute Definition Source:** NOAA ESI Guidelines  
**Attribute Domain Values:**  

*Unrepresentable Domain:* Acceptable values change from atlas to atlas.

**Attribute:**

**Attribute Label:** DATE_PUB  
**Attribute Definition:** Date of source material, publication, or date of personal communication with expert source.  
**Attribute Definition Source:** NOAA ESI Guidelines  
**Attribute Domain Values:**  

*Enumerated Domain:*  

Enumerated Domain Value: YYYYMM  
Enumerated Domain Value Definition: YYYY for year and optionally MM for month  
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

**Attribute:**

**Attribute Label:** TITLE  
**Attribute Definition:** Title of source material or data.  
**Attribute Definition Source:** NOAA ESI Guidelines  
**Attribute Domain Values:**  

*Unrepresentable Domain:* Acceptable values change from atlas to atlas.

**Attribute:**

**Attribute Label:** DATA_FORMAT  
**Attribute Definition:** The format of the source material.  
**Attribute Definition Source:** NOAA ESI Guidelines  
**Attribute Domain Values:**
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUB_PLACE
Attribute_Definition: Publication place.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLISHER
Attribute_Definition: Publisher.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION
Attribute_Definition: Additional citation information.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: ONLINE_LINK
Attribute_Definition: Online computer resource URL.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SCALE
Attribute_Definition: Description of the source scale.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: TIME_PERIOD
Attribute_Definition: Date(s) of data collection that the source material is based upon.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Distribution Information:

Distributor:

Contact Information:

Contact_Person_Primary:

Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration

Contact_Address:

Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State or Province: Washington
Postal Code: 98115-6349

Contact Voice Telephone: (206) 526-6400
Contact Facsimile Telephone: (206) 526-6329

Resource Description: Downloadable Data

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

Custom Order Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and 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: 201405
Metadata Review Date: 201405
Metadata Contact:

Contact Information:

Contact Person Primary:

Contact Person: Jill Petersen
Contact Organization: NOAA, Office of Response and Restoration

Contact Position: GIS Manager
Contact Address:

Address Type: Physical Address
Address: 7600 Sand Point Way, N.E.
City: Seattle
State or Province: Washington
Postal Code: 98115-6349

Contact Voice Telephone: (206) 526-6944
Contact Facsimile Telephone: (206) 526-6329
Contact Electronic Mail Address: Jill.Petersen@noaa.gov

Metadata Standard Name: Content Standards for Digital Geospatial Metadata

Generated by mp version 2.9.20 on Tue May 13 10:39:57 2014
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Lower Mississippi River: T_MAMMAL (Terrestrial Mammal Polygons)

Metadata:

- Identification_Information
- Data_Quality_Information
- Spatial_Data_Organization_Information
- Spatial_Reference_Information
- Entity_and_Attribute_Information
- Distribution_Information
- Metadata_Reference_Information

Identification_Information:

Citation:

Originator:

Publication_Date: 201405

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

Edition: Second

Geospatial_Data_Presentation_Form: vector digital data

Series_Information:

Series_Name: None

Issue_Identification: Lower Mississippi River

Publication_Information:

Publication Place: Seattle, Washington

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

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

Abstract:
This data set contains sensitive biological resource data for the Louisiana black bear for the Lower Mississippi River. Vector polygons in this data set represent Louisiana black bear distribution. Species specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer. This data set comprises a portion of the ESI data for Lower Mississippi 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: 2012
Ending_Date: 2014

Currentness_Reference:
The data were compiled during 2014. The currentness dates for this data range from 2012 to 2014 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -91.70600
East_Bounding_Coordinate: -90.37500
North_Bounding_Coordinate: 31.02700
South_Bounding_Coordinate: 29.93600

Keywords:

Theme:

Theme_Keyword_Thesaurus: ISO 19115 Topic Category
Theme_Keyword: biota
Theme_Keyword: environment

Theme:
Access_Constraints: None

Use_Constraints:
DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Management boundaries are not to be considered legal boundaries. Edges may have been altered for cartographic processes. Besides the above warnings, 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 Lower Mississippi River ESI data.
Browse_Graphic_File_Type: JPEG

Browse_Graphic:

Browse_Graphic_File_Name: datafig2.jpg
Browse_Graphic_File_Description:
- Depicts the relationships between spatial data layers and desktop data tables for the Lower Mississippi 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 (NOS), Office of Response and Restoration (OR&R), Emergency Response Division (ERD), Seattle, Washington, and The Department of Homeland Security, United States Coast Guard Office of Incident Management and Preparedness, Washington, D.C.

Native_Data_Set_Environment:
The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(R) (version 10.2) and SQL SERVER(R) (version 2005). The hardware configuration is PC's with Windows Operating System 7.
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, esil.e00, esip.e00, fish.e00, hydro.e00, index.e00, invert.e00, mgt.e00, nests.e00, reptiles.e00, rivermiles.e00, soccon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut.e00, biofile.e00, biores.e00, breed.e00, breed_dt.e00, seasonal.e00, soc_dat.e00, soc_lut.e00, sources.e00, species.e00, and status.e00.

Data_Quality_Information:

Attribute_Accuracy:

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

Logical_Consistency_Report:
A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary node, etc.), and SQL SERVER(R) to ARC/INFO(R) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resources at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness_Report:
These data represent a synthesis of digital data on Louisiana black bear distribution. These data do not necessarily represent all terrestrial mammal occurrences in Lower Mississippi River. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 102, Louisiana black bear, Ursus americanus luteolus.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:
Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of
these original data. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources. See the Lineage and Process_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

Lineage:

Source Information:

Source Citation:

Citation Information:

Originator: LOUISIANA NATURAL HERITAGE PROGRAM (LNHP)
Publication Date: 2014
Title: LOUISIANA BLACK BEAR DISTRIBUTION
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: 2014

Source Currentness Reference: DATE OF COMMUNICATION

Source Citation Abbreviation: NONE
Source Contribution: T_MAMMAL INFORMATION

Source Information:

Source Citation:

Citation Information:

Originator: NATURESERVE
Publication Date: 2013
Title: NATURESERVE EXPLORER
Geospatial Data Presentation Form: DOCUMENT
Publication Information:

Publication Place: ARLINGTON, VA
Publisher: NATURESERVE

Online Linkage: <http://www.natureserve.org/explorer/index.htm>

Type of Source Media: ONLINE
Source Time Period of Content:

Time Period Information:
Polygons representing the distribution of Louisiana black bears were provided by Louisiana Natural Heritage Program (LNHP). The LDWF-LNHP provided information for some of the federally and state listed species and species of conservation concern for display in the ESI atlas and accompanying digital data in 2014. The available LNHP data sets are to be used for oil spill response and spill response planning only. These data represent existing information known to the LNHP at the time of the request and should never be substituted for consultation with the LNHP.

The above digital and/or hardcopy sources were compiled by the project biologist to create the T_MAMMAL data layer. Depending on the type of source data, three general approaches are used for compiling the data layer: 1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; 2) hardcopy maps are digitized at their source scale; 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 ESI, biology, and human-use data are compiled into the standard ESI digital data format. A second set of interviews with participating resource experts are conducted to review the compiled data. If necessary, edits to the 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: 201405
Process_Contact:

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
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: 3

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Area point  
Point_and_Vector_Object_Count: 2

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Complete chain  
Point_and_Vector_Object_Count: 8

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Link  
Point_and_Vector_Object_Count: 3358

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Node, planar graph  
Point_and_Vector_Object_Count: 8

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Geographic:

Latitude_Resolution: 0.0000001  
Longitude_Resolution: 0.0000001  
Geographic_Coordinate_Units: Decimal degrees

Geodetic_Model:

Horizontal_Datum_Name: North American Datum of 1983  
Ellipsoid_Name: Geodetic Reference System 80  
Semi-major_Axis: 6378137.000000  
Denominator_of_Flattening_Ratio: 298.257222

Entity_and_Attribute_Information:

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 Lower Mississippi River atlas, the number is 233), 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.

Entity and Attribute Detail Citation:
A complete description of entity types, attributes, and attribute values for ESI atlases can be found in the NOAA ESI Guidelines (<http://response.restoration.noaa.gov/esi_guidelines>).

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 Louisiana black bear 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: NOAA ESI Guidelines

Attribute:

Attribute_Label: ID
Attribute_Definition: An identifier that links vector objects in the biology data layers to records in the BIO_LUT
data table. ID is a concatenation of atlas number (233), 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:** "NEED TO ADD"
- **Range Domain Maximum:** "NEED TO ADD"

**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 the polygons and do not contain information.

**Attribute Definition Source:** NOAA

**Attribute Domain Values:**

**Range Domain:**

- **Range Domain Minimum:** "NEED TO ADD"
- **Range Domain Maximum:** "NEED TO ADD"

**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:** NOAA ESI Guidelines

**Attribute:**

**Attribute Label:** RARNUM

**Attribute Definition:**
An identifier that links records in the BIO_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

**Attribute Definition Source:** NOAA

**Attribute Domain Values:**

**Range Domain:**

- **Range Domain Minimum:** "NEED TO ADD"
- **Range Domain Maximum:** "NEED TO ADD"

**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 (233), 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:** "NEED TO ADD"
- **Range Domain Maximum:** "NEED TO ADD"

**Detailed Description:**

**Entity Type:**

- **Entity Type Label:** BIORES
- **Entity Type Definition:** The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO_LUT data table to other associated data tables. See the Browse Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

**Entity Type Definition Source:** NOAA ESI Guidelines

**Attribute:**

- **Attribute Label:** RARNUM
- **Attribute Definition:** An identifier that links records in the BIORES data table to records in the BIO_LUT data table or the flat format BIOFILE data table.

**Attribute Definition Source:** NOAA

**Attribute Domain Values:**

**Range Domain:**

- **Range Domain Minimum:** "NEED TO ADD"
- **Range Domain Maximum:** "NEED TO ADD"

**Attribute:**

- **Attribute Label:** SPECIES_ID
- **Attribute Definition:** Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

**Attribute Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

**Range Domain:**

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

**Attribute:**

- **Attribute Label:** CONC
**Attribute Definition:**
The field CONC refers to "concentration", abundance, or density values. No concentration data was provided, so the field is blank.

**Attribute Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

*Unrepresentable Domain:* Acceptable values change from atlas to atlas.

**Attribute:**

**Attribute Label:** SEASON_ID
**Attribute Definition:** Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

**Attribute Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

*Range Domain:*

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

**Attribute:**

**Attribute Label:** G_SOURCE
**Attribute Definition:** Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.

**Attribute Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

*Range Domain:*

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

**Attribute:**

**Attribute Label:** S_SOURCE
**Attribute Definition:** Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

**Attribute Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

*Range Domain:*

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

**Attribute:**

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

**Attribute Definition Source:** NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

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

Attribute_Domain_Values:

Enumerated_Domain:

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

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial mammals
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
**Attribute:**

*Attribute_Label:* EL_SPE  
*Attribute_Definition:*  
Concatenation of ELEMENT and SPECIES_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.  
*Attribute_Definition_Source:* NOAA ESI Guidelines  
*Attribute_Domain_Values:* 

**Enumerated_Domain:**  

*Enumerated_Domain_Value:* E####  
*Enumerated_Domain_Value_Definition:*  
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').  
*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines  

**Attribute:**

*Attribute_Label:* EL_SPE_SEA  
*Attribute_Definition:*  
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.  
*Attribute_Definition_Source:* NOAA ESI Guidelines  
*Attribute_Domain_Values:* 

**Enumerated_Domain:**  

*Enumerated_Domain_Value:* E#######  
*Enumerated_Domain_Value_Definition:*  
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').  
*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines  

**Detailed_Description:**  

**Entity_Type:**

*Entity_Type_Label:* SPECIES  
*Entity_Type_Definition:*  
The data table SPECIES identifies all species in the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness Report for list of layer specific species.  
*Entity_Type_Definition_Source:* NOAA ESI Guidelines  

**Attribute:**

*Attribute_Label:* SPECIES_ID  
*Attribute_Definition:*  
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.  
*Attribute_Definition_Source:* NOAA ESI Guidelines
Attribute Domain Values:

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: N

Attribute:

Attribute Label: NAME
Attribute Definition: Species common name for the entire ESI data set.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: GEN_SPEC
Attribute Definition: Species scientific name for the entire ESI data set.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: ELEMENT
Attribute Definition: Major categories of biological data.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: BIRD
Enumerated Domain Value Definition: Birds
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: FISH
Enumerated Domain Value Definition: Fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:
Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

- **Enumerated Domain Value**: T_MAMMAL
  - **Enumerated Domain Value Definition**: Terrestrial Mammals
  - **Enumerated Domain Value Definition Source**: NOAA ESI Guidelines

Attribute:

**Attribute Label**: SUBELEMENT
**Attribute Definition**: Element subgroup delineating a logical grouping of species.
**Attribute Definition Source**: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

- **Enumerated Domain Value**: alligator
  - **Enumerated Domain Value Definition**: Alligator
  - **Enumerated Domain Value Definition Source**: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

- **Enumerated Domain Value**: bear
  - **Enumerated Domain Value Definition**: Bear
  - **Enumerated Domain Value Definition Source**: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

- **Enumerated Domain Value**: bivalve
Enumerated_Domain_Value_Definition: Bivalve
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: crab
Enumerated_Domain_Value_Definition: Crab
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: crayfish
Enumerated_Domain_Value_Definition: Crayfish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: diadromous
Enumerated_Domain_Value_Definition: Diadromous fish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: diving
Enumerated_Domain_Value_Definition: Diving bird
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: e_nursery
Enumerated_Domain_Value_Definition: Estuarine nursery fish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: e_resident
Enumerated_Domain_Value_Definition: Estuarine resident fish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: freshwater
Enumerated_Domain_Value_Definition: Freshwater fish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: gull_tern
Enumerated_Domain_Value_Definition: Gull or tern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: invert
Enumerated_Domain_Value_Definition: Invertebrate
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: m_pelagic
Enumerated_Domain_Value_Definition: Marine pelagic fish
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: passerine
Enumerated_Domain_Value_Definition: Passerine bird
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: raptor
Enumerated_Domain_Value_Definition: Raptor
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: shorebird
Enumerated_Domain_Value_Definition: Shorebird
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: shrimp
Enumerated_Domain_Value_Definition: Shrimp
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: turtle
Enumerated_Domain_Value_Definition: Turtle
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: wading
Enumerated_Domain_Value_Definition: Wading bird
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: waterfowl
Enumerated_Domain_Value_Definition: Waterfowl
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: NHP
Attribute_Definition: Natural Heritage Program global ranking.
Attribute_Definition_Source: Network of Natural Heritage Program
Attribute_Domain_Values:

Codeset_Domain:

Codeset_Name: NHP Global Conservation Status Rank
Codeset_Source: Natural Heritage Program

Attribute:

Attribute_Label: DATE_PUB
Attribute_Definition: Date of NHP listing.
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:
Enumerated Domain Value: 0
Enumerated Domain Value Definition: Date unspecified
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: EL_SPE
Attribute Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.
Attribute Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: E####
Enumerated Domain Value Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Detailed Description:

Entity Type:

Entity Type Label: SEASONAL
Entity Type Definition:
The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity Type Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: ELEMENT
Attribute Definition: Major categories of biological data.
Attribute Definition Source: NOAA ESI Guidelines

Enumerated Domain:

Enumerated Domain Value: BIRD
Enumerated Domain Value Definition: Birds
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: FISH
Enumerated Domain Value Definition: Fish
Enumerated Domain Value Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

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

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: T_MAMMAL
Enumerated Domain Value Definition: Terrestrial Mammals
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: SPECIES_ID
Attribute Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: N

Attribute:
Attribute Label: SEASON_ID
Attribute Definition: Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Range Domain:

Range Domain Minimum: 1
Range Domain Maximum: N

Attribute:

Attribute Label: JAN
Attribute Definition: January
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: X
Enumerated Domain Value Definition: Present in January
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: FEB
Attribute Definition: February
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: X
Enumerated Domain Value Definition: Present in February
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: MAR
Attribute Definition: March
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: X
Enumerated Domain Value Definition: Present in March
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: APR
Attribute Definition: April
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in April
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: MAY
Attribute_Definition: May
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in May
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: JUN
Attribute_Definition: June
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in June
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: JUL
Attribute_Definition: July
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in July
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: AUG
Attribute_Definition: August
Attribute_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:

Enumerated_Domain:
Attribute:

**Attribute Label:** SEP  
**Attribute Definition:** September  
**Attribute Definition Source:** NOAA ESI Guidelines  
**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** X  
**Enumerated Domain Value Definition:** Present in September  
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

Attribute:

**Attribute Label:** OCT  
**Attribute Definition:** October  
**Attribute Definition Source:** NOAA ESI Guidelines  
**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** X  
**Enumerated Domain Value Definition:** Present in October  
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

Attribute:

**Attribute Label:** NOV  
**Attribute Definition:** November  
**Attribute Definition Source:** NOAA ESI Guidelines  
**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** X  
**Enumerated Domain Value Definition:** Present in November  
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

Attribute:

**Attribute Label:** DEC  
**Attribute Definition:** December  
**Attribute Definition Source:** NOAA ESI Guidelines  
**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** X  
**Enumerated Domain Value Definition:** Present in December
**Attribute:**

**Attribute Label:** EL_SPE_SEA  
**Attribute Definition:**  
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.  
**Attribute Definition Source:** NOAA ESI Guidelines  
**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** E####  
**Enumerated Domain Value Definition:**  
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').  
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Detailed Description:**

**Entity Type:**

**Entity Type Label:** BREED  
**Entity Type Definition:**  
The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.  
**Entity Type Definition Source:** NOAA ESI Guidelines  
**Attribute:**

**Attribute Label:** EL_SPE_SEA  
**Attribute Definition:**  
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.  
**Attribute Definition Source:** NOAA ESI Guidelines  
**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** E####  
**Enumerated Domain Value Definition:**  
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').  
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute Label:** MONTH  
**Attribute Definition:**  
Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.  
**Attribute Definition Source:** NOAA ESI Guidelines
Attribute_Domain_Values:

Range_Domain:

  Range_Domain_Minimum: 1
  Range_Domain_Maximum: 12

Attribute:

Attribute_Label: BREED1
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T_MAMMAL.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

  Enumerated_Domain_Value: Y
  Enumerated_Domain_Value_Definition: Life-history stage or activity present
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

  Enumerated_Domain_Value: N
  Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

  Enumerated_Domain_Value: -
  Enumerated_Domain_Value_Definition: Breed category not used or not appropriate for record(s) in question
  Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: BREED2
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:
Enumerated_Domain:

   Enumerated_Domain_Value: Y
   Enumerated_Domain_Value_Definition: Life-history stage or activity present
   Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

   Enumerated_Domain_Value: N
   Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
   Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

   Enumerated_Domain_Value: -
   Enumerated_Domain_Value_Definition: Breed category not used or not appropriate for record(s) in question
   Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

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

Attribute_Domain_Values:

Enumerated_Domain:

   Enumerated_Domain_Value: Y
   Enumerated_Domain_Value_Definition: Life-history stage or activity present
   Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

   Enumerated_Domain_Value: N
   Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
   Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

   Enumerated_Domain_Value: -
Enumerated Domain Value Definition:
Breed category not used or not appropriate for record(s) in question

Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: BREED4
Attribute Definition:
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T_MAMMAL elements.

Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: Y
Enumerated Domain Value Definition: Life-history stage or activity present
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: N
Enumerated Domain Value Definition: Life-history stage or activity not present or not reported
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: -
Enumerated Domain Value Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated Domain Value Definition Source: NOAA ESI Guidelines

Attribute:

Attribute Label: BREED5
Attribute Definition:
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M_MAMMAL, HABITAT or T_MAMMAL elements.

Attribute Definition Source: NOAA ESI Guidelines

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: Y
Enumerated Domain Value Definition: Life-history stage or activity present
Enumerated Domain Value Definition Source: NOAA ESI Guidelines
**Attribute_Domain_Values:**

**Enumerated_Domain:**

*Enumerated_Domain_Value: N*
*Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported*
*Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines*

**Attribute_Domain_Values:**

**Enumerated_Domain:**

*Enumerated_Domain_Value: -*
*Enumerated_Domain_Value_Definition: Breed category not used or not appropriate for record(s) in question*
*Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines*

**Detailed_Description:**

**Entity_Type:**

*Entity_Type_Label: STATUS*
*Entity_Type_Definition: The data table STATUS identifies the species that are listed as either threatened or endangered by a state, federal, or international authority. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.*
*Entity_Type_Definition_Source: NOAA ESI Guidelines*

**Attribute:**

*Attribute_Label: ELEMENT*
*Attribute_Definition: Major categories of biological data.*
*Attribute_Definition_Source: NOAA ESI Guidelines*

**Attribute_Domain_Values:**

**Enumerated_Domain:**

*Enumerated_Domain_Value: BIRD*
*Enumerated_Domain_Value_Definition: Birds*
*Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines*

**Attribute_Domain_Values:**

**Enumerated_Domain:**

*Enumerated_Domain_Value: FISH*
*Enumerated_Domain_Value_Definition: Fish*
*Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines*

**Attribute_Domain_Values:**

**Enumerated_Domain:**
**Enumerated Domain Value:** HABITAT  
**Enumerated Domain Value Definition:** Habitats and Plants  
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

**Enumerated Domain:**

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

**Attribute Domain Values:**

**Enumerated Domain:**

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

**Attribute Domain Values:**

**Enumerated Domain:**

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

**Attribute Domain Values:**

**Enumerated Domain:**

**Enumerated Domain Value:** T_MAMMAL  
**Enumerated Domain Value Definition:** Terrestrial Mammals  
**Enumerated Domain Value Definition Source:** NOAA ESI Guidelines

**Attribute:**

**Attribute Label:** SPECIES_ID  
**Attribute Definition:** Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.  
**Attribute Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**

**Range Domain:**

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

**Attribute:**

**Attribute Label:** STATE  
**Attribute Definition:** Two-letter state abbreviation.  
**Attribute Definition Source:** NOAA ESI Guidelines

**Attribute Domain Values:**
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

**Attribute_Label**: COUNTRY
**Attribute_Definition**: Three-letter country abbreviation.
**Attribute_Definition_Source**: NOAA ESI Guidelines
**Attribute_Domain_Values**: 

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

**Attribute_Label**: S
**Attribute_Definition**: State threatened or endangered status.
**Attribute_Definition_Source**: NOAA ESI Guidelines
**Attribute_Domain_Values**:

Enumerated_Domain:

- **Enumerated_Domain_Value**: E
  - **Enumerated_Domain_Value_Definition**: Endangered on state list
  - **Enumerated_Domain_Value_Definition_Source**: NOAA ESI Guidelines

**Attribute_Domain_Values**:

Enumerated_Domain:

- **Enumerated_Domain_Value**: T
  - **Enumerated_Domain_Value_Definition**: Threatened on state list
  - **Enumerated_Domain_Value_Definition_Source**: NOAA ESI Guidelines

**Attribute_Domain_Values**:

Enumerated_Domain:

- **Enumerated_Domain_Value**: C
  - **Enumerated_Domain_Value_Definition**: Species of Special Concern
  - **Enumerated_Domain_Value_Definition_Source**: NOAA ESI Guidelines

Attribute:

**Attribute_Label**: F
**Attribute_Definition**: Federal threatened or endangered status.
**Attribute_Definition_Source**: NOAA ESI Guidelines
**Attribute_Domain_Values**:

Enumerated_Domain:

- **Enumerated_Domain_Value**: E
  - **Enumerated_Domain_Value_Definition**: Endangered on federal list
  - **Enumerated_Domain_Value_Definition_Source**: NOAA ESI Guidelines

**Attribute_Domain_Values**:
Enumerated_Domain:

Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: I
Attribute_Definition: International threatened or endangered status.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: S_DATE
Attribute_Definition: Publication date of source material used to assign state status values for each species, if used.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute:

Attribute_Label: F_DATE
Attribute_Definition:
Publication date of source material used to assign federal status values for each species, if used.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: I_DATE
Attribute_Definition:
Publication date of source material used to assign international status values for each species, if used.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.
Attribute_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B000001').
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Detailed_Description:

Entity_Type:

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

*Entity_Type_Definition_Source*: NOAA ESI Guidelines

**Attribute:**

*Attribute_Label*: SOURCE_ID

*Attribute_Definition*: Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID and ESI_Source in the ESI and HYDRO data layers.

*Attribute_Definition_Source*: NOAA ESI Guidelines

*Attribute_Domain_Values*:

*Range_Domain*:

*Range_Domain_Minimum*: 1
*Range_Domain_Maximum*: N

**Attribute:**

*Attribute_Label*: ORIGINATOR

*Attribute_Definition*: Author or developer of source material or data set.

*Attribute_Definition_Source*: NOAA ESI Guidelines

*Attribute_Domain_Values*:

*Unrepresentable_Domain*: Acceptable values change from atlas to atlas.

**Attribute:**

*Attribute_Label*: DATE_PUB

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

*Attribute_Definition_Source*: NOAA ESI Guidelines

*Attribute_Domain_Values*:

*Enumerated_Domain*:

*Enumerated_Domain_Value*: YYYYMM

*Enumerated_Domain_Value_Definition*: YYYY for year and optionally MM for month

*Enumerated_Domain_Value_Definition_Source*: NOAA ESI Guidelines

**Attribute:**

*Attribute_Label*: TITLE

*Attribute_Definition*: Title of source material or data.

*Attribute_Definition_Source*: NOAA ESI Guidelines

*Attribute_Domain_Values*:

*Unrepresentable_Domain*: Acceptable values change from atlas to atlas.

**Attribute:**

*Attribute_Label*: DATA_FORMAT
Attribute Definition: The format of the source material.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: PUB_PLACE
Attribute Definition: Publication place.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: PUBLISHER
Attribute Definition: Publisher.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: PUBLICATION
Attribute Definition: Additional citation information.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: ONLINE_LINK
Attribute Definition: Online computer resource URL.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: SCALE
Attribute Definition: Description of the source scale.
Attribute Definition Source: NOAA ESI Guidelines
Attribute Domain Values:

Unrepresentable Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute Label: TIME_PERIOD
Attribute Definition: Date(s) of data collection that the source material is based upon.
*Attribute_Definition_Source*: NOAA ESI Guidelines

*Attribute_Domain_Values*:

*Unrepresentable_Domain*: Acceptable values change from atlas to atlas.

---

**Distribution_Information**:

**Distributor**:

**Contact_Information**:

**Contact_Person_Primary**:

*Contact_Person*: John Kaperick  
*Contact_Organization*: NOAA, Office of Response and Restoration

**Contact_Address**:

*Address_Type*: Physical Address  
*Address*: 7600 Sand Point Way N.E.  
*City*: Seattle  
*State_or_Province*: Washington  
*Postal_Code*: 98115-6349

*Contact_Voice_Telephone*: (206) 526-6400  
*Contact_Facsimile_Telephone*: (206) 526-6329

**Resource_Description**: Downloadable Data

**Distribution_Liability**:

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

**Custom_Order_Process**:

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and 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*: 201405  
*Metadata_Review_Date*: 201405  
*Metadata_Contact*:

**Contact_Information**:

**Contact_Person_Primary**:
Contact Person: Jill Petersen
Contact Organization: NOAA, Office of Response and Restoration

Contact Position: GIS Manager
Contact Address:

Address Type: Physical Address
Address: 7600 Sand Point Way, N.E.
City: Seattle
State or Province: Washington
Postal Code: 98115-6349

Contact Voice Telephone: (206) 526-6944
Contact Facsimile Telephone: (206) 526-6329
Contact Electronic Mail Address: Jill.Petersen@noaa.gov

Metadata Standard Name: Content Standards for Digital Geospatial Metadata

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