

# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: 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:*

##### *Citation\_Information:*

##### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Publication\_Date:* 200812

##### *Title:*

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

*Edition:* Second

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

##### *Series\_Information:*

*Series\_Name:* None

*Issue\_Identification:* Northern California

##### *Publication\_Information:*

*Publication\_Place:* Seattle, Washington

##### *Publisher:*

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

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

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

Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Description:*

*Abstract:*

This data set contains vector lines and polygons representing coastal hydrography used in the creation of the Environmental Sensitivity Index (ESI) for Northern California. The HYDRO data layer contains all annotation used in producing the atlas. The annotation features are categorized into three subclasses in order to simplify the mapping and quality control procedures: GEOG for geographic features, SOC for socioeconomic features, and HYDRO for water features. This data set comprises a portion of the ESI data for Northern California. 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:* 1959

*Ending\_Date:* 2007

*Currentness\_Reference:*

The data were compiled during 2007. The currentness dates for this data ranges from 1959 to 2007 and are documented in the Lineage section.

*Status:*

*Progress:* Complete

*Maintenance\_and\_Update\_Frequency:* None Scheduled

*Spatial\_Domain:*

*Bounding\_Coordinates:*

*West\_Bounding\_Coordinate:* -124.45800

*East\_Bounding\_Coordinate:* -122.75000

*North\_Bounding\_Coordinate:* 37.97900

*South\_Bounding\_Coordinate:* 42.00000

*Keywords:*

*Theme:*

*Theme\_Keyword\_Thesaurus:* None

*Theme\_Keyword:* ESI

*Theme\_Keyword:* Sensitivity maps

*Theme\_Keyword:* Coastal resources

*Theme\_Keyword:* Oil spill planning

*Theme\_Keyword:* Coastal Zone Management

*Theme\_Keyword:* Wildlife

*Theme\_Keyword:* Hydrography

*Place:*

*Place\_Keyword\_Thesaurus:* None

*Place\_Keyword:* Northern California

*Access\_Constraints:* None

*Use\_Constraints:*

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

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:* [datafig.jpg](#)

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the Northern California ESI data.

*Browse\_Graphic\_File\_Type:* JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO® (version 9.2) and SQL SERVER® (version 2000). The hardware configuration is PCs with Windows Operating System (2000/XP/2003).

The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00. Associated relational and desktop data tables provided in ARC export and text format are bio\_lut, biofile, biores, breed, breed\_dt, seasonal, soc\_dat, soc\_lut, sources, species, and status.

*Data\_Quality\_Information:*

*Attribute\_Accuracy:*

*Attribute\_Accuracy\_Report:*

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

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate

data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER® to ARC/INFO® consistencies. A final review is made by the GIS manager, where the data are written to CD or DVD, and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks.

*Completeness\_Report:*

These data represent linear and polygonal hydrography for Northern California.

*Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy\_Report:*

The HYDRO data set was developed from pre-existing digital data and reflects the positional accuracy of these original data. The horizontal positional accuracy of the 1:24,000 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:* CALIFORNIA COASTAL RECORDS PROJECT

*Publication\_Date:* 20051004

*Title:* PHOTOGRAPHIC DATABASE DOCUMENTING CALIFORNIA'S COAST

*Geospatial\_Data\_Presentation\_Form:* PHOTO

*Other\_Citation\_Details:*

<http://www.californiacoastline.org/> (Contact the site webmaster if this URL is no longer active.)

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:* 20051004

*Ending\_Date:* 20051005

*Source\_Currentness\_Reference:* DATE OF SURVEY

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* HYDRO INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* CALIFORNIA SPATIAL INFORMATION LIBRARY

*Publication\_Date:* 2004

*Title:* REMOTE SENSING DIGITAL ORTHO QUARTER QUADS

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

*Other\_Citation\_Details:*

[http://archive.casil.ucdavis.edu/casil/remote\\_sensing/doq/doqq/](http://archive.casil.ucdavis.edu/casil/remote_sensing/doq/doqq/)  
(Contact the site webmaster if this URL is no longer active.)

*Source\_Scale\_Denominator:* 40,000

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2002

*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* HYDRO INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* NOAA  
*Publication\_Date:* 1994  
*Title:*  
 SENSITIVITY OF COASTAL ENVIRONMENTS AND WILDLIFE TO  
 SPILLED OIL: NORTHERN CALIFORNIA: ESI: HYDRO  
*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA  
*Other\_Citation\_Details:*  
 NATIONAL OCEAN SERVICE HAZARDOUS MATERIAL RESPONSE  
 DIVISION, 7600 SAND POINT WAY, SEATTLE, WA 98115-6349  
*Source\_Scale\_Denominator:* 24,000  
*Type\_of\_Source\_Media:* CD-ROM  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 1992  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* HYDRO INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* RESEARCH PLANNING INC.  
*Publication\_Date:* 2007  
*Title:* ESI INDEX  
*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA  
*Other\_Citation\_Details:* UNPUBLISHED  
*Source\_Scale\_Denominator:* 24,000  
*Type\_of\_Source\_Media:* DIGITAL  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2007  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* HYDRO INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* RESEARCH PLANNING INC.  
*Publication\_Date:* 200709  
*Title:* OVERFLIGHT OBLIQUES  
*Geospatial\_Data\_Presentation\_Form:* PHOTOGRAPH  
*Other\_Citation\_Details:* UNPUBLISHED  
*Source\_Scale\_Denominator:* VARIES  
*Type\_of\_Source\_Media:* DIGITAL PHOTO  
*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 200709*Source\_Currentness\_Reference:* DATE OF SURVEY*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* HYDRO INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* U.S. GEOLOGICAL SURVEY*Publication\_Date:* 1972*Title:* SCANNED TOPOGRAPHIC MAPS*Geospatial\_Data\_Presentation\_Form:* HARDCOPY MAP*Other\_Citation\_Details:*<http://archive.casil.ucdavis.edu/casil/maps/drg>[/7.5\\_minute\\_series\\_albers\\_nad83\\_trimmed/](http://archive.casil.ucdavis.edu/casil/maps/drg/7.5_minute_series_albers_nad83_trimmed/) (Contact the site webmaster if this URL is no longer active.)*Source\_Scale\_Denominator:* 24,000*Type\_of\_Source\_Media:* PAPER*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 1959*Source\_Currentness\_Reference:* DATE OF PUBLICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* HYDRO INFORMATION*Process\_Step:**Process\_Description:*

The shoreline was derived primarily from the original ESI maps, published in 1994. Where appropriate, revisions to the existing shoreline were made by a coastal geologist using two methods: (1) interpretation of the 2005 contiguous oblique aerial photography ([www.californiacoastline.org](http://www.californiacoastline.org)) and the 2002-04 Digital Ortho Quarter Quads (DOQQs), and (2) through verification via overflights and ground surveys conducted in September 2007. Digital stream data provided by the National Marine Fisheries Service (NMFS) and used for anadromous fish locations as part of the FISHL (Fish Lines) data set in this ESI atlas, were also incorporated into this data layer.

The above digital and/or hardcopy sources were compiled to create the HYDRO data layer. Depending on the type of source data, three general approaches are used for compiling the data layer: (1) hardcopy maps are digitized at their source scale; (2) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources; and/or (3) overflight changes are digitized from the scanned and registered hardcopy field maps or aerial photography. After the initial shoreline classification, these data are edgematched and checked for logical consistency errors. Review maps are plotted at 1:24,000 scale for verification of polygonal and linear attributes. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the HYDRO data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date*: 200812

*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](mailto:Jill.Petersen@noaa.gov)

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*Spatial\_Data\_Organization\_Information*:

*Direct\_Spatial\_Reference\_Method*: Vector

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

*SDTS\_Terms\_Description*:

*SDTS\_Point\_and\_Vector\_Object\_Type*: GT-polygon composed of chains

*Point\_and\_Vector\_Object\_Count*: 6859

*SDTS\_Terms\_Description*:

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

*Point\_and\_Vector\_Object\_Count*: 6858

*SDTS\_Terms\_Description*:

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

*Point\_and\_Vector\_Object\_Count*: 10595

*SDTS\_Terms\_Description*:

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

*Point\_and\_Vector\_Object\_Count*: 293399

*SDTS\_Terms\_Description*:

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

*Point\_and\_Vector\_Object\_Count*: 378

*SDTS\_Terms\_Description*:

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

*Point\_and\_Vector\_Object\_Count*: 10480

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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 1927

*Ellipsoid\_Name*: Clark 1866

*Semi-major\_Axis*: 6378206.400000

*Denominator\_of\_Flattening\_Ratio*: 294.978698

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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, 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.

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

*Entity\_Type\_Label:* HYDRO.AAT

*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* LINE

*Attribute\_Definition:* Type of geographic feature.

*Attribute\_Definition\_Source:* Research Planning, Inc.

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

*Enumerated\_Domain\_Value:* B

*Enumerated\_Domain\_Value\_Definition:* Breakwater

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

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

*Enumerated\_Domain\_Value:* H

*Enumerated\_Domain\_Value\_Definition:* Hydrography

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

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

*Enumerated\_Domain\_Value:* I

*Enumerated\_Domain\_Value\_Definition:* Index

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

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

*Enumerated\_Domain\_Value:* P

*Enumerated\_Domain\_Value\_Definition:* Pier

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

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

*Enumerated\_Domain\_Value:* S

*Enumerated\_Domain\_Value\_Definition:* Shoreline

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

*Attribute:*

*Attribute\_Label:* SOURCE\_ID

*Attribute\_Definition:*

Spatial data source for the data layer lines that link to records in the SOURCES data table.

*Attribute\_Definition\_Source:* Research Planning, Inc.

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



*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* HYDRO.PAT

*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* WATER\_CODE

*Attribute\_Definition:* Specifies a polygon as either water or land.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* L

*Enumerated\_Domain\_Value\_Definition:* Land

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* W

*Enumerated\_Domain\_Value\_Definition:* Water

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

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* ANNO.GEOG

*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* ANNO.HYDRO

*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* ANNO.SOC

*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* SOURCES

*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:**Attribute\_Label:* SOURCE\_ID*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* ORIGINATOR*Attribute\_Definition:* Author or developer of source material or data set.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* DATE\_PUB*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* YYYYMM*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* TITLE*Attribute\_Definition:* Title of source material or data.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* DATA\_FORMAT*Attribute\_Definition:* The format of the source material.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* PUBLICATION*Attribute\_Definition:* Additional citation information.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* SCALE*Attribute\_Definition:* Description of the source scale.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* TIME\_PERIOD

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Distribution\_Information:*

*Distributor:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:* John Kaperick

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

*Contact\_Address:*

*Address\_Type:* Physical Address

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

*City:* Seattle

*State\_or\_Province:* Washington

*Postal\_Code:* 98115-6349

*Contact\_Voice\_Telephone:* (206) 526-6400

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

*Resource\_Description:* ESI Atlas for Northern California

*Distribution\_Liability:*

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

*Custom\_Order\_Process:*

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

*Metadata\_Reference\_Information:*

*Metadata\_Date:* 200902

*Metadata\_Review\_Date:* 200902

*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](mailto:Jill.Petersen@noaa.gov)

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

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

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

Metadata also available as - [[Parseable text](#)] - [[SGML](#)] - [[XML](#)]

## Metadata:

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

### *Identification\_Information:*

#### *Citation:*

##### *Citation\_Information:*

##### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Publication\_Date:* 200812

##### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: ESI (Environmental Sensitivity Index Shoreline Types - Lines and Polygons)

*Edition:* Second

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

##### *Series\_Information:*

*Series\_Name:* None

*Issue\_Identification:* Northern California

##### *Publication\_Information:*

*Publication\_Place:* Seattle, Washington

##### *Publisher:*

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

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

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

Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Description:*

*Abstract:*

This data set contains vector lines and polygons representing the shoreline and coastal habitats of Northern California, classified according to the Environmental Sensitivity Index (ESI) classification system. This data set comprises a portion of the ESI data for Northern California. 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:* 1992

*Ending\_Date:* 2007

*Currentness\_Reference:*

The data were compiled during 2007. The currentness dates for the data ranges from 1992 to 2007 and are documented in the Lineage section.

*Status:*

*Progress:* Complete

*Maintenance\_and\_Update\_Frequency:* None Scheduled

*Spatial\_Domain:*

*Bounding\_Coordinates:*

*West\_Bounding\_Coordinate:* -124.45800

*East\_Bounding\_Coordinate:* -122.75000

*North\_Bounding\_Coordinate:* 37.97900

*South\_Bounding\_Coordinate:* 42.00000

*Keywords:*

*Theme:*

*Theme\_Keyword\_Thesaurus:* None

*Theme\_Keyword:* ESI

*Theme\_Keyword:* Sensitivity maps

*Theme\_Keyword:* Coastal resources

*Theme\_Keyword:* Oil spill planning

*Theme\_Keyword:* Coastal Zone Management

*Theme\_Keyword:* Wildlife

*Theme\_Keyword:* Shoreline habitats

*Place:*

*Place\_Keyword\_Thesaurus:* None

*Place\_Keyword:* Northern California

*Access\_Constraints:* None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations.

Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:* [datafig.jpg](#)

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the Northern California ESI data.

*Browse\_Graphic\_File\_Type:* JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO® (version 9.2) and SQL SERVER® (version 2000). The hardware configuration is PCs with Windows Operating System (2000/XP/2003).

The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00. Associated relational and desktop data tables provided in ARC export and text format are bio\_lut, biofile, biores, breed, breed\_dt, seasonal, soc\_dat, soc\_lut, sources, species, and status.

*Data\_Quality\_Information:*

*Attribute\_Accuracy:*

*Attribute\_Accuracy\_Report:*

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

*Logical\_Consistency\_Report:*

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

delivered to NOAA, they are again subjected to a number of quality and consistency checks.

*Completeness\_Report:*

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

*Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy\_Report:*

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

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* CALIFORNIA COASTAL RECORDS PROJECT

*Publication\_Date:* 20051004

*Title:* PHOTOGRAPHIC DATABASE DOCUMENTING CALIFORNIA'S COAST

*Geospatial\_Data\_Presentation\_Form:* PHOTO

*Other\_Citation\_Details:*

<http://www.californiacoastline.org/> (Contact the site webmaster if this URL is no longer active.)

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:* 20051004

*Ending\_Date:* 20051005

*Source\_Currentness\_Reference:* DATE OF SURVEY

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* ESI INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* CALIFORNIA SPATIAL INFORMATION LIBRARY

*Publication\_Date:* 2004

*Title:* REMOTE SENSING DIGITAL ORTHO QUARTER QUADS (DOQQs)

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

*Other\_Citation\_Details:*

[http://archive.casil.ucdavis.edu/casil/remote\\_sensing/doq/doqq/](http://archive.casil.ucdavis.edu/casil/remote_sensing/doq/doqq/)  
(Contact the site webmaster if this URL is no longer active.)

*Source\_Scale\_Denominator:* 40,000

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*



*Single\_Date/Time:*

*Calendar\_Date:* 2002

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* ESI INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* NATIONAL OCEANIC AND ATMOSPHERIC  
ADMINISTRATION (NOAA)

*Publication\_Date:* 1994

*Title:*

SENSITIVITY OF COASTAL ENVIRONMENTS AND WILDLIFE TO  
SPILLED OIL: NORTHERN CALIFORNIA: ESI: HYDRO

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

*Other\_Citation\_Details:*

NATIONAL OCEAN SERVICE, HAZARDOUS MATERIALS  
RESPONSE DIVISION, 7600 SAND POINT WAY, SEATTLE, WA  
98115-6349

*Source\_Scale\_Denominator:* 24,000

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

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1992

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* ESI INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* RESEARCH PLANNING INC. (RPI)

*Publication\_Date:* 2007

*Title:* ESI INDEX

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

*Other\_Citation\_Details:* UNPUBLISHED

*Source\_Scale\_Denominator:* 24,000

*Type\_of\_Source\_Media:* DIGITAL

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2007

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* ESI INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* RESEARCH PLANNING INC.

*Publication\_Date:* 200709

*Title:* OVERFLIGHT OBLIQUES

*Geospatial\_Data\_Presentation\_Form:* PHOTOGRAPH

*Other\_Citation\_Details:* UNPUBLISHED

*Source\_Scale\_Denominator:* VARIES

*Type\_of\_Source\_Media:* DIGITAL PHOTO

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 200709

*Source\_Currentness\_Reference:* DATE OF SURVEY

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* ESI INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* U.S. FISH AND WILDLIFE SERVICE

*Publication\_Date:* 2006

*Title:* NATIONAL WETLANDS INVENTORY (NWI)

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

*Other\_Citation\_Details:* NWI VECTOR WETLANDS POLYGONS

*Type\_of\_Source\_Media:* EMAIL

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2006

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* ESI INFORMATION

*Process\_Step:*

*Process\_Description:*

The shoreline habitats on the original ESI maps, published in 1994, were re-examined and updated by a coastal geologist using two methods: (1) interpretation of the 2005 contiguous oblique aerial photography ([www.californiacoastline.org](http://www.californiacoastline.org)) and the 2002-04 Digital Ortho Quarter Quads (DOQQs), and (2) verification via overflights and ground surveys conducted in September 2007. The overflights were conducted at elevations of 400-600 feet and slow air speed. All flights were planned to maximize time on site during the 2.5 hours preceding and the 2.5 hours following peak low tide. Where appropriate, revisions to the existing shoreline were made, and where necessary, multiple habitats were described for each shoreline segment. Additionally, the 2006 National Wetlands Inventory (NWI) data were used to assist in the classification of polygonal wetlands in the area surrounding Lake Earl in Del Norte County.

The above digital and/or hardcopy sources were compiled to create the ESI data layer. Depending on the type of source data, four general approaches are used for compiling the data layer: (1) hardcopy maps are digitized at their source scale; (2) digital data layers are evaluated and used "as is" or integrated with the other data sources; (3) overflight classifications are digitized from the scanned and registered hardcopy field maps; and/or (4) classifications are interpreted from oblique GPS-referenced photography or video taken during the overflights. After the initial shoreline classification, these data are edgematched and checked for logical consistency errors. Review maps are plotted at 1:24,000 scale for verification of polygonal and linear attributes. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource

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

*Process\_Date:* 200812

*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](mailto: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:* 546

*SDTS\_Terms\_Description:*

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

*Point\_and\_Vector\_Object\_Count:* 545

*SDTS\_Terms\_Description:*

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

*Point\_and\_Vector\_Object\_Count:* 3596

*SDTS\_Terms\_Description:*

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

*Point\_and\_Vector\_Object\_Count:* 139949

*SDTS\_Terms\_Description:*

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

*Point\_and\_Vector\_Object\_Count:* 3425

*Spatial\_Reference\_Information:*

*Horizontal\_Coordinate\_System\_Definition:*

*Geographic:*

*Latitude\_Resolution:* 0.0000001

*Longitude\_Resolution:* 0.0000001

*Geographic\_Coordinate\_Units:* Decimal degrees

*Geodetic\_Model:*

*Horizontal\_Datum\_Name:* North American Datum of 1927

*Ellipsoid\_Name:* Clark 1866

*Semi-major\_Axis:* 6378206.400000

*Denominator\_of\_Flattening\_Ratio:* 294.978698

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

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

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

*Entity\_Type\_Label:* ESI.AAT

*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* ESI

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

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

*Enumerated\_Domain\_Value:* 1A

*Enumerated\_Domain\_Value\_Definition:* Exposed Rocky Shores

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

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

*Enumerated\_Domain\_Value:* 1B

*Enumerated\_Domain\_Value\_Definition:* Exposed, Solid Man-made Structures

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

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

*Enumerated\_Domain\_Value: 2A*

*Enumerated\_Domain\_Value\_Definition: Exposed Wave-cut Platforms in Bedrock*

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: 3A*

*Enumerated\_Domain\_Value\_Definition: Fine- to Medium-grained Sand Beaches*

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: 3B*

*Enumerated\_Domain\_Value\_Definition: Scarps and Steep Slopes in Sand*

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: 4*

*Enumerated\_Domain\_Value\_Definition: Coarse-grained Sand Beaches*

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: 5*

*Enumerated\_Domain\_Value\_Definition: Mixed Sand and Gravel Beaches*

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: 6A*

*Enumerated\_Domain\_Value\_Definition: Gravel Beaches*

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: 6B*

*Enumerated\_Domain\_Value\_Definition: Riprap*

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: 6D*

*Enumerated\_Domain\_Value\_Definition: Boulder Rubble*

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: 7*

*Enumerated\_Domain\_Value\_Definition: Exposed Tidal Flats*

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: 8A*

*Enumerated\_Domain\_Value\_Definition: Sheltered Rocky Shores*

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: 8B*

*Enumerated\_Domain\_Value\_Definition:* Sheltered, Solid Man-made Structures

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 8C

*Enumerated\_Domain\_Value\_Definition:* Sheltered Riprap

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 9A

*Enumerated\_Domain\_Value\_Definition:* Sheltered Tidal Flats

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 9B

*Enumerated\_Domain\_Value\_Definition:* Vegetated Low Banks

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 10A

*Enumerated\_Domain\_Value\_Definition:* Salt- and Brackish-water marshes

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* U

*Enumerated\_Domain\_Value\_Definition:* Unranked

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

*Attribute:*

*Attribute\_Label:* LINE

*Attribute\_Definition:* Type of geographic feature.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* B

*Enumerated\_Domain\_Value\_Definition:* Breakwater

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* F

*Enumerated\_Domain\_Value\_Definition:* Flat

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* H

*Enumerated\_Domain\_Value\_Definition:* Hydrography

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* I

*Enumerated\_Domain\_Value\_Definition:* Index

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* M*Enumerated\_Domain\_Value\_Definition:* Marsh*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* P*Enumerated\_Domain\_Value\_Definition:* Pier*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* S*Enumerated\_Domain\_Value\_Definition:* Shoreline*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* SOURCE\_ID*Attribute\_Definition:*

Spatial data source for the data layer lines that link to records in the SOURCES data table.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* ENVIR*Attribute\_Definition:* Type of regional environment.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* E*Enumerated\_Domain\_Value\_Definition:* Estuarine*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* U*Enumerated\_Domain\_Value\_Definition:* Unranked*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* ESI.PAT*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* ESI*Attribute\_Definition:* The item ESI contains values representing the ESI polygon type.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* 2A

*Enumerated\_Domain\_Value\_Definition:* Exposed Wave-cut Platforms in Bedrock

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 7

*Enumerated\_Domain\_Value\_Definition:* Exposed Tidal Flats

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 9A

*Enumerated\_Domain\_Value\_Definition:* Sheltered Tidal Flats

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 10A

*Enumerated\_Domain\_Value\_Definition:* Salt- and Brackish-water marshes

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 10B

*Enumerated\_Domain\_Value\_Definition:* Freshwater Marshes

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 10C

*Enumerated\_Domain\_Value\_Definition:* Swamps

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 10D

*Enumerated\_Domain\_Value\_Definition:* Scrub-shrub Wetlands

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* U

*Enumerated\_Domain\_Value\_Definition:* Unranked

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

*Attribute:*

*Attribute\_Label:* WATER\_CODE

*Attribute\_Definition:* Specifies a polygon as either water or land.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* L

*Enumerated\_Domain\_Value\_Definition:* Land

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* W

*Enumerated\_Domain\_Value\_Definition:* Water

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



*Attribute:**Attribute\_Label:* ENVIR*Attribute\_Definition:* Type of regional environment.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* E*Enumerated\_Domain\_Value\_Definition:* Estuarine*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* U*Enumerated\_Domain\_Value\_Definition:* Unranked*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* SOURCES*Entity\_Type\_Definition:*

The data table SOURCES contains the primary sources used to create the ESI data set.

See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* SOURCE\_ID*Attribute\_Definition:*

Source identifier that links records in the SOURCES data table to the items

G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID in the ESI and HYDRO data layers.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* ORIGINATOR*Attribute\_Definition:* Author or developer of source material or data set.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* DATE\_PUB*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* YYYYMM*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:*

*Attribute\_Label:* TITLE

*Attribute\_Definition:* Title of source material or data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* DATA\_FORMAT

*Attribute\_Definition:* The format of the source material.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* PUBLICATION

*Attribute\_Definition:* Additional citation information.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* SCALE

*Attribute\_Definition:* Description of the source scale.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* TIME\_PERIOD

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Distribution\_Information:*

*Distributor:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:* John Kaperick

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

*Contact\_Address:*

*Address\_Type:* Physical Address

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

*City:* Seattle

*State\_or\_Province:* Washington

*Postal\_Code:* 98115-6349

*Contact\_Voice\_Telephone:* (206) 526-6400

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

*Resource\_Description:* ESI Atlas for Northern California

*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration (NOAA), no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable

format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

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

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*Metadata\_Reference\_Information:*

*Metadata\_Date:* 200902

*Metadata\_Review\_Date:* 200902

*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](mailto:Jill.Petersen@noaa.gov)

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

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

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Generated by [mp](#) version 2.8.21 on Thu Mar 19 22:03:44 2009

# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: INDEX (Index 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:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Publication\_Date:* 200812

#### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: INDEX (Index Polygons)

*Edition:* Second

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

#### *Series\_Information:*

*Series\_Name:* None

*Issue\_Identification:* Northern California

#### *Publication\_Information:*

*Publication\_Place:* Seattle, Washington

#### *Publisher:*

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

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

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

Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Description:*

*Abstract:*

This data set contains vector polygons representing the boundaries of all hardcopy cartographic products produced as part of the Environmental Sensitivity Index (ESI) for Northern California. This data set comprises a portion of the ESI data for Northern California. 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:* 2007

*Currentness\_Reference:*

The INDEX data were compiled during 2007. The currentness date for the data is 2007 and is documented in the Lineage section.

*Status:*

*Progress:* Complete

*Maintenance\_and\_Update\_Frequency:* None Scheduled

*Spatial\_Domain:*

*Bounding\_Coordinates:*

*West\_Bounding\_Coordinate:* -124.45800

*East\_Bounding\_Coordinate:* -122.75000

*North\_Bounding\_Coordinate:* 37.97900

*South\_Bounding\_Coordinate:* 42.00000

*Keywords:*

*Theme:*

*Theme\_Keyword\_Thesaurus:* None

*Theme\_Keyword:* ESI

*Theme\_Keyword:* Sensitivity maps

*Theme\_Keyword:* Coastal resources

*Theme\_Keyword:* Oil spill planning

*Theme\_Keyword:* Coastal Zone Management

*Theme\_Keyword:* Wildlife

*Place:*

*Place\_Keyword\_Thesaurus:* None

*Place\_Keyword:* Northern California

*Access\_Constraints:* None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys.

Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:* [datafig.jpg](#)

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the Northern California ESI data.

*Browse\_Graphic\_File\_Type:* JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO® (version 9.2) and SQL SERVER® (version 2000). The hardware configuration is PCs with Windows Operating System (2000/XP/2003).

The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00. Associated relational and desktop data tables provided in ARC export and text format are bio\_lut, biofile, biores, breed, breed\_dt, seasonal, soc\_dat, soc\_lut, sources, species, and status.

*Data\_Quality\_Information:*

*Attribute\_Accuracy:*

*Attribute\_Accuracy\_Report:*

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

*Logical\_Consistency\_Report:*

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

*Completeness\_Report:*

These data represent the boundaries of all hardcopy cartographic products produced as part of the ESI for Northern California.

*Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy\_Report:*

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

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* RESEARCH PLANNING INC. (RPI)

*Publication\_Date:* 2007

*Title:* ESI INDEX

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

*Other\_Citation\_Details:* UNPUBLISHED

*Source\_Scale\_Denominator:* 24,000

*Type\_of\_Source\_Media:* DIGITAL

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2007

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* INDEX INFORMATION

*Process\_Step:*

*Process\_Description:*

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

*Process\_Date:* 200812

*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](mailto:Jill.Petersen@noaa.gov)

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*Spatial\_Data\_Organization\_Information:**Direct\_Spatial\_Reference\_Method:* Vector*Point\_and\_Vector\_Object\_Information:**SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:* GT-polygon composed of chains*Point\_and\_Vector\_Object\_Count:* 40*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:* Area point*Point\_and\_Vector\_Object\_Count:* 39*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:* Complete chain*Point\_and\_Vector\_Object\_Count:* 172*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:* Link*Point\_and\_Vector\_Object\_Count:* 176*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:* Node, planar graph*Point\_and\_Vector\_Object\_Count:* 134

---

*Spatial\_Reference\_Information:**Horizontal\_Coordinate\_System\_Definition:**Geographic:**Latitude\_Resolution:* 0.0000001*Longitude\_Resolution:* 0.0000001*Geographic\_Coordinate\_Units:* Decimal degrees*Geodetic\_Model:**Horizontal\_Datum\_Name:* North American Datum of 1927*Ellipsoid\_Name:* Clark 1866*Semi-major\_Axis:* 6378206.400000*Denominator\_of\_Flattening\_Ratio:* 294.978698

---

*Entity\_and\_Attribute\_Information:**Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* INDEX.PAT*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*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:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1



*Range\_Domain\_Maximum:* 39

*Attribute:*

*Attribute\_Label:* TOPO-NAME

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* SCALE

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* MAPANGLE

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1.7010

*Range\_Domain\_Maximum:* 2.7750

*Attribute\_Units\_of\_Measure:* Degree

*Attribute:*

*Attribute\_Label:* PAGESIZE

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 11,17

*Enumerated\_Domain\_Value\_Definition:* Page size= 11" by 17"

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

*Distribution\_Information:*

*Distributor:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:* John Kaperick

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

*Contact\_Address:*

*Address\_Type:* Physical Address

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

*City:* Seattle

*State\_or\_Province:* Washington

*Postal\_Code:* 98115-6349

*Contact\_Voice\_Telephone:* (206) 526-6400

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

*Resource\_Description:* ESI Atlas for Northern California

*Distribution\_Liability:*

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

*Custom\_Order\_Process:*

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

---

*Metadata\_Reference\_Information:*

*Metadata\_Date:* 200902

*Metadata\_Review\_Date:* 200902

*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](mailto:Jill.Petersen@noaa.gov)

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

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

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# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: 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:*

##### *Citation\_Information:*

##### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Publication\_Date:* 200812

##### *Title:*

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

*Edition:* Second

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

##### *Series\_Information:*

*Series\_Name:* None

*Issue\_Identification:* Northern California

##### *Publication\_Information:*

*Publication\_Place:* Seattle, Washington

##### *Publisher:*

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

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

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

Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Description:*

*Abstract:*

This data set contains human-use data for designated critical habitats, essential habitats, management areas, marine sanctuaries, National Park Service properties, Nature Conservancy properties, State parks, and wildlife refuges in Northern California. 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 Environmental Sensitivity Index (ESI) data for Northern California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources. See also the SOCECON (Socioeconomic Resource Points and Lines) data layer, part of the larger Northern California 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:* 1996

*Ending\_Date:* 2007

*Currentness\_Reference:*

The data were compiled during 2007. The currentness dates for the data range from 1996 to 2007 and are documented in the Lineage section.

*Status:*

*Progress:* Complete

*Maintenance\_and\_Update\_Frequency:* None Scheduled

*Spatial\_Domain:*

*Bounding\_Coordinates:*

*West\_Bounding\_Coordinate:* -124.45800

*East\_Bounding\_Coordinate:* -122.75000

*North\_Bounding\_Coordinate:* 37.97900

*South\_Bounding\_Coordinate:* 42.00000

*Keywords:*

*Theme:*

*Theme\_Keyword\_Thesaurus:* None

*Theme\_Keyword:* ESI

*Theme\_Keyword:* Sensitivity maps

*Theme\_Keyword:* Coastal resources

*Theme\_Keyword:* Oil spill planning

*Theme\_Keyword:* Coastal Zone Management

*Theme\_Keyword:* Wildlife

*Theme\_Keyword:* Management areas

*Theme\_Keyword:* Human use resources

*Place:*

*Place\_Keyword\_Thesaurus:* None

*Place\_Keyword:* Northern California

*Access\_Constraints:* None

*Use\_Constraints:*

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

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:* [datafig.jpg](#)

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the Northern California ESI data.

*Browse\_Graphic\_File\_Type:* JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO® (version 9.2) and SQL SERVER® (version 2000). The hardware configuration is PCs with Windows Operating System (2000/XP/2003).

The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00. Associated relational and desktop data tables provided in ARC export and text format are bio\_lut, biofile, biores, breed, breed\_dt, seasonal, soc\_dat, soc\_lut, sources, species, and status.

*Data\_Quality\_Information:*

*Attribute\_Accuracy:*

*Attribute\_Accuracy\_Report:*

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

*Logical\_Consistency\_Report:*

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

*Completeness\_Report:*

These data represent a synthesis of digital boundaries for management areas. See also the SOCECON (Socioeconomic Resource Points and Lines) data layer, part of the larger Northern California ESI database, for additional human-use information. These data do not necessarily represent all management areas in Northern California.

*Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy\_Report:*

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

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* CALIFORNIA RESOURCES AGENCY LEGACY PROJECT

*Publication\_Date:* 2003

*Title:* PUBLIC CONSERVATION AND TRUST LANDS

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

*Other\_Citation\_Details:*

<http://gis.ca.gov/catalog/BrowseRecord.epl?id=21066> (Contact the site webmaster if this URL is no longer active.)

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2003

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* MGT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* CALIFORNIA DEPT. OF FISH AND GAME (CDF&G) MARINE REGION

*Publication\_Date:* 2006

*Title:* MARINE PROTECTED AREAS

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

*Other\_Citation\_Details:*

[http://www.dfg.ca.gov/itbweb/gis/mr\\_gov\\_units.htm](http://www.dfg.ca.gov/itbweb/gis/mr_gov_units.htm) (Contact the site

webmaster if this URL is no longer active.)

*Type\_of\_Source\_Media:* EMAIL  
*Source\_Time\_Period\_of\_Content:*  
     *Time\_Period\_Information:*  
         *Single\_Date/Time:*  
             *Calendar\_Date:* 2006  
     *Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* MGT INFORMATION  
*Source\_Information:*  
     *Source\_Citation:*  
         *Citation\_Information:*  
             *Originator:* NOAA, NMSP  
             *Publication\_Date:* 2004  
             *Title:* NATIONAL MARINE SANCTUARY PROGRAM DIGITAL  
             BOUNDARY FILES  
             *Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA  
             *Other\_Citation\_Details:* NOAA, NATIONAL MARINE SANCTUARY  
             PROGRAM, SILVER SPRING, MD  
     *Source\_Scale\_Denominator:* VARIES  
     *Type\_of\_Source\_Media:* EMAIL  
     *Source\_Time\_Period\_of\_Content:*  
         *Time\_Period\_Information:*  
             *Range\_of\_Dates/Times:*  
                 *Beginning\_Date:* 1996  
                 *Ending\_Date:* 2003  
     *Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
     *Source\_Citation\_Abbreviation:* NONE  
     *Source\_Contribution:* MGT INFORMATION  
*Source\_Information:*  
     *Source\_Citation:*  
         *Citation\_Information:*  
             *Originator:* NATIONAL PARK SERVICE (NPS)  
             *Publication\_Date:* 2007  
             *Title:* REDWOOD NATIONAL AND STATE PARK BOUNDARIES  
             *Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA  
             *Other\_Citation\_Details:* NPS, ORICK, CA  
     *Type\_of\_Source\_Media:* EMAIL  
     *Source\_Time\_Period\_of\_Content:*  
         *Time\_Period\_Information:*  
             *Single\_Date/Time:*  
                 *Calendar\_Date:* 2007  
     *Source\_Currentness\_Reference:* DATE OF PUBLICATION  
     *Source\_Citation\_Abbreviation:* NONE  
     *Source\_Contribution:* MGT INFORMATION  
*Source\_Information:*  
     *Source\_Citation:*  
         *Citation\_Information:*  
             *Originator:* POINT REYES NATIONAL SEASHORE GIS  
             *Publication\_Date:* 2006  
             *Title:* GOGA\_TRACTS\_LANDS04; PORE\_ADMIN46;  
             PHILIP\_BURTON\_WILDERNESS2

*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*: 2006

*Source\_Currentness\_Reference*: DATE OF PUBLICATION

*Source\_Citation\_Abbreviation*: NONE

*Source\_Contribution*: MGT INFORMATION

*Source\_Information*:

*Source\_Citation*:

*Citation\_Information*:

*Originator*: U.S. FISH AND WILDLIFE SERVICE (USFWS), ARCATA, CA

*Publication\_Date*: 2005

*Title*:

FINAL CRITICAL HABITAT FOR THE WESTERN SNOWY PLOVER  
(CHARADRIUS ALEXANDRINUS NIVOSUS)

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

*Other\_Citation\_Details*: USFWS, ARCATA, CA

*Type\_of\_Source\_Media*: ONLINE

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

*Time\_Period\_Information*:

*Single\_Date/Time*:

*Calendar\_Date*: 2005

*Source\_Currentness\_Reference*: DATE OF PUBLICATION

*Source\_Citation\_Abbreviation*: NONE

*Source\_Contribution*: MGT INFORMATION

*Process\_Step*:

*Process\_Description*:

Numerous digital coverages were used to depict the management data layer. Data were provided by: U.S. Fish and Wildlife Service (USFWS), California Department of Fish & Game Marine Region (CDF&G, MR), California Resources Agency Legacy Project, National Park Service (NPS), and NOAA National Marine Fisheries Service (NMFS). Chinook and Steelhead salmon critical habitat areas were evaluated and are identified on the hardcopy maps as text boxes. These digital data sets were not used in the atlas production and were not delivered as part of the final data set. However, these data can be obtained from <http://swr.nmfs.noaa.gov/salmon/layers/finalgis.htm> and are titled: CCC\_STEELHEAD\_CH\_06\_2005, NC\_STEELHEAD\_CH\_06\_2005, CC\_CHINOOK\_CH\_06\_2005. (Contact the site webmaster if the URL is no longer active.)

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; and/or 3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the



maps. If necessary, edits to the MGT data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:* 200812

*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](mailto: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:* 355

*SDTS\_Terms\_Description:*

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

*Point\_and\_Vector\_Object\_Count:* 354

*SDTS\_Terms\_Description:*

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

*Point\_and\_Vector\_Object\_Count:* 661

*SDTS\_Terms\_Description:*

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

*Point\_and\_Vector\_Object\_Count:* 63958

*SDTS\_Terms\_Description:*

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

*Point\_and\_Vector\_Object\_Count:* 509

*Spatial\_Reference\_Information:*

*Horizontal\_Coordinate\_System\_Definition:*

*Geographic:*

*Latitude\_Resolution:* 0.0000001

*Longitude\_Resolution:* 0.0000001

*Geographic\_Coordinate\_Units:* Decimal degrees

*Geodetic\_Model:*

*Horizontal\_Datum\_Name:* North American Datum of 1927

*Ellipsoid\_Name:* Clark 1866

*Semi-major\_Axis:* 6378206.400000

*Denominator\_of\_Flattening\_Ratio:* 294.978698

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

In addition to the geographic data layers, two relational attribute or data tables, SOC\_DAT and SOURCES, are used to store the complex socioeconomic data in the ESI data structure. The geographic data layer containing socioeconomic data resource information (in this case, MGT) is linked to the Socioeconomic Resources table (SOC\_DAT) using the unique ID and the lookup table SOC\_LUT, or it can be linked directly using HUNUM. HUNUM is a unique reference number concatenated with the atlas number (for Northern California, the number is 207). ID is a unique combination of the atlas number (207), an element specific number (MGT = 11), and a unique record number. SOC\_DAT and the other relational data tables are described below in detail. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

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

*Entity\_Type\_Label:* MGT.PAT

*Entity\_Type\_Definition:*

The MGT.PAT table contains attribute information for the vector polygons representing designated critical habitats, essential habitats, management areas, marine sanctuaries, National Park Service properties, Nature Conservancy properties, state parks and wildlife refuges in Northern California. Note that all attribute information is stored in a series of relational files, described below. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* TYPE

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

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

*Enumerated\_Domain\_Value:* CH

*Enumerated\_Domain\_Value\_Definition:* Designated Critical Habitat

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

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

*Enumerated\_Domain\_Value:* MA

*Enumerated\_Domain\_Value\_Definition:* Management Area

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

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

*Enumerated\_Domain\_Value:* MS

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

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

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

*Enumerated\_Domain\_Value:* MR

*Enumerated\_Domain\_Value\_Definition:*

Multiple Records - Signifies that multiple types overlap in the polygon

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: NC

*Enumerated\_Domain\_Value\_Definition*: Nature Conservancy

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: NP

*Enumerated\_Domain\_Value\_Definition*: National Park

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: P

*Enumerated\_Domain\_Value\_Definition*: Regional or State Park

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: WR

*Enumerated\_Domain\_Value\_Definition*: Wildlife Refuge

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

*Attribute*:

*Attribute\_Label*: ID

*Attribute\_Definition*:

An identifier that links vector objects in the human-use data layers to records in the SOC\_LUT data table. ID is a concatenation of atlas number (207), element number (11), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source*: NOAA

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 2071100002

*Range\_Domain\_Maximum*: 2071100359

*Attribute*:

*Attribute\_Label*: HUNUM

*Attribute\_Definition*:

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

*Attribute\_Definition\_Source*: NOAA

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 207000164

*Range\_Domain\_Maximum*: 207000336

*Detailed\_Description*:

*Entity\_Type*:

*Entity\_Type\_Label*: SOC\_LUT

*Entity\_Type\_Definition*:

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

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: HUNUM

*Attribute\_Definition*:

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

*Attribute\_Definition\_Source*: NOAA

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 207000001

*Range\_Domain\_Maximum*: 207000336

*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 (207), element number (SOCECON=10; MGT=11), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source*: NOAA

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 2071000001

*Range\_Domain\_Maximum*: 2071100359

*Detailed\_Description*:

*Entity\_Type*:

*Entity\_Type\_Label*: SOC\_DAT

*Entity\_Type\_Definition*:

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

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: HUNUM

*Attribute\_Definition*:

An identifier that links records in the SOC\_DAT data table to records in the SOC\_LUT data table.

*Attribute\_Definition\_Source*: NOAA

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 207000001

*Range\_Domain\_Maximum*: 207000336

*Attribute*:

*Attribute\_Label*: TYPE

*Attribute\_Definition*: Identifies the feature type

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: AIRPORT

*Enumerated\_Domain\_Value\_Definition*: Airport

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* ACCESS*Enumerated\_Domain\_Value\_Definition:* Access area*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* AQUACULTURE*Enumerated\_Domain\_Value\_Definition:* Aquaculture*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* BEACH*Enumerated\_Domain\_Value\_Definition:* Beach*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* BOAT RAMP*Enumerated\_Domain\_Value\_Definition:* Boat Ramp*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* COMMERCIAL FISHING*Enumerated\_Domain\_Value\_Definition:* Commercial Fishing*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* COAST GUARD*Enumerated\_Domain\_Value\_Definition:* Coast Guard site*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* DESIGNATED CRITICAL HABITAT*Enumerated\_Domain\_Value\_Definition:* Designated Critical Habitat*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* ESSENTIAL HABITAT*Enumerated\_Domain\_Value\_Definition:* Essential Habitat*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* HOIST*Enumerated\_Domain\_Value\_Definition:* Hoist*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* HISTORICAL SITE*Enumerated\_Domain\_Value\_Definition:* Historical Site*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* MANAGEMENT AREA

*Enumerated\_Domain\_Value\_Definition:* Management Area

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* MARINA

*Enumerated\_Domain\_Value\_Definition:* Marina

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* MARINE SANCTUARY

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

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* NATIONAL PARK

*Enumerated\_Domain\_Value\_Definition:* National Park

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* RECREATIONAL FISHING

*Enumerated\_Domain\_Value\_Definition:* Recreational Fishing

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* REGIONAL OR STATE PARK

*Enumerated\_Domain\_Value\_Definition:* Regional or State Park

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* SUBSISTENCE

*Enumerated\_Domain\_Value\_Definition:* Subsistence area

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* STAGING SITE

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

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* WATER INTAKE

*Enumerated\_Domain\_Value\_Definition:* Water Intake

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* WASH OVER

*Enumerated\_Domain\_Value\_Definition:* Wash Over

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* WILDLIFE REFUGE

*Enumerated\_Domain\_Value\_Definition:* Wildlife Refuge

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

*Attribute:**Attribute\_Label:* NAME*Attribute\_Definition:* The feature name*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* CONTACT*Attribute\_Definition:* Contact person or entity*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* PHONE*Attribute\_Definition:* Contact telephone number*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* G\_SOURCE*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* A\_SOURCE*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* SOURCES*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* SOURCE\_ID*Attribute\_Definition:*

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

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: ORIGINATOR

*Attribute\_Definition*: Author or developer of source material or data set.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: DATE\_PUB

*Attribute\_Definition*:

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

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: YYYYMM

*Enumerated\_Domain\_Value\_Definition*: YYYY for year and optionally MM for month

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

*Attribute*:

*Attribute\_Label*: TITLE

*Attribute\_Definition*: Title of source material or data.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: DATA\_FORMAT

*Attribute\_Definition*: The format of the source material.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: PUBLICATION

*Attribute\_Definition*: Additional citation information.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: SCALE

*Attribute\_Definition*: Description of the source scale.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: TIME\_PERIOD

*Attribute\_Definition*:

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

*Attribute\_Definition\_Source*: Research Planning, Inc.



*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Distribution\_Information:**Distributor:**Contact\_Information:**Contact\_Person\_Primary:**Contact\_Person:* John Kaperick*Contact\_Organization:* NOAA, Office of Response and Restoration*Contact\_Address:**Address\_Type:* Physical Address*Address:* 7600 Sand Point Way N.E.*City:* Seattle*State\_or\_Province:* Washington*Postal\_Code:* 98115-6349*Contact\_Voice\_Telephone:* (206) 526-6400*Contact\_Facsimile\_Telephone:* (206) 526-6329*Resource\_Description:* ESI Atlas for Northern California*Distribution\_Liability:*

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

*Custom\_Order\_Process:*

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

*Metadata\_Reference\_Information:**Metadata\_Date:* 200902*Metadata\_Review\_Date:* 200902*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](mailto:Jill.Petersen@noaa.gov)

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

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

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Generated by [mp](#) version 2.8.21 on Thu Mar 19 21:26:15 2009

# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: SOCECON (Socioeconomic Resource Points and 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:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Publication\_Date:* 200812

##### *Title:*

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

*Edition:* Second

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

##### *Series\_Information:*

*Series\_Name:* None

*Issue\_Identification:* Northern California

##### *Publication\_Information:*

*Publication\_Place:* Seattle, Washington

##### *Publisher:*

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

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

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

Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Description:*

*Abstract:*

This data set contains the following human-use resource data for Northern California: access areas, airports, aquaculture sites, beaches, boat ramps, Coast Guard areas, commercial/recreational fishing areas, essential habitats, historical sites, hoists, marinas, staging areas, subsistence areas, wash overs, and water intakes. Vector points and lines in this data set represent the human-use locations. Location-specific type and source information is stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer. This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Northern California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources. See also the MGT (Management Area Polygons) data layer, part of the larger Northern California 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:* 1994

*Ending\_Date:* 2007

*Currentness\_Reference:*

The SOCECON data were compiled during 2007. The currentness dates for the data range from 1994 to 2007 and are documented in the Lineage section.

*Status:*

*Progress:* Complete

*Maintenance\_and\_Update\_Frequency:* None Scheduled

*Spatial\_Domain:*

*Bounding\_Coordinates:*

*West\_Bounding\_Coordinate:* -124.45800

*East\_Bounding\_Coordinate:* -122.75000

*North\_Bounding\_Coordinate:* 37.97900

*South\_Bounding\_Coordinate:* 42.00000

*Keywords:*

*Theme:*

*Theme\_Keyword\_Thesaurus:* None

*Theme\_Keyword:* ESI

*Theme\_Keyword:* Sensitivity maps

*Theme\_Keyword:* Coastal resources

*Theme\_Keyword:* Oil spill planning

*Theme\_Keyword:* Coastal Zone Management

*Theme\_Keyword:* Wildlife

*Theme\_Keyword:* Socioeconomic resources

*Theme\_Keyword:* Human use resources

*Place:*

*Place\_Keyword\_Thesaurus:* None

*Place\_Keyword:* Northern California

*Access\_Constraints:* None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations.

Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys.

Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:* [datafig.jpg](#)

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the Northern California ESI data.

*Browse\_Graphic\_File\_Type:* JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO® (version 9.2) and SQL SERVER® (version 2000). The hardware configuration is PCs with Windows Operating System (2000/XP/2003).

The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio\_lut, biofile, biores, breed, breed\_dt, seasonal, soc\_dat, soc\_lut, sources, species, and status.

*Data\_Quality\_Information:*

*Attribute\_Accuracy:*

*Attribute\_Accuracy\_Report:*

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

*Logical\_Consistency\_Report:*

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

*Completeness\_Report:*

These data represent a synthesis of expert knowledge and available hardcopy reports and digital data on socioeconomic resources. See also the MGT (Management Area Polygons) data layer, part of the larger Northern California ESI database, for additional human-use information. These data do not necessarily represent all human-use sites in Northern California.

*Positional\_Accuracy:**Horizontal\_Positional\_Accuracy:**Horizontal\_Positional\_Accuracy\_Report:*

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

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

*Originator:* ALLEN, S. (NATIONAL PARK SERVICE, POINT REYES)

*Publication\_Date:* 2005

*Title:*

DISTRIBUTION AND SEASONALITY OF SPECIES AND SOC\_ECON  
FEATURES ON NPS LANDS

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

*Other\_Citation\_Details:* UNPUBLISHED

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

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

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* SOCECON INFORMATION

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

*Originator:* ANDERSON, D. (NATIONAL PARK SERVICE, ORICK)

*Publication\_Date:* 2007

*Title:* REDWOOD NATIONAL PARK 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:* 2007  
*Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* SOCECON INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
 CALIFORNIA DEPT OF FISH AND GAME, Office of Spill Prevention  
 and Response (OSPR), GIS UNIT  
*Publication\_Date:* 2005  
*Title:* ECONOMICALLY SIGNIFICANT SITES  
*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA  
*Other\_Citation\_Details:* DFG, OSPR, GIS UNIT, SACRAMENTO, CA  
*Type\_of\_Source\_Media:* EMAIL  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2005  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* SOCECON INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* CALIFORNIA RESOURCES AGENCY LEGACY PROJECT  
*Publication\_Date:* 2003  
*Title:* PUBLIC CONSERVATION AND TRUST LANDS  
*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA  
*Other\_Citation\_Details:*  
<http://gis.ca.gov/catalog/BrowseRecord.epl?id=21066> (Contact the site  
 webmaster if this URL is no longer active.)  
*Type\_of\_Source\_Media:* ONLINE  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2003  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* SOCECON INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* CALIFORNIA DEPT OF FISH AND GAME STAFF  
*Publication\_Date:* 2007  
*Title:* MARINE SPORTFISH AND OTHER MARINE 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:* 2007

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* SOCECON INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* HARRIS, JAY (CSP, EUREKA)

*Publication\_Date:* 2007

*Title:* CALIFORNIA STATE PARK 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:* 2007

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* SOCECON INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* MELLO, J. (CDF&G, EUREKA)

*Publication\_Date:* 2007

*Title:*

MARINE RESOURCE DISTRIBUTION AND SEASONALITY IN  
NORTHERN CALIFORNIA

*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:* 2007

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* SOCECON INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* MOORE, T. (CDF&G, BODEGA BAY)

*Publication\_Date:* 2007

*Title:* AQUACULTURE SITES

*Geospatial\_Data\_Presentation\_Form:* SPREADSHEET

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* EMAIL

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

*Time\_Period\_Information:*



*Single\_Date/Time:*  
*Calendar\_Date:* 2007  
*Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* SOCECON INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* NOAA NOS OR&R HAZMAT  
*Publication\_Date:* 2001  
*Title:*  
 SENSITIVITY OF COASTAL ENVIRONMENTS AND WILDLIFE TO  
 SPILLED OIL: NORTHERN CALIFORNIA  
*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA  
*Other\_Citation\_Details:* SEATTLE, WASHINGTON  
*Source\_Scale\_Denominator:* 24,000  
*Type\_of\_Source\_Media:* CD-ROM  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Range\_of\_Dates/Times:*  
*Beginning\_Date:* 1994  
*Ending\_Date:* 2001  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* SOCECON INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* NATIONAL PARK SERVICE (NPS)  
*Publication\_Date:* 2007  
*Title:* REDWOOD NATIONAL PARK 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:* 2007  
*Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* SOCECON INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* RESEARCH PLANNING INC.  
*Publication\_Date:* 2007  
*Title:* ESI INDEX  
*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA  
*Other\_Citation\_Details:* UNPUBLISHED  
*Source\_Scale\_Denominator:* 24,000  
*Type\_of\_Source\_Media:* DIGITAL  
*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 2007*Source\_Currentness\_Reference:* DATE OF PUBLICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* SOCECON INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* RESEARCH PLANNING, INC.*Publication\_Date:* 1994*Title:*SENSITIVITY OF COASTAL ENVIRONMENTS AND WILDLIFE TO  
SPILLED OIL: CENTRAL CA*Geospatial\_Data\_Presentation\_Form:* ATLAS*Other\_Citation\_Details:* CDF&G OSPR AND NOAA, 41 MAPS*Source\_Scale\_Denominator:* 46,500*Type\_of\_Source\_Media:* PAPER*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 1994*Source\_Currentness\_Reference:* DATE OF PUBLICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* SOCECON INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* TEALE GIS SOLUTIONS GROUP*Publication\_Date:* 1997*Title:* AIRPORTS*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA*Other\_Citation\_Details:* TEALE GIS SOLUTIONS GROUP*Type\_of\_Source\_Media:* ONLINE*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 1997*Source\_Currentness\_Reference:* DATE OF PUBLICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* SOCECON INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* TERRALOGIC GIS, INC.*Publication\_Date:* 2005*Title:*ALTERNATIVE B.2 OF THE PACIFIC COAST GROUND FISH  
ESSENTIAL FISH HABITAT (EFH) DRAFT EIS (ESTUARIES HAPC)*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA*Other\_Citation\_Details:* NATIONAL MARINE FISHERIES SERVICE (NMFS),  
NORTHWEST REGION

*Type\_of\_Source\_Media:* ONLINE  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2005  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* SOCECON INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* TERRALOGIC GIS, INC.  
*Publication\_Date:* 2005  
*Title:*  
 ALTERNATIVE B.4 OF THE PACIFIC COAST GROUND FISH EFH  
 DRAFT EIS (SEAGRASS HAPC)  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:* NMFS, NORTHWEST REGION  
*Type\_of\_Source\_Media:* ONLINE  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2005  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* SOCECON INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* TERRALOGIC GIS, INC.  
*Publication\_Date:* 2005  
*Title:*  
 ALTERNATIVE B.6 OF THE PACIFIC GROUND FISH EFH DRAFT EIS  
 (ROCKY REEFS HAPC)  
*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA  
*Other\_Citation\_Details:* NMFS NORTHWEST REGION  
*Type\_of\_Source\_Media:* ONLINE  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2005  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* SOCECON INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* U.S. COAST GUARD (USCG) SECTOR SAN FRANCISCO  
*Publication\_Date:* 2005  
*Title:*  
 2005 SECTOR SAN FRANCISCO AREA ACP 1 NORTH COAST;  
 VOLUME 2: MENDOCINO COUNTY SECTION 9814

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

*Other\_Citation\_Details:* USCG SECTOR SAN FRANCISCO, OCTOBER 1, 2005

*Source\_Scale\_Denominator:* VARIES

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* SOCECON INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* USCG SECTOR SAN FRANCISCO

*Publication\_Date:* 2005

*Title:*

2005 SECTOR SAN FRANCISCO-ACP 1 NORTH COAST: HUMBOLDT BAY SECTION 9813

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

*Other\_Citation\_Details:* USCG SECTOR SAN FRANCISCO, OCTOBER 1, 2005

*Source\_Scale\_Denominator:* VARIES

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* SOCECON INFORMATION

*Process\_Step:*

*Process\_Description:*

Three main sources of data were used to depict human-use resources for this data layer: 1) personal interviews with resource experts from the California Department of Fish & Game (CDF&G), California State Parks (CSP), National Park Service (NPS); 2) published reports, and 3) digital socioeconomic layers provided by CDF&G. Bridges were located using U.S. Geological Survey (USGS) Topographic Maps. State borders were taken from the 1994 Northern California ESI Atlas.

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 USGS 1:24,000 topographic quadrangles and digitized; 2) hardcopy maps are digitized at their source scale; and/or 3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the SOCECON data layer are made based on the recommendations of the resource

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

*Process\_Date:* 200812

*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](mailto:Jill.Petersen@noaa.gov)

*Spatial\_Data\_Organization\_Information:*

*Direct\_Spatial\_Reference\_Method:* Vector

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

*SDTS\_Terms\_Description:*

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

*Point\_and\_Vector\_Object\_Count:* 294

*SDTS\_Terms\_Description:*

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

*Point\_and\_Vector\_Object\_Count:* 5

*SDTS\_Terms\_Description:*

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

*Point\_and\_Vector\_Object\_Count:* 11

*SDTS\_Terms\_Description:*

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

*Point\_and\_Vector\_Object\_Count:* 9

*Spatial\_Reference\_Information:*

*Horizontal\_Coordinate\_System\_Definition:*

*Geographic:*

*Latitude\_Resolution:* 0.0000001

*Longitude\_Resolution:* 0.0000001

*Geographic\_Coordinate\_Units:* Decimal degrees

*Geodetic\_Model:*

*Horizontal\_Datum\_Name:* North American Datum of 1927

*Ellipsoid\_Name:* Clark 1866

*Semi-major\_Axis:* 6378206.400000

*Denominator\_of\_Flattening\_Ratio:* 294.978698

*Entity\_and\_Attribute\_Information:*

*Overview\_Description:*

*Entity\_and\_Attribute\_Overview:*

In addition to the geographic data layers, two relational attribute or data tables, SOC\_DAT,

and SOURCES, are used to store the complex socioeconomic data in the ESI data structure. The geographic data layer containing socioeconomic data resource information (in this case, SOCECON) is linked to the Socioeconomic Resources table (SOC\_DAT) using the unique ID and the lookup table SOC\_LUT, or it can be linked directly using HUNUM. HUNUM is a unique reference number concatenated with the atlas number (for Northern California, the number is 207). ID is a unique combination of the atlas number (207), an element specific number (SOCECON = 10), and a unique record number. SOC\_DAT and the other relational data tables are described below in detail. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* SOCECON.PAT

*Entity\_Type\_Definition:*

The SOCECON.PAT table contains attribute information for the vector points representing access areas, airports, aquaculture sites, beaches, boat ramps, coast guard areas, commercial/recreational fishing areas, essential habitat points, historical sites, hoist areas, marinas, staging areas, subsistence areas, wash overs, 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.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* TYPE

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* A

*Enumerated\_Domain\_Value\_Definition:* Airport

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* A2

*Enumerated\_Domain\_Value\_Definition:* Access area

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* AQ

*Enumerated\_Domain\_Value\_Definition:* Aquaculture site

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* B

*Enumerated\_Domain\_Value\_Definition:* Beach

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* BR

*Enumerated\_Domain\_Value\_Definition:* Boat Ramp

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: CF

*Enumerated\_Domain\_Value\_Definition*: Commercial Fishing

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: CG

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

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: EH

*Enumerated\_Domain\_Value\_Definition*: Essential Habitat

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: H

*Enumerated\_Domain\_Value\_Definition*: Hoist

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: HS

*Enumerated\_Domain\_Value\_Definition*: Historical site

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: M

*Enumerated\_Domain\_Value\_Definition*: Marina

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: RF

*Enumerated\_Domain\_Value\_Definition*: Recreational Fishing

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: S

*Enumerated\_Domain\_Value\_Definition*: Subsistence

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: ST

*Enumerated\_Domain\_Value\_Definition*: Staging site

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: WI

*Enumerated\_Domain\_Value\_Definition*: Water Intake

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* WO*Enumerated\_Domain\_Value\_Definition:* Wash Over*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* ID*Attribute\_Definition:*

An identifier that links vector objects in the human-use data layers to records in the SOC\_LUT data table. ID is a concatenation of atlas number (207), element number (10), and record number.

*Attribute\_Definition\_Source:* NOAA*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 2071000001*Range\_Domain\_Maximum:* 2071000294*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:* 207000001*Range\_Domain\_Maximum:* 207000297*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* SOCECON.AAT*Entity\_Type\_Definition:*

The SOCECON.AAT table contains attribute information for the vector lines representing bridges and state borders. Note that all attribute information is stored in a series of relational files, described below. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* TYPE*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* R*Enumerated\_Domain\_Value\_Definition:* Road, Transportation, or Bridge*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* SB*Enumerated\_Domain\_Value\_Definition:* State Border*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Detailed\_Description:*



*Entity\_Type:**Entity\_Type\_Label:* SOC\_LUT*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* HUNUM*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* NOAA*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 207000001*Range\_Domain\_Maximum:* 207000336*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 (207), element number (SOCECON=10; MGT=11), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:* NOAA*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 2071000001*Range\_Domain\_Maximum:* 2071100359*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* SOC\_DAT*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* HUNUM*Attribute\_Definition:*

An identifier that links records in the SOC\_DAT data table to records in the SOC\_LUT data table.

*Attribute\_Definition\_Source:* NOAA*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 207000001*Range\_Domain\_Maximum:* 207000336*Attribute:**Attribute\_Label:* TYPE*Attribute\_Definition:*

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

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

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

*Attribute\_Domain\_Values*:

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*Enumerated\_Domain\_Value\_Definition*: Access area

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

*Attribute\_Domain\_Values*:

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*Enumerated\_Domain\_Value\_Definition*: Aquaculture

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

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*Enumerated\_Domain\_Value\_Definition*: Beach

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

*Attribute\_Domain\_Values*:

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*Enumerated\_Domain\_Value*: BOAT RAMP

*Enumerated\_Domain\_Value\_Definition*: Boat Ramp

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: COMMERCIAL FISHING

*Enumerated\_Domain\_Value\_Definition*: Commercial Fishing

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

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

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

*Attribute\_Domain\_Values*:

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*Enumerated\_Domain\_Value\_Definition*: Designated Critical Habitat

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: ESSENTIAL HABITAT

*Enumerated\_Domain\_Value\_Definition*: Essential Habitat

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: HOIST

*Enumerated\_Domain\_Value\_Definition*: Hoist

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: HISTORICAL SITE

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

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

*Attribute\_Domain\_Values*:

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*Enumerated\_Domain\_Value*: MANAGEMENT AREA

*Enumerated\_Domain\_Value\_Definition*: Management Area

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

*Attribute\_Domain\_Values*:

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*Enumerated\_Domain\_Value\_Definition*: Marina

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

*Attribute\_Domain\_Values*:

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

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

*Attribute\_Domain\_Values*:

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*Enumerated\_Domain\_Value\_Definition*: Multiple types overlap in the polygon

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

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*Enumerated\_Domain\_Value\_Definition*: Nature Conservancy

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

*Attribute\_Domain\_Values*:

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*Enumerated\_Domain\_Value\_Definition*: Regional or State Park

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

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*Enumerated\_Domain\_Value*: SUBSISTENCE

*Enumerated\_Domain\_Value\_Definition*: Subsistence area

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

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

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* A\_SOURCE*Attribute\_Definition:*

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

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Detailed\_Description*:

*Entity\_Type*:

*Entity\_Type\_Label*: SOURCES

*Entity\_Type\_Definition*:

The data table SOURCES contains the primary sources used to create the ESI data set.

See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: SOURCE\_ID

*Attribute\_Definition*:

Source identifier that links records in the SOURCES data table to the items

G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID in the ESI and HYDRO data layers.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: ORIGINATOR

*Attribute\_Definition*: Author or developer of source material or data set.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: DATE\_PUB

*Attribute\_Definition*:

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

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

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*Enumerated\_Domain\_Value*: YYYYMM

*Enumerated\_Domain\_Value\_Definition*: YYYY for year and optionally MM for month

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

*Attribute*:

*Attribute\_Label*: TITLE

*Attribute\_Definition*: Title of source material or data.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

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*Attribute\_Definition*: The format of the source material.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* PUBLICATION*Attribute\_Definition:* Additional citation information.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* SCALE*Attribute\_Definition:* Description of the source scale.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* TIME\_PERIOD*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Distribution\_Information:**Distributor:**Contact\_Information:**Contact\_Person\_Primary:**Contact\_Person:* John Kaperick*Contact\_Organization:* NOAA, Office of Response and Restoration*Contact\_Address:**Address\_Type:* Physical Address*Address:* 7600 Sand Point Way N.E.*City:* Seattle*State\_or\_Province:* Washington*Postal\_Code:* 98115-6349*Contact\_Voice\_Telephone:* (206) 526-6400*Contact\_Facsimile\_Telephone:* (206) 526-6329*Resource\_Description:* ESI Atlas for Northern California*Distribution\_Liability:*

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

*Custom\_Order\_Process:*

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Access Personal Geodatabase, ARC export files, Shape files, and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA

Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

---

*Metadata\_Reference\_Information:*

*Metadata\_Date:* 200902

*Metadata\_Review\_Date:* 200902

*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](mailto:Jill.Petersen@noaa.gov)

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

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

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Generated by [mp](#) version 2.8.21 on Thu Mar 19 21:31:09 2009

# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: 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](#)

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### *Identification\_Information:*

#### *Citation:*

##### *Citation\_Information:*

##### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Publication\_Date:* 200812

##### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: BIRDS (Bird Polygons)

*Edition:* Second

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

##### *Series\_Information:*

*Series\_Name:* None

*Issue\_Identification:* Northern California

##### *Publication\_Information:*

*Publication\_Place:* Seattle, Washington

##### *Publisher:*

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

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

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



Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Description:*

*Abstract:*

This data set contains sensitive biological resource data for alcids, diving birds, gulls, terns, passerines, pelagic birds, raptors, shorebirds, wading birds, and waterfowl in Northern California. Vector polygons in this data set represent bird nesting, migratory staging, roosting, and wintering sites. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Northern California. 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 (Nest Points) data layer, part of the larger Northern California 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:* 1975

*Ending\_Date:* 2007

*Currentness\_Reference:*

The biological data were compiled during 2007. The currentness dates for the data range from 1975 to 2007 and are documented in the Lineage section.

*Status:*

*Progress:* Complete

*Maintenance\_and\_Update\_Frequency:* None Scheduled

*Spatial\_Domain:*

*Bounding\_Coordinates:*

*West\_Bounding\_Coordinate:* -124.45800

*East\_Bounding\_Coordinate:* -122.75000

*North\_Bounding\_Coordinate:* 37.97900

*South\_Bounding\_Coordinate:* 42.00000

*Keywords:*

*Theme:*

*Theme\_Keyword\_Thesaurus:* None

*Theme\_Keyword:* ESI

*Theme\_Keyword:* Sensitivity maps

*Theme\_Keyword:* Coastal resources

*Theme\_Keyword:* Oil spill planning

*Theme\_Keyword:* Coastal Zone Management

*Theme\_Keyword:* Wildlife

*Theme\_Keyword:* Bird

*Place:**Place\_Keyword\_Thesaurus:* None*Place\_Keyword:* Northern California*Access\_Constraints:* None*Use\_Constraints:*

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

*Browse\_Graphic:**Browse\_Graphic\_File\_Name:* [datafig.jpg](#)*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the Northern California ESI data.

*Browse\_Graphic\_File\_Type:* JPEG*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO® (version 9.2) and SQL SERVER® (version 2000). The hardware configuration is PCs with Windows Operating System (2000/XP/2003).

The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00. Associated relational and desktop data tables provided in ARC export and text format are bio\_lut, biofile, biores, breed, breed\_dt, seasonal, soc\_dat, soc\_lut, sources, species, and status.

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

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

evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

#### *Logical\_Consistency\_Report:*

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

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new IDs and RARNUMs or HUNUMs are also generated. The new IDs 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 RARNUMs are also modified to include the atlas number, so multiple atlases can be combined and RARNUMs remain unique. RARNUMs are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUMs are also modified to include the atlas number.

#### *Completeness\_Report:*

These data represent a synthesis of expert knowledge, available hardcopy documents, survey data, maps, and digital data on bird nesting, wintering, migratory staging and other spatial/temporal concentration areas. See also the NESTS (Nest Points) data layer, part of the larger Northern California ESI database, for additional bird information. These data do not necessarily represent all bird occurrences in Northern California. The following species are included in this data set: (Species\_ID, Common Name, Scientific Name [n/a if not applicable]): 1, Common loon, *Gavia immer*; 3, Red-throated loon, *Gavia stellata*; 4, Red-necked grebe, *Podiceps grisegena*; 5, Horned grebe, *Podiceps auritus*; 6, Eared grebe, *Podiceps nigricollis*; 7, Western grebe, *Aechmophorus occidentalis*; 8, Double-crested cormorant, *Phalacrocorax auritus*; 9, Brandt's cormorant, *Phalacrocorax penicillatus*; 10, Pelagic cormorant, *Phalacrocorax pelagicus*; 11, Tundra swan, *Cygnus columbianus*; 12, Canada goose, *Branta canadensis*; 13, Brant, *Branta bernicla*; 16, Mallard, *Anas platyrhynchos*; 17, Northern pintail, *Anas acuta*; 18, Green-winged teal, *Anas crecca*; 20, Northern shoveler, *Anas clypeata*; 21, Canvasback, *Aythya valisineria*; 22, Greater scaup, *Aythya marila*; 23, Lesser scaup, *Aythya affinis*; 24, Common goldeneye, *Bucephala clangula*; 26, Bufflehead, *Bucephala albeola*; 28, Harlequin duck, *Histrionicus histrionicus*; 29, White-winged scoter, *Melanitta fusca*; 30, Surf scoter, *Melanitta perspicillata*; 31, Pacific loon, *Gavia pacifica*; 32, Common merganser, *Mergus merganser*; 33, Red-breasted merganser, *Mergus serrator*; 34, American coot, *Fulica americana*; 36, Glaucous-winged gull, *Larus glaucescens*; 37, Western gull, *Larus occidentalis*; 38, Herring gull, *Larus argentatus*; 39, California gull, *Larus californicus*; 40, Ring-billed gull, *Larus delawarensis*; 41, Mew gull, *Larus canus*; 42, Bonaparte's gull, *Larus philadelphia*; 43, Heermann's gull, *Larus heermanni*; 46, Common murre, *Uria aalge*; 47, Pigeon guillemot, *Cepphus columba*; 48, Marbled murrelet, *Brachyramphus marmoratus*; 49, Cassin's auklet, *Ptychoramphus aleuticus*; 50, Rhinoceros auklet, *Cerorhinca monocerata*; 54, Great blue heron, *Ardea herodias*; 55, Whimbrel, *Numenius phaeopus*; 57, Wandering tattler, *Heteroscelus incanus*; 58, Greater yellowlegs, *Tringa melanoleuca*; 62, Least sandpiper, *Calidris minutilla*; 63, Dunlin, *Calidris alpina*; 64, Short-billed dowitcher, *Limnodromus griseus*; 65, Long-billed dowitcher, *Limnodromus scolopaceus*; 66, Western sandpiper, *Calidris mauri*; 67, Sanderling, *Calidris alba*; 68, Black oystercatcher, *Haematopus bachmani*; 69, Semipalmated plover, *Charadrius semipalmatus*; 70, Killdeer, *Charadrius vociferus*; 71, Black-bellied plover, *Pluvialis squatarola*; 72, Surfbird, *Aphriza virgata*; 74, Black turnstone, *Arenaria melanocephala*; 76, Bald eagle, *Haliaeetus*

leucocephalus; 77, Osprey, Pandion haliaetus; 88, Great egret, Ardea alba; 89, Snowy egret, Egretta thula; 90, Black-crowned night-heron, Nycticorax nycticorax; 93, Cattle egret, Bubulcus ibis; 97, Green heron, Butorides virescens; 118, Brown pelican, Pelecanus occidentalis; 124, Redhead, Aythya americana; 131, White-tailed kite, Elanus leucurus; 136, Caspian tern, Sterna caspia; 138, Forster's tern, Sterna forsteri; 141, American avocet, Recurvirostra americana; 145, Elegant tern, Sterna elegans; 148, Ruddy duck, Oxyura jamaicensis; 151, Saltmarsh common yellowthroat, Geothlypis trichas sinuosa; 155, Willet, Catoptrophorus semipalmatus; 160, Red phalarope, Phalaropus fulicaria; 161, Rock sandpiper, Calidris ptilocnemis; 162, Gadwall, Anas strepera; 169, American wigeon, Anas americana; 173, American white pelican, Pelecanus erythrorhynchos; 174, Golden eagle, Aquila chrysaetos; 177, Bank swallow, Riparia riparia; 179, Pied-billed grebe, Podilymbus podiceps; 180, Ring-necked duck, Aythya collaris; 181, Northern harrier, Circus cyaneus; 182, American kestrel, Falco sparverius; 185, American bittern, Botaurus lentiginosus; 187, Virginia rail, Rallus limicola; 191, Wood duck, Aix sponsa; 197, Black scoter, Melanitta nigra; 198, Hooded merganser, Lophodytes cucullatus; 200, Sooty shearwater, Puffinus griseus; 204, California clapper rail, Rallus longirostris obsoletus; 206, California black rail, Laterallus jamaicensis coturniculus; 207, Tricolored blackbird, Agelaius tricolor; 209, Long-billed curlew, Numenius americanus; 210, Marbled godwit, Limosa fedoa; 215, Aleutian cackling goose, Branta hutchinsii leucopareia; 216, Belted kingfisher, Ceryle alcyon; 218, Red-shouldered hawk, Buteo lineatus; 220, Merlin, Falco columbarius; 230, Red-tailed hawk, Buteo jamaicensis; 239, Clark's grebe, Aechmophorus clarkii; 254, Laysan albatross, Phoebastria immutabilis; 270, Western snowy plover, Charadrius alexandrinus nivosus; 273, Geese, n/a; 302, Scoters, Melanitta spp.; 349, Burrowing owl, Athene cunicularia hypugea; 396, Phalaropes, Phalaropus spp.; 406, Cinnamon teal, Anas cyanoptera; 455, Yellow-billed cuckoo, Coccyzus americanus; 626, American peregrine falcon, Falco peregrinus anatum; 722, Common yellowthroat, Geothlypis trichas; 814, Band-tailed pigeon, Patagioenas fasciata; 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; 1009, Shearwaters, n/a; 1013, Dabbling ducks, n/a; 1014, Diving ducks, n/a; 1019, Sea ducks, n/a; 1021, Ducks, n/a; 1022, Seabirds, n/a; 1026, Grebes, n/a; 1035, Pelicans, Pelecanus spp.; 1037, Cormorants, Phalacrocorax spp.

*Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy:*

*Horizontal\_Positional\_Accuracy\_Report:*

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

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* ADAMS, J. (US GEOLOGICAL SURVEY, MOSS LANDING)

*Publication\_Date:* 2005

*Title:*

DISTRIBUTION OF SEABIRDS AND MARINE MAMMALS IN

## CENTRAL CALIFORNIA

*Geospatial\_Data\_Presentation\_Form*: EXPERT KNOWLEDGE*Other\_Citation\_Details*: UNPUBLISHED*Type\_of\_Source\_Media*: PERSONAL COMMUNICATION*Source\_Time\_Period\_of\_Content*:*Time\_Period\_Information*:*Single\_Date/Time*:*Calendar\_Date*: 2005*Source\_Currentness\_Reference*: DATE OF COMMUNICATION*Source\_Citation\_Abbreviation*: NONE*Source\_Contribution*: BIRDS INFORMATION*Source\_Information*:*Source\_Citation*:*Citation\_Information*:*Originator*: ALLEN, S. (NATIONAL PARK SERVICE, POINT REYES)*Publication\_Date*: 2005*Title*:DISTRIBUTION AND SEASONALITY OF SPECIES AND SOC\_ECON  
FEATURES ON NPS LANDS*Geospatial\_Data\_Presentation\_Form*: EXPERT KNOWLEDGE*Other\_Citation\_Details*: UNPUBLISHED*Type\_of\_Source\_Media*: PERSONAL COMMUNICATION*Source\_Time\_Period\_of\_Content*:*Time\_Period\_Information*:*Single\_Date/Time*:*Calendar\_Date*: 2005*Source\_Currentness\_Reference*: DATE OF COMMUNICATION*Source\_Citation\_Abbreviation*: NONE*Source\_Contribution*: BIRDS INFORMATION*Source\_Information*:*Source\_Citation*:*Citation\_Information*:*Originator*: ANDERSON, D. (NPS, ORICK)*Publication\_Date*: 2007*Title*: REDWOOD NATIONAL PARK 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*: 2007*Source\_Currentness\_Reference*: DATE OF COMMUNICATION*Source\_Citation\_Abbreviation*: NONE*Source\_Contribution*: BIRDS INFORMATION*Source\_Information*:*Source\_Citation*:*Citation\_Information*:*Originator*:CALIFORNIA STATE PARKS (CSP) NORTH COAST REDWOODS  
DISTRICT (NCRD)*Publication\_Date*: 2005

*Title:*

MAPS OF SPECIAL STATUS SPECIES, REC ACTIVITIES, AND MGT  
ISSUES AT CSP NCRD STATE PARKS

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

*Other\_Citation\_Details:* CSP NORTH COAST REDWOOD DISTRICT

*Source\_Scale\_Denominator:* 10,000-20,000

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRDS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

CAPITOLO, CARTER, YOUNG, MCCHESENEY, MCIVER,  
GOLIGHTLY, AND GRESS

*Publication\_Date:* 2004

*Title:*

CHANGES IN BREEDING POPULATION SIZE OF BRANDT'S AND  
DOUBLE-CRESTED CORMORANTS IN CALIFORNIA, 1975-2003

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

*Other\_Citation\_Details:*

UNPUBLISHED REPORT, DEPARTMENT OF WILDLIFE,  
HUMBOLDT STATE UNIVERSITY (HSU), ARCATA, CALIFORNIA

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:* 1975

*Ending\_Date:* 2003

*Source\_Currentness\_Reference:* DATE OF SURVEY

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRDS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* CAPITOLO, MCCHESENEY, CARTER, PARKER, HALL,  
YOUNG, GOLIGHTLY

*Publication\_Date:* 2006

*Title:*

WHOLE-COLONY COUNTS OF COMU, BRCO, AND DCCO AT  
SAMPLE COLONIES IN NORTHERN AND CENTRAL CALIFORNIA,  
1996-2004

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

*Other\_Citation\_Details:*

UNPUBLISHED REPORT, DEPT. OF WILDLIFE, HSU, ARCATA, CA;  
USFWS, SFB NWR COMPLEX, NEWARK, CA. 40 PP.

*Type\_of\_Source\_Media:* PAPER

*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2006  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* BIRDS INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
 CALIFORNIA DEPT. OF FISH & GAME (CDF&G) BIOGEOGRAPHIC  
 DATA BRANCH  
*Publication\_Date:* 2007  
*Title:* CALIFORNIA NATURAL DIVERSITY DATABASE  
*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA  
*Other\_Citation\_Details:*  
<http://www.dfg.ca.gov/biogeodata/> (Contact the site webmaster if this  
 URL is no longer active.)  
*Source\_Scale\_Denominator:* VARIES  
*Type\_of\_Source\_Media:* CD-ROM  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2007  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* BIRDS INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* CDF&G, U.S. COAST GUARD (USCG)  
*Publication\_Date:* 2005  
*Title:*  
 SAN FRANCISCO GEOGRAPHIC RESPONSE AREA 1 SONOMA AND  
 NORTH MARIN COAST  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:* ACP 2 SF BAY & DELTA - GRA 1  
*Type\_of\_Source\_Media:* DISC  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2005  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* BIRDS INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
 COLWELL, M.A., T. DANUFSKY, N.W. FOX-FERNANDEZ, J.E.  
 ROTH, AND J.R. CONKLIN

*Publication\_Date:* 2003

*Title:*

VARIATION IN SHOREBIRD USE OF DIURNAL, HIGH-TIDE  
ROOSTS: HOW CONSISTENTLY ARE ROOSTS USED?

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

*Other\_Citation\_Details:* WATERBIRDS: VOLUME 26, ISSUE 4 (PP. 484-493)

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2003

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRDS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* DAYTON, J. (CDF&G)

*Publication\_Date:* 2007

*Title:* FISH, WILDLIFE, AND HABITAT DISTRIBUTION IN NORTHERN  
CALIFORNIA

*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:* 2007

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRDS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* DEUEL, B. (CDF&G, REDDING)

*Publication\_Date:* 2007

*Title:*

BIRD AND MAMMAL DISTRIBUTION AND SEASONALITY IN  
NORTHERN CALIFORNIA

*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:* 2007

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRDS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*



*Originator:* HARRIS, JAY (CSP, EUREKA)  
*Publication\_Date:* 2007  
*Title:* CALIFORNIA STATE PARK 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:* 2007  
*Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* BIRDS INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* HARRIS, S.  
*Publication\_Date:* 2006  
*Title:* NORTHWESTERN CALIFORNIA BIRDS  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:* LIVING GOLD PRESS, KLAMATH RIVER, CA  
*Type\_of\_Source\_Media:* PAPER  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2006  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* BIRDS INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* HUMBOLDT STATE UNIVERSITY  
*Publication\_Date:* 2007  
*Title:* ARCATA MARSH AND WILDLIFE SANCTUARY  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:*  
[http://www.humboldt.edu/~ere\\_dept/marsh/birds.html](http://www.humboldt.edu/~ere_dept/marsh/birds.html) (Contact the site  
webmaster if this URL is no longer active.)  
*Type\_of\_Source\_Media:* ONLINE  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2007  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* BIRDS INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* KELLY, J.P. AND S.L. TAPPEN  
*Publication\_Date:* 1998

*Title:*

DISTRIBUTION, ABUNDANCE, AND IMPLICATIONS FOR  
CONSERVATION FOR WINTER WATERBIRDS ON TOMALES BAY,  
CALIFORNIA

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

*Other\_Citation\_Details:* WESTERN BIRDS 29:103-120

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1998

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRDS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* KOVACS, K.

*Publication\_Date:* 2007

*Title:* WADING BIRD, RAPTOR, AND FISH DISTRIBUTION AND  
SEASONALITY

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

*Other\_Citation\_Details:* UNPUBLISHED

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

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2007

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRDS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* LEVALLEY, R. (MAD RIVER BIOLOGISTS, ARCATA)

*Publication\_Date:* 2007

*Title:*

COASTAL RESOURCE DISTRIBUTION AND SEASONALITY IN  
NORTHERN CALIFORNIA

*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:* 2007

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRDS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* MADRONE AUDUBON SOCIETY  
*Publication\_Date:* 2000  
*Title:* GUALALA RIVER  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:*

<http://audubon.sonoma.net/birding/RROS.html#anchor126937> (Contact the site webmaster if this URL is no longer active.)

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2000

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRDS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* MADRONE AUDUBON SOCIETY, SONOMA COUNTY, CALIFORNIA, USA

*Publication\_Date:* 1997

*Title:* BODEGA BAY

*Geospatial\_Data\_Presentation\_Form:* WEBSITE

*Other\_Citation\_Details:*

[http://audubon.sonoma.net/birding/bodega\\_bay.html](http://audubon.sonoma.net/birding/bodega_bay.html) (Contact the site webmaster if this URL is no longer active.)

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1997

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRDS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* MBNMS, CDF&G OSPR, MBSF

*Publication\_Date:* 2006

*Title:*

SENSITIVITY OF COASTAL ENVIRONMENTS TO SPILLED OIL:  
CENTRAL CALIFORNIA ATLAS

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

*Other\_Citation\_Details:* NOAA OR&R HAZMAT, SEATTLE, WASHINGTON

*Source\_Scale\_Denominator:* VARIES

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

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2006

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRDS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* MELLO, J. (CDF&G, EUREKA)

*Publication\_Date:* 2007

*Title:*

MARINE RESOURCE DISTRIBUTION AND SEASONALITY IN  
NORTHERN CALIFORNIA

*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:* 2007

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRDS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* MILLER, MEYER, AND RALPH; RALPH AND MILLER

*Publication\_Date:* 2002

*Title:*

LAND/SEASCAPE PATTERNS ASSOCIATED W/ MARBLED  
MURRELETS ABUNDANCE OFFSHORE; OFFSHORE POP  
ESTIMATES OF MARBLED MURRELETS

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

*Other\_Citation\_Details:*

WATERBIRDS 25(1): 100-108, 2002; USDA FOREST SERVICE GEN  
TECH. REP. PSW-152. 1995.

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:* 1989

*Ending\_Date:* 1998

*Source\_Currentness\_Reference:* DATE OF SURVEY

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRDS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* NELSON, E. (USFWS, LOLETA)

*Publication\_Date:* 2007

*Title:* HUMBOLDT BAY NWR AND CASTLE ROCK NWR SPECIES  
DISTRIBUTION

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

*Other\_Citation\_Details:* UNPUBLISHED

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

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

*Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 2007*Source\_Currentness\_Reference:* DATE OF COMMUNICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* BIRDS INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* NPS*Publication\_Date:* 2007*Title:* REDWOOD NATIONAL PARK 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:* 2007*Source\_Currentness\_Reference:* DATE OF COMMUNICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* BIRDS INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* PAGE, G.*Publication\_Date:* 2007*Title:* SNOWY PLOVER DISTRIBUTION AND SEASONALITY*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE*Other\_Citation\_Details:* UNPUBLISHED*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 2007*Source\_Currentness\_Reference:* DATE OF COMMUNICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* BIRDS INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* PRBO*Publication\_Date:* 2007*Title:*2003-2007 SUMMER AND WINTER SNOWY PLOVER SURVEYS OF  
THE PACIFIC COAST*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:* 2003

*Ending\_Date:* 2007

*Source\_Currentness\_Reference:* DATE OF SURVEY

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRDS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* ROBERSON, D.

*Publication\_Date:* 2002

*Title:* MONTEREY BIRDS

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

*Other\_Citation\_Details:* MONTEREY PENINSULA AUDUBON SOCIETY,  
CARMEL, CA

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRDS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* STRONG, C.S. AND JAQUES, D.L.

*Publication\_Date:* 2000

*Title:*

AERIAL SURVEYS OF BROWN PELICANS AT ROOST SITES  
WITHIN MBNMS/GFNMS, 1998-2000

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

*Other\_Citation\_Details:*

A REPORT TO MBNMS AND GFNMS, THE AMERICAN TRADER  
OILSPILL RESTORATION TRUSTEE COUNCIL, AND CDF&G

*Type\_of\_Source\_Media:* DISC

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

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:* 1998

*Ending\_Date:* 2000

*Source\_Currentness\_Reference:* DATE OF SURVEY

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRDS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* THE GOLD RIDGE RESOURCE CONSERVATION DISTRICT

*Publication\_Date:* 2007

*Title:* THE ESTERO AMERICANO WATERSHED MANAGEMENT PLAN

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

*Other\_Citation\_Details:* SWRCB CONTRACT NO. 03-138-250-1

*Type\_of\_Source\_Media:* ONLINE

*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2007  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* BIRDS INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* U.S. DEPT. OF THE INTERIOR, FISH AND WILDLIFE SERVICE  
*Publication\_Date:* 1992  
*Title:* THE ECOLOGY OF HUMBOLDT BAY, CALIFORNIA: AN ESTUARINE PROFILE  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:*  
 U.S. DEPT. OF THE INTERIOR, FISH AND WILDLIFE SERVICE,  
 WASHINGTON, D.C., BIOLOGICAL REPORT 1  
*Type\_of\_Source\_Media:* PAPER  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 1992  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* BIRDS INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* USCG SECTOR SAN FRANCISCO  
*Publication\_Date:* 2005  
*Title:*  
 2005 SECTOR SAN FRANCISCO AREA ACP 1 NORTH COAST;  
 VOLUME 2: MENDOCINO COUNTY SECTION 9814  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:* USCG SECTOR SAN FRANCISCO, OCTOBER 1,  
 2005  
*Source\_Scale\_Denominator:* VARIES  
*Type\_of\_Source\_Media:* ONLINE  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2005  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* BIRDS INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* USCG SECTOR SAN FRANCISCO  
*Publication\_Date:* 2005  
*Title:*

2005 SECTOR SAN FRANCISCO AREA ACP 1 NORTH COAST;  
VOLUME 2: HUMBOLDT COUNTY COAST SECTION 9812

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

*Other\_Citation\_Details*: USCG SECTOR SAN FRANCISCO, OCTOBER 1,  
2005

*Source\_Scale\_Denominator*: VARIES

*Type\_of\_Source\_Media*: ONLINE

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

*Time\_Period\_Information*:

*Single\_Date/Time*:

*Calendar\_Date*: 2005

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*Source\_Citation\_Abbreviation*: NONE

*Source\_Contribution*: BIRDS INFORMATION

*Source\_Information*:

*Source\_Citation*:

*Citation\_Information*:

*Originator*: USCG SECTOR SAN FRANCISCO

*Publication\_Date*: 2005

*Title*:

2005 SECTOR SAN FRANCISCO-ACP 1 NORTH COAST: HUMBOLDT  
BAY SECTION 9813

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

*Other\_Citation\_Details*: USCG SECTOR SAN FRANCISCO, OCTOBER 1,  
2005

*Source\_Scale\_Denominator*: VARIES

*Type\_of\_Source\_Media*: ONLINE

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

*Time\_Period\_Information*:

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*Calendar\_Date*: 2005

*Source\_Currentness\_Reference*: DATE OF PUBLICATION

*Source\_Citation\_Abbreviation*: NONE

*Source\_Contribution*: BIRDS INFORMATION

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*Source\_Citation*:

*Citation\_Information*:

*Originator*: USCG SECTOR SAN FRANCISCO

*Publication\_Date*: 2005

*Title*:

2005 SECTOR SAN FRANCISCO-ACP 1 NORTH COAST: DEL NORTE  
COUNTY SECTION 9811

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

*Other\_Citation\_Details*: USCG SECTOR SAN FRANCISCO, OCTOBER 1,  
2005

*Source\_Scale\_Denominator*: VARIES

*Type\_of\_Source\_Media*: ONLINE

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

*Time\_Period\_Information*:

*Single\_Date/Time*:

*Calendar\_Date*: 2005

*Source\_Currentness\_Reference*: DATE OF PUBLICATION



*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRDS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* USGS, NOAA, MLML

*Publication\_Date:* 2006

*Title:* MARINE MAMMAL, SEABIRD, AND SEA TURTLE 'ZONES' AND HOT SPOTS

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

*Other\_Citation\_Details:* UNPUBLISHED

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

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2006

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* BIRDS INFORMATION

*Process\_Step:*

*Process\_Description:*

Three main sources of data were used to depict bird distribution and seasonality for this data layer: 1) personal interviews with resource experts from the U.S. Fish and Wildlife Service (USFWS), California Department of Fish & Game (CDF&G), Mad River Biologists, Point Reyes Bird Observatory (PRBO), National Park Service (NPS), California State Parks (CSP) and NOAA; 2) numerous published and unpublished documents; and 3) digital data sets provided by CDF&G.

The above digital and/or hardcopy sources were compiled by the project biologist to create the BIRDS data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: 1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; 2) hardcopy maps are digitized at their source scale; and/or 3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the BIRDS data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:* 200812

*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](mailto:Jill.Petersen@noaa.gov)

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*Spatial\_Data\_Organization\_Information:*

*Direct\_Spatial\_Reference\_Method:* Vector

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

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:* GT-polygon composed of chains

*Point\_and\_Vector\_Object\_Count:* 7511

*SDTS\_Terms\_Description:*

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

*Point\_and\_Vector\_Object\_Count:* 7510

*SDTS\_Terms\_Description:*

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

*Point\_and\_Vector\_Object\_Count:* 8809

*SDTS\_Terms\_Description:*

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

*Point\_and\_Vector\_Object\_Count:* 432248

*SDTS\_Terms\_Description:*

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

*Point\_and\_Vector\_Object\_Count:* 8152

---

*Spatial\_Reference\_Information:*

*Horizontal\_Coordinate\_System\_Definition:*

*Geographic:*

*Latitude\_Resolution:* 0.0000001

*Longitude\_Resolution:* 0.0000001

*Geographic\_Coordinate\_Units:* Decimal degrees

*Geodetic\_Model:*

*Horizontal\_Datum\_Name:* North American Datum of 1927

*Ellipsoid\_Name:* Clark 1866

*Semi-major\_Axis:* 6378206.400000

*Denominator\_of\_Flattening\_Ratio:* 294.978698

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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, BIORRES, 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 (BIORRES) 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 Northern California atlas, the number is 207), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of

these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN\_SPEC, S, F, NHP, DATE\_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G\_SOURCE, S\_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED\_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed\_Description of the BREED data table. The link to the BIOFILE may be made through the BIO\_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED\_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED\_DT is the BREED item.

A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G\_SOURCE and S\_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* BIRDS.PAT

*Entity\_Type\_Definition:*

The BIRDS.PAT table contains attribute information for the vector polygons in this data set representing bird nesting, migratory staging, roosting, and wintering sites. Note that all attribute information is stored in a series of relational files, described below. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (207), 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:* 2070100002

*Range\_Domain\_Maximum:* 2070107533

*Attribute:*

*Attribute\_Label:* RARNUM

*Attribute\_Definition:*

An identifier that links directly to the BIORES table or the flat format BIOFILE table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:* NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 207000001

*Range\_Domain\_Maximum:* 207000506

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* BIO\_LUT

*Entity\_Type\_Definition:*

The data table BIO\_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* RARNUM

*Attribute\_Definition:*

An identifier that links records in the BIO\_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:* NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 207000001

*Range\_Domain\_Maximum:* 207001115

*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 (207), 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:* 2070100002

*Range\_Domain\_Maximum:* 2072200500

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* BIORES

*Entity\_Type\_Definition:*

The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO\_LUT data table to other associated data tables. See the Browse\_Graphic section for a link to the entity-

relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: RARNUM

*Attribute\_Definition*:

An identifier that links records in the BIORES data table to records in the BIO\_LUT data table or the flat format BIOFILE data table.

*Attribute\_Definition\_Source*: NOAA

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 207000001

*Range\_Domain\_Maximum*: 207001115

*Attribute*:

*Attribute\_Label*: SPECIES\_ID

*Attribute\_Definition*:

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

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: CONC

*Attribute\_Definition*:

The field CONC refers to "concentration," abundance, or density values, and may contain counts of individuals for each species present at a particular nesting or staging site, or a term that describes relative abundance of birds at a particular site. The field may contain counts of individuals (XX BIRDS or XX INDIV), a range of individuals (XX-XXX BIRDS), or an estimate (1000s). In cases where no quantitative data were available, the field may contain descriptive terms such as "HIGH" or "COMMON". If no concentration information was available from any source, the CONC field is populated with "-". Counts were derived from a variety of surveys, and may range in date (see the Lineage section).

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: SEASON\_ID

*Attribute\_Definition*:

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: G\_SOURCE

*Attribute\_Definition*:

Geographic source identifier that links records in the BIORES data table to records in

the SOURCES data table.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: S\_SOURCE

*Attribute\_Definition*:

Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: ELEMENT

*Attribute\_Definition*: Major categories of biological data.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: BIRD

*Enumerated\_Domain\_Value\_Definition*: Birds

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: FISH

*Enumerated\_Domain\_Value\_Definition*: Fish

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: HABITAT

*Enumerated\_Domain\_Value\_Definition*: Habitats and Plants

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: INVERT

*Enumerated\_Domain\_Value\_Definition*: Invertebrates

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: M\_MAMMAL

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

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: REPTILE

*Enumerated\_Domain\_Value\_Definition*: Reptiles and Amphibians

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value:* T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals

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

*Attribute:*

*Attribute\_Label:* EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

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

*Attribute:*

*Attribute\_Label:* EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

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

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* SPECIES

*Entity\_Type\_Definition:*

The data table SPECIES identifies all species in the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness\_Report for a list of layer-specific species.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* SPECIES\_ID

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* NAME

*Attribute\_Definition:* Species common name for the entire ESI data set.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* GEN\_SPEC

*Attribute\_Definition:* Species scientific name for the entire ESI data set.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* ELEMENT

*Attribute\_Definition:* Major categories of biological data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* BIRD

*Enumerated\_Domain\_Value\_Definition:* Birds

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* FISH

*Enumerated\_Domain\_Value\_Definition:* Fish

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* HABITAT

*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* INVERT

*Enumerated\_Domain\_Value\_Definition:* Invertebrates

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* M\_MAMMAL

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

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* REPTILE

*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals

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

*Attribute:*

*Attribute\_Label:* SUBELEMENT



*Attribute\_Definition:* Element subgroup delineating a logical grouping of species.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* alcid

*Enumerated\_Domain\_Value\_Definition:* Alcid

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* amphibian

*Enumerated\_Domain\_Value\_Definition:* Amphibian

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* bivalve

*Enumerated\_Domain\_Value\_Definition:* Bivalve

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* cephalopod

*Enumerated\_Domain\_Value\_Definition:* Cephalopod

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* crab

*Enumerated\_Domain\_Value\_Definition:* Crab

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* diadromous

*Enumerated\_Domain\_Value\_Definition:* Diadromous fish

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* diving

*Enumerated\_Domain\_Value\_Definition:* Diving bird

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* dolphin

*Enumerated\_Domain\_Value\_Definition:* Dolphin

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* echinoderm

*Enumerated\_Domain\_Value\_Definition:* Echinoderm

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* e\_nursery

*Enumerated\_Domain\_Value\_Definition:* Estuarine nursery fish

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

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* e\_resident*Enumerated\_Domain\_Value\_Definition:* Estuarine resident*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* freshwater*Enumerated\_Domain\_Value\_Definition:* Freshwater fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* gastropod*Enumerated\_Domain\_Value\_Definition:* Gastropod*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* gull\_tern*Enumerated\_Domain\_Value\_Definition:* Gull or tern*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* insect*Enumerated\_Domain\_Value\_Definition:* Insect*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* kelp*Enumerated\_Domain\_Value\_Definition:* Kelp*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* m\_benthic*Enumerated\_Domain\_Value\_Definition:* Marine benthic fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* m\_pelagic*Enumerated\_Domain\_Value\_Definition:* Marine pelagic fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* passerine*Enumerated\_Domain\_Value\_Definition:* Passerine bird*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* pelagic*Enumerated\_Domain\_Value\_Definition:* Pelagic bird*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* pinniped

*Enumerated\_Domain\_Value\_Definition:* Pinniped

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* plant

*Enumerated\_Domain\_Value\_Definition:* Plant

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* raptor

*Enumerated\_Domain\_Value\_Definition:* Raptor

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sav

*Enumerated\_Domain\_Value\_Definition:* Submerged aquatic vegetation

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sea otter

*Enumerated\_Domain\_Value\_Definition:* Sea otter

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* shorebird

*Enumerated\_Domain\_Value\_Definition:* Shorebird

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* shrimp

*Enumerated\_Domain\_Value\_Definition:* Shrimps

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sm\_mammal

*Enumerated\_Domain\_Value\_Definition:* Small mammal

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* turtle

*Enumerated\_Domain\_Value\_Definition:* Turtle

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* ungulate

*Enumerated\_Domain\_Value\_Definition:* Ungulate

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* wading

*Enumerated\_Domain\_Value\_Definition:* Wading bird

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: waterfowl

*Enumerated\_Domain\_Value\_Definition*: Waterfowl

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: whale

*Enumerated\_Domain\_Value\_Definition*: Whale

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

*Attribute*:

*Attribute\_Label*: NHP

*Attribute\_Definition*: Natural Heritage Program global ranking.

*Attribute\_Definition\_Source*: Network of Natural Heritage Program

*Attribute\_Domain\_Values*:

*Codeset\_Domain*:

*Codeset\_Name*: NHP Global Conservation Status Rank

*Codeset\_Source*: Natural Heritage Program

*Attribute*:

*Attribute\_Label*: DATE\_PUB

*Attribute\_Definition*: Date of NHP listing.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: YYYYMM

*Enumerated\_Domain\_Value\_Definition*: YYYY for year and optionally MM for month

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: 0

*Enumerated\_Domain\_Value\_Definition*: Date unspecified

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

*Attribute*:

*Attribute\_Label*: EL\_SPE

*Attribute\_Definition*:

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: E#####

*Enumerated\_Domain\_Value\_Definition*:

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

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

*Detailed\_Description*:

*Entity\_Type*:

*Entity\_Type\_Label*: SEASONAL

*Entity\_Type\_Definition*:

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

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: ELEMENT

*Attribute\_Definition*: Major categories of biological data.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: BIRD

*Enumerated\_Domain\_Value\_Definition*: Birds

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: FISH

*Enumerated\_Domain\_Value\_Definition*: Fish

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: HABITAT

*Enumerated\_Domain\_Value\_Definition*: Habitats and Plants

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: INVERT

*Enumerated\_Domain\_Value\_Definition*: Invertebrates

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: M\_MAMMAL

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

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: REPTILE

*Enumerated\_Domain\_Value\_Definition*: Reptiles and Amphibians

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition*: Terrestrial Mammals

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

*Attribute*:

*Attribute\_Label*: SPECIES\_ID

*Attribute\_Definition*:

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

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* JAN

*Attribute\_Definition:* January

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in January

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

*Attribute:*

*Attribute\_Label:* FEB

*Attribute\_Definition:* February

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in February

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

*Attribute:*

*Attribute\_Label:* MAR

*Attribute\_Definition:* March

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in March

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

*Attribute:*

*Attribute\_Label:* APR

*Attribute\_Definition:* April

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in April

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

*Attribute:*

*Attribute\_Label:* MAY

*Attribute\_Definition:* May

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in May

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

*Attribute:*

*Attribute\_Label:* JUN

*Attribute\_Definition:* June

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in June

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

*Attribute:*

*Attribute\_Label:* JUL

*Attribute\_Definition:* July

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in July

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

*Attribute:*

*Attribute\_Label:* AUG

*Attribute\_Definition:* August

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in August

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

*Attribute:*

*Attribute\_Label:* SEP

*Attribute\_Definition:* September

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in September

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

*Attribute:*

*Attribute\_Label:* OCT

*Attribute\_Definition:* October

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in October

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

*Attribute:*

*Attribute\_Label:* NOV

*Attribute\_Definition:* November

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in November

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

*Attribute:*

*Attribute\_Label:* DEC

*Attribute\_Definition:* December

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in December

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

*Attribute:*

*Attribute\_Label:* EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

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

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* BREED

*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').



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

*Attribute*:

*Attribute\_Label*: MONTH

*Attribute\_Definition*:

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

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: 12

*Attribute*:

*Attribute\_Label*: BREED1

*Attribute\_Definition*:

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

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: Y

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity present

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: N

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity not present or not reported

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: -

*Enumerated\_Domain\_Value\_Definition*:

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

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

*Attribute*:

*Attribute\_Label*: BREED2

*Attribute\_Definition*:

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

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: Y

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity present

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

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*Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

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

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* BREED3*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = interesting; if ELEMENT is "M\_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

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

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* BREED4*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M\_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

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

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* BREED5*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M\_MAMMAL, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

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

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* SOURCES*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* SOURCE\_ID*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:*

*Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* ORIGINATOR*Attribute\_Definition:* Author or developer of source material or data set.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* DATE\_PUB*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* YYYYMM*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* TITLE*Attribute\_Definition:* Title of source material or data.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* DATA\_FORMAT*Attribute\_Definition:* The format of the source material.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* PUBLICATION*Attribute\_Definition:* Additional citation information.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* SCALE*Attribute\_Definition:* Description of the source scale.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* TIME\_PERIOD*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

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

The data table STATUS identifies the species that are listed as 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:* Research Planning, Inc.*Attribute:**Attribute\_Label:* ELEMENT*Attribute\_Definition:* Major categories of biological data.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* BIRD*Enumerated\_Domain\_Value\_Definition:* Birds*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* FISH*Enumerated\_Domain\_Value\_Definition:* Fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* HABITAT*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* INVERT*Enumerated\_Domain\_Value\_Definition:* Invertebrates*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* M\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Marine Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* REPTILE*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* T\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* SPECIES\_ID*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a

nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: STATE

*Attribute\_Definition*: Two-letter state abbreviation.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: COUNTRY

*Attribute\_Definition*: Three-letter country abbreviation.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: S

*Attribute\_Definition*: State threatened or endangered status.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: E

*Enumerated\_Domain\_Value\_Definition*: Endangered on state list

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: T

*Enumerated\_Domain\_Value\_Definition*: Threatened on state list

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: C

*Enumerated\_Domain\_Value\_Definition*: Species of Special Concern

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

*Attribute*:

*Attribute\_Label*: F

*Attribute\_Definition*: Federal threatened or endangered status.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: E

*Enumerated\_Domain\_Value\_Definition*: Endangered on federal list

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: T

*Enumerated\_Domain\_Value\_Definition*: Threatened on federal list

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* C*Enumerated\_Domain\_Value\_Definition:* Species of Special Concern*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines*Attribute:**Attribute\_Label:* I*Attribute\_Definition:* International threatened or endangered status.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* E*Enumerated\_Domain\_Value\_Definition:* Endangered on international list*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* T*Enumerated\_Domain\_Value\_Definition:* Threatened on international list*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* C*Enumerated\_Domain\_Value\_Definition:* Species of Special Concern*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines*Attribute:**Attribute\_Label:* S\_DATE*Attribute\_Definition:*

Publication date of source material used to assign state status values for each species, if used.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* YYYYMM*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* F\_DATE*Attribute\_Definition:*

Publication date of source material used to assign federal status values for each species, if used.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* YYYYMM*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* I\_DATE*Attribute\_Definition:*

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

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: YYYYMM

*Enumerated\_Domain\_Value\_Definition*: YYYY for year and optionally MM for month

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

*Attribute*:

*Attribute\_Label*: EL\_SPE

*Attribute\_Definition*:

Concatenation of ELEMENT and SPECIES\_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: E#####

*Enumerated\_Domain\_Value\_Definition*:

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

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

*Distribution\_Information*:

*Distributor*:

*Contact\_Information*:

*Contact\_Person\_Primary*:

*Contact\_Person*: John Kaperick

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

*Contact\_Address*:

*Address\_Type*: Physical Address

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

*City*: Seattle

*State\_or\_Province*: Washington

*Postal\_Code*: 98115-6349

*Contact\_Voice\_Telephone*: (206) 526-6400

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

*Resource\_Description*: ESI Atlas for Northern California

*Distribution\_Liability*:

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

*Custom\_Order\_Process*:

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Access Personal Geodatabase, ARC export files, Shape files, and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA



Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

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*Metadata\_Reference\_Information:*

*Metadata\_Date:* 200902

*Metadata\_Review\_Date:* 200902

*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](mailto:Jill.Petersen@noaa.gov)

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

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

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# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: 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:*

##### *Citation\_Information:*

##### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Publication\_Date:* 200812

##### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: NESTS (Nest Points)

*Edition:* Second

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

##### *Series\_Information:*

*Series\_Name:* None

*Issue\_Identification:* Northern California

##### *Publication\_Information:*

*Publication\_Place:* Seattle, Washington

##### *Publisher:*

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

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

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

Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Description:*

*Abstract:*

This data set contains sensitive biological resource data for seabirds, diving birds, gulls, terns, and shorebirds in Northern California. Vector points in this data set represent bird nesting and roosting sites. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Northern California. 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 (Bird Polygons) data layer, part of the larger Northern California 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:* 1975

*Ending\_Date:* 2007

*Currentness\_Reference:*

The biological data were compiled during 2007. The currentness dates for the data range from 1975 to 2007 and are documented in the Lineage section.

*Status:*

*Progress:* Complete

*Maintenance\_and\_Update\_Frequency:* None Scheduled

*Spatial\_Domain:*

*Bounding\_Coordinates:*

*West\_Bounding\_Coordinate:* -124.45800

*East\_Bounding\_Coordinate:* -122.75000

*North\_Bounding\_Coordinate:* 37.97900

*South\_Bounding\_Coordinate:* 42.00000

*Keywords:*

*Theme:*

*Theme\_Keyword\_Thesaurus:* None

*Theme\_Keyword:* ESI

*Theme\_Keyword:* Sensitivity maps

*Theme\_Keyword:* Coastal resources

*Theme\_Keyword:* Oil spill planning

*Theme\_Keyword:* Coastal Zone Management

*Theme\_Keyword:* Wildlife

*Theme\_Keyword:* Nest

*Theme\_Keyword:* Bird

*Place:**Place\_Keyword\_Thesaurus:* None*Place\_Keyword:* Northern California*Access\_Constraints:* None*Use\_Constraints:*

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

*Browse\_Graphic:**Browse\_Graphic\_File\_Name:* [datafig.jpg](#)*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the Northern California ESI data.

*Browse\_Graphic\_File\_Type:* JPEG*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO® (version 9.2) and SQL SERVER® (version 2000). The hardware configuration is PCs with Windows Operating System (2000/XP/2003).

The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00. Associated relational and desktop data tables provided in ARC export and text format are bio\_lut, biofile, biores, breed, breed\_dt, seasonal, soc\_dat, soc\_lut, sources, species, and status.

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

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

evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER® to ARC/INFO® consistencies. A final review is made by the GIS manager, where the data are written to CD or DVD, and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new IDs and RARNUMs or HUNUMs are also generated. The new IDs 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 RARNUMs are also modified to include the atlas number, so multiple atlases can be combined and RARNUMs remain unique. RARNUMs are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUMs are also modified to include the atlas number.

*Completeness\_Report:*

These data represent a synthesis of expert knowledge, available hardcopy documents, survey data, and digital data on bird nesting and roosting locations. See also the BIRDS (Bird Polygons) data layer, part of the larger Northern California ESI database, for additional bird information. These data do not necessarily represent all nest occurrences in Northern California. 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*; 9, Brandt's cormorant, *Phalacrocorax penicillatus*; 10, Pelagic cormorant, *Phalacrocorax pelagicus*; 37, Western gull, *Larus occidentalis*; 46, Common murre, *Uria aalge*; 47, Pigeon guillemot, *Cepphus columba*; 49, Cassin's auklet, *Ptychoramphus aleuticus*; 50, Rhinoceros auklet, *Cerorhinca monocerata*; 51, Tufted puffin, *Fratercula cirrhata*; 68, Black oystercatcher, *Haematopus bachmani*; 96, Leach's storm-petrel, *Oceanodroma leucorhoa*; 102, Fork-tailed storm-petrel, *Oceanodroma furcata*; 118, Brown pelican, *Pelecanus occidentalis*; 144, Ashy storm-petrel, *Oceanodroma homochroa*; 626, American peregrine falcon, *Falco peregrinus anatum*.

*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. See the Lineage and Process\_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy," and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* CALIFORNIA STATE OFFICE, BUREAU OF LAND  
MANAGEMENT, U.S. DOI

*Publication\_Date:* 2005

*Title:* CALIFORNIA COASTAL NATIONAL MONUMENT RESOURCE  
MANAGEMENT PLAN

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

*Other\_Citation\_Details:* CALIFORNIA STATE OFFICE, BUREAU OF LAND  
MANAGEMENT, U.S. DOI

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* NESTS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

CAPITOLO, CARTER, YOUNG, MCCHESENEY, MCIVER,  
GOLIGHTLY, AND GRESS

*Publication\_Date:* 2004

*Title:*

CHANGES IN BREEDING POPULATION SIZE OF BRANDT'S AND  
DOUBLE-CRESTED CORMORANTS IN CALIFORNIA, 1975-2003

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

*Other\_Citation\_Details:*

UNPUBLISHED REPORT, DEPARTMENT OF WILDLIFE,  
HUMBOLDT STATE UNIVERSITY, ARCATA, CALIFORNIA

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:* 1975

*Ending\_Date:* 2003

*Source\_Currentness\_Reference:* DATE OF SURVEY

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* NESTS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* CAPITOLO, MCCHESENEY, CARTER, PARKER, HALL,  
YOUNG, GOLIGHTLY

*Publication\_Date:* 2006

*Title:*

WHOLE-COLONY COUNTS OF COMU, BRCO, AND DCCO AT  
SAMPLE COLONIES IN NORTHERN AND CENTRAL CALIFORNIA,  
1996-2004

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

*Other\_Citation\_Details:*

UNPUBLISHED REPORT, DEPT. OF WILDLIFE, HSU, ARCATA, CA;

USFWS, SFB NWR COMPLEX, NEWARK, CA. 40 PP.

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2006

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* NESTS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

CARTER, H.R., P.J. CAPITOLO, G.J. MCCHESENEY, W.R. MCIVER,  
AND J.E. TAKEKAWA

*Publication\_Date:* 2000

*Title:*

POPULATION MONITORING OF SEABIRDS IN CALIFORNIA:  
COLONY/SUBCOLONY DATABASES FOR 1985-1995 SURVEYS OF  
BREEDING COLONIES OF COMU, BRCO, DCCO

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

*Other\_Citation\_Details:*

UNPUBLISHED FINAL REPORT, USGS WERC, DIXON, CA; HSU,  
DEPT OF WILDLIFE, ARCATA, CA; USFWS, SFB NWRC, NEWARK,  
CA. 71 PP.

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:* 1985

*Ending\_Date:* 1995

*Source\_Currentness\_Reference:* DATE OF SURVEY

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* NESTS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* HARRIS, S.

*Publication\_Date:* 2006

*Title:* NORTHWESTERN CALIFORNIA BIRDS

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

*Other\_Citation\_Details:* LIVING GOLD PRESS, KLAMATH RIVER, CA

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2006

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* NESTS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:**Originator:* LEVALLEY, R. (MAD RIVER BIOLOGISTS, ARCATA)*Publication\_Date:* 2007*Title:*COASTAL RESOURCE DISTRIBUTION AND SEASONALITY IN  
NORTHERN CALIFORNIA*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:* 2007*Source\_Currentness\_Reference:* DATE OF COMMUNICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* NESTS INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*NOAA NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE  
(NCCOS) AND NATIONAL MARINE FISHERIES SERVICE (NMFS)*Publication\_Date:* 2003*Title:* COLONIES*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA*Other\_Citation\_Details:*A BIOGEOGRAPHIC ASSESSMENT OFF NORTH/CENTRAL  
CALIFORNIA: PHASE 1. SILVER SPRING, MD, CD-ROM.*Type\_of\_Source\_Media:* CD-ROM*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Range\_of\_Dates/Times:**Beginning\_Date:* 1989*Ending\_Date:* 1991*Source\_Currentness\_Reference:* DATE OF SURVEY*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* NESTS INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*NOAA NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE  
(NCCOS) AND NATIONAL MARINE FISHERIES SERVICE (NMFS)*Publication\_Date:* 2003*Title:* COLONIES*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA*Other\_Citation\_Details:*A BIOGEOGRAPHIC ASSESSMENT OFF NORTH/CENTRAL  
CALIFORNIA: PHASE 1. SILVER SPRING, MD, CD-ROM.*Type\_of\_Source\_Media:* CD-ROM*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:*



*Range\_of\_Dates/Times:**Beginning\_Date:* 1989*Ending\_Date:* 1991*Source\_Currentness\_Reference:* DATE OF SURVEY*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* NESTS INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*NOAA NATIONAL OCEAN SERVICE (NOS) OFFICE OF RESPONSE  
AND RESTORATION (OR&R) HAZARDOUS MATERIALS RESPONSE  
DIVISION*Publication\_Date:* 2001*Title:*SENSITIVITY OF COASTAL ENVIRONMENTS AND WILDLIFE TO  
SPILLED OIL: NORTHERN CALIFORNIA*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA*Other\_Citation\_Details:* SEATTLE, WASHINGTON*Source\_Scale\_Denominator:* 24,000*Type\_of\_Source\_Media:* CD-ROM*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Range\_of\_Dates/Times:**Beginning\_Date:* 1994*Ending\_Date:* 2001*Source\_Currentness\_Reference:* DATE OF PUBLICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* NESTS INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* ROBERSON, D.*Publication\_Date:* 2002*Title:* MONTEREY BIRDS*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT*Other\_Citation\_Details:* MONTEREY PENINSULA AUDUBON SOCIETY,  
CARMEL, CA*Type\_of\_Source\_Media:* PAPER*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 2005*Source\_Currentness\_Reference:* DATE OF PUBLICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* NESTS INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* ROLETTO, J. (NOAA, GFNMS)*Publication\_Date:* 2005*Title:*

DISTRIBUTION AND SEASONALITY OF GFNMS SPECIES AND  
SOC\_ECON FEATURES

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

*Other\_Citation\_Details*: UNPUBLISHED

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

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

*Time\_Period\_Information*:

*Single\_Date/Time*:

*Calendar\_Date*: 2005

*Source\_Currentness\_Reference*: DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation*: NONE

*Source\_Contribution*: NESTS INFORMATION

*Source\_Information*:

*Source\_Citation*:

*Citation\_Information*:

*Originator*: U.S. FISH AND WILDLIFE SERVICE (USFWS) PACIFIC  
REGION

*Publication\_Date*: 2005

*Title*: REGIONAL SEABIRD CONSERVATION PLAN, PACIFIC REGION

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

*Other\_Citation\_Details*:

U.S. FISH AND WILDLIFE SERVICE, MIGRATORY BIRDS AND  
HABITAT PROGRAMS, PORTLAND, OREGON

*Type\_of\_Source\_Media*: ONLINE

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

*Time\_Period\_Information*:

*Single\_Date/Time*:

*Calendar\_Date*: 2005

*Source\_Currentness\_Reference*: DATE OF PUBLICATION

*Source\_Citation\_Abbreviation*: NONE

*Source\_Contribution*: NESTS INFORMATION

*Process\_Step*:

*Process\_Description*:

Three main sources of data were used to depict nest distribution and seasonality for this data layer: 1) personal interviews with resource experts from U.S. Fish and Wildlife Service (USFWS); 2) unpublished seabird colony survey reports; and 3) digital data sets provided by NOAA.

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 a biology data layer: 1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; 2) hardcopy maps are digitized at their source scale; and/or 3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the NESTS data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:* 200812

*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](mailto:Jill.Petersen@noaa.gov)

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*Spatial\_Data\_Organization\_Information:*

*Direct\_Spatial\_Reference\_Method:* Vector

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

*SDTS\_Terms\_Description:*

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

*Point\_and\_Vector\_Object\_Count:* 127

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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 1927

*Ellipsoid\_Name:* Clark 1866

*Semi-major\_Axis:* 6378206.400000

*Denominator\_of\_Flattening\_Ratio:* 294.978698

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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, 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 Northern California atlas, the number is 207), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other

relational data tables are described below in detail. See the [Browse\\_Graphic](#) section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN\_SPEC, S, F, NHP, DATE\_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G\_SOURCE, S\_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED\_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the [Detailed\\_Description](#) of the BREED data table. The link to the BIOFILE may be made through the BIO\_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED\_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED\_DT is the BREED item.

A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G\_SOURCE and S\_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

#### *Detailed\_Description:*

##### *Entity\_Type:*

*Entity\_Type\_Label:* NESTS.PAT

##### *Entity\_Type\_Definition:*

The NESTS.PAT table contains attribute information for the vector points in this data set representing bird nesting and roosting sites. Note that all attribute information is stored in a series of relational files, described below. See the [Browse\\_Graphic](#) section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

##### *Attribute:*

*Attribute\_Label:* ID

##### *Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (207), element number (5), and record number.

*Attribute\_Definition\_Source:* NOAA

##### *Attribute\_Domain\_Values:*

##### *Range\_Domain:*

*Range\_Domain\_Minimum:* 2070500001

*Range\_Domain\_Maximum:* 2070500127

##### *Attribute:*

*Attribute\_Label:* RARNUM

*Attribute\_Definition:*

An identifier that links directly to the BIORES table or the flat format BIOFILE table.

*Attribute\_Definition\_Source:* NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 207000044

*Range\_Domain\_Maximum:* 207000247

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* BIO\_LUT

*Entity\_Type\_Definition:*

The data table BIO\_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* RARNUM

*Attribute\_Definition:*

An identifier that links records in the BIO\_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:* NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 207000001

*Range\_Domain\_Maximum:* 207001115

*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 (207), 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:* 2070100002

*Range\_Domain\_Maximum:* 2072200500

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* BIORES

*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* RARNUM

*Attribute\_Definition:*

An identifier that links records in the BIORES data table to records in the BIO\_LUT data table or the flat format BIOFILE data table.

*Attribute\_Definition\_Source:* NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 207000001

*Range\_Domain\_Maximum:* 207001115

*Attribute:*

*Attribute\_Label:* SPECIES\_ID

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* CONC

*Attribute\_Definition:*

The field CONC refers to "concentration," abundance, or density values, and may contain counts of individuals for each species present at a particular nesting or wintering site, or a term that describes relative abundance of birds at a particular site. The field may contain counts of individuals (XX INDIV) or counts of nests (XX NESTS). If no concentration information was available from any source, the CONC field is populated with "-". Counts were derived from a variety of surveys, and may range in date (see the Lineage section).

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* G\_SOURCE

*Attribute\_Definition:*

Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:**Attribute\_Label:* S\_SOURCE*Attribute\_Definition:*

Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* ELEMENT*Attribute\_Definition:* Major categories of biological data.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* BIRD*Enumerated\_Domain\_Value\_Definition:* Birds*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* FISH*Enumerated\_Domain\_Value\_Definition:* Fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* HABITAT*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* INVERT*Enumerated\_Domain\_Value\_Definition:* Invertebrates*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* M\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Marine Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* REPTILE*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* T\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* EL\_SPE*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

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

*Attribute:*

*Attribute\_Label:* EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

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

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* SPECIES

*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* SPECIES\_ID

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* NAME

*Attribute\_Definition:* Species common name for the entire ESI data set.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*



*Attribute\_Label:* GEN\_SPEC

*Attribute\_Definition:* Species scientific name for the entire ESI data set.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* ELEMENT

*Attribute\_Definition:* Major categories of biological data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* BIRD

*Enumerated\_Domain\_Value\_Definition:* Birds

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* FISH

*Enumerated\_Domain\_Value\_Definition:* Fish

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* HABITAT

*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* INVERT

*Enumerated\_Domain\_Value\_Definition:* Invertebrates

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* M\_MAMMAL

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

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* REPTILE

*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals

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

*Attribute:*

*Attribute\_Label:* SUBELEMENT

*Attribute\_Definition:* Element subgroup delineating a logical grouping of species.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* alcid

*Enumerated\_Domain\_Value\_Definition:* Alcid

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: amphibian

*Enumerated\_Domain\_Value\_Definition*: Amphibian

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: bivalve

*Enumerated\_Domain\_Value\_Definition*: Bivalve

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: cephalopod

*Enumerated\_Domain\_Value\_Definition*: Cephalopod

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: crab

*Enumerated\_Domain\_Value\_Definition*: Crab

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: diadromous

*Enumerated\_Domain\_Value\_Definition*: Diadromous fish

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: diving

*Enumerated\_Domain\_Value\_Definition*: Diving bird

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: dolphin

*Enumerated\_Domain\_Value\_Definition*: Dolphin

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: echinoderm

*Enumerated\_Domain\_Value\_Definition*: Echinoderm

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: e\_nursery

*Enumerated\_Domain\_Value\_Definition*: Estuarine nursery fish

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: e\_resident

*Enumerated\_Domain\_Value\_Definition*: Estuarine resident

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* freshwater*Enumerated\_Domain\_Value\_Definition:* Freshwater fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* gastropod*Enumerated\_Domain\_Value\_Definition:* Gastropod*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* gull\_tern*Enumerated\_Domain\_Value\_Definition:* Gull or tern*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* insect*Enumerated\_Domain\_Value\_Definition:* Insect*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* kelp*Enumerated\_Domain\_Value\_Definition:* Kelp*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* m\_benthic*Enumerated\_Domain\_Value\_Definition:* Marine benthic fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* m\_pelagic*Enumerated\_Domain\_Value\_Definition:* Marine pelagic fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* passerine*Enumerated\_Domain\_Value\_Definition:* Passerine bird*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* pelagic*Enumerated\_Domain\_Value\_Definition:* Pelagic bird*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* pinniped*Enumerated\_Domain\_Value\_Definition:* Pinniped*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* plant

*Enumerated\_Domain\_Value\_Definition:* Plant

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* raptor

*Enumerated\_Domain\_Value\_Definition:* Raptor

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sav

*Enumerated\_Domain\_Value\_Definition:* Submerged aquatic vegetation

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sea otter

*Enumerated\_Domain\_Value\_Definition:* Sea otter

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* shorebird

*Enumerated\_Domain\_Value\_Definition:* Shorebird

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* shrimp

*Enumerated\_Domain\_Value\_Definition:* Shrimps

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sm\_mammal

*Enumerated\_Domain\_Value\_Definition:* Small mammal

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* turtle

*Enumerated\_Domain\_Value\_Definition:* Turtle

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* ungulate

*Enumerated\_Domain\_Value\_Definition:* Ungulate

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* wading

*Enumerated\_Domain\_Value\_Definition:* Wading bird

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* waterfowl

*Enumerated\_Domain\_Value\_Definition:* Waterfowl

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

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* whale*Enumerated\_Domain\_Value\_Definition:* Whale*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* NHP*Attribute\_Definition:* Natural Heritage Program global ranking.*Attribute\_Definition\_Source:* Network of Natural Heritage Program*Attribute\_Domain\_Values:**Codeset\_Domain:**Codeset\_Name:* NHP Global Conservation Status Rank*Codeset\_Source:* Natural Heritage Program*Attribute:**Attribute\_Label:* DATE\_PUB*Attribute\_Definition:* Date of NHP listing.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* YYYYMM*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* 0*Enumerated\_Domain\_Value\_Definition:* Date unspecified*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* EL\_SPE*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* E#####*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* SEASONAL*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*Attribute:*

*Attribute\_Label:* ELEMENT

*Attribute\_Definition:* Major categories of biological data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* BIRD

*Enumerated\_Domain\_Value\_Definition:* Birds

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* FISH

*Enumerated\_Domain\_Value\_Definition:* Fish

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* HABITAT

*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* INVERT

*Enumerated\_Domain\_Value\_Definition:* Invertebrates

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* M\_MAMMAL

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

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* REPTILE

*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals

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

*Attribute:*

*Attribute\_Label:* SPECIES\_ID

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of

each species at a given location.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: JAN

*Attribute\_Definition*: January

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: X

*Enumerated\_Domain\_Value\_Definition*: Present in January

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

*Attribute*:

*Attribute\_Label*: FEB

*Attribute\_Definition*: February

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: X

*Enumerated\_Domain\_Value\_Definition*: Present in February

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

*Attribute*:

*Attribute\_Label*: MAR

*Attribute\_Definition*: March

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: X

*Enumerated\_Domain\_Value\_Definition*: Present in March

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

*Attribute*:

*Attribute\_Label*: APR

*Attribute\_Definition*: April

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: X

*Enumerated\_Domain\_Value\_Definition*: Present in April

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

*Attribute*:

*Attribute\_Label*: MAY

*Attribute\_Definition*: May

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: X

*Enumerated\_Domain\_Value\_Definition*: Present in May

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

*Attribute*:

*Attribute\_Label:* JUN

*Attribute\_Definition:* June

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in June

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

*Attribute:*

*Attribute\_Label:* JUL

*Attribute\_Definition:* July

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in July

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

*Attribute:*

*Attribute\_Label:* AUG

*Attribute\_Definition:* August

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in August

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

*Attribute:*

*Attribute\_Label:* SEP

*Attribute\_Definition:* September

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in September

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

*Attribute:*

*Attribute\_Label:* OCT

*Attribute\_Definition:* October

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in October

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

*Attribute:*

*Attribute\_Label:* NOV

*Attribute\_Definition:* November

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in November



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

*Attribute*:

*Attribute\_Label*: DEC

*Attribute\_Definition*: December

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: X

*Enumerated\_Domain\_Value\_Definition*: Present in December

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

*Attribute*:

*Attribute\_Label*: EL\_SPE\_SEA

*Attribute\_Definition*:

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: E#####

*Enumerated\_Domain\_Value\_Definition*:

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

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

*Detailed\_Description*:

*Entity\_Type*:

*Entity\_Type\_Label*: BREED

*Entity\_Type\_Definition*:

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

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: EL\_SPE\_SEA

*Attribute\_Definition*:

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: E#####

*Enumerated\_Domain\_Value\_Definition*:

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

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

*Attribute*:

*Attribute\_Label*: MONTH

*Attribute\_Definition*:

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* 12

*Attribute:*

*Attribute\_Label:* BREED1

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* Y

*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* N

*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* -

*Enumerated\_Domain\_Value\_Definition:*

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

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

*Attribute:*

*Attribute\_Label:* BREED2

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* Y

*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* N

*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

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

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* BREED3*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = interesting; if ELEMENT is "M\_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

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

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* BREED4*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M\_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

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

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* BREED5*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M\_MAMMAL, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

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

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* SOURCES*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* SOURCE\_ID*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* ORIGINATOR*Attribute\_Definition:* Author or developer of source material or data set.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: DATE\_PUB

*Attribute\_Definition*:

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

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: YYYYMM

*Enumerated\_Domain\_Value\_Definition*: YYYY for year and optionally MM for month

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

*Attribute*:

*Attribute\_Label*: TITLE

*Attribute\_Definition*: Title of source material or data.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: DATA\_FORMAT

*Attribute\_Definition*: The format of the source material.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: PUBLICATION

*Attribute\_Definition*: Additional citation information.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: SCALE

*Attribute\_Definition*: Description of the source scale.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: TIME\_PERIOD

*Attribute\_Definition*:

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

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Detailed\_Description*:

*Entity\_Type*:

*Entity\_Type\_Label*: STATUS

*Entity\_Type\_Definition*:

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

*Attribute*:

*Attribute\_Label*: ELEMENT

*Attribute\_Definition*: Major categories of biological data.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: BIRD

*Enumerated\_Domain\_Value\_Definition*: Birds

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: FISH

*Enumerated\_Domain\_Value\_Definition*: Fish

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: HABITAT

*Enumerated\_Domain\_Value\_Definition*: Habitats and Plants

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: INVERT

*Enumerated\_Domain\_Value\_Definition*: Invertebrates

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: M\_MAMMAL

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

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: REPTILE

*Enumerated\_Domain\_Value\_Definition*: Reptiles and Amphibians

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition*: Terrestrial Mammals

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

*Attribute*:

*Attribute\_Label*: SPECIES\_ID

*Attribute\_Definition*:

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

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute:**Attribute\_Label:* STATE*Attribute\_Definition:* Two-letter state abbreviation.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* COUNTRY*Attribute\_Definition:* Three-letter country abbreviation.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* S*Attribute\_Definition:* State threatened or endangered status.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* E*Enumerated\_Domain\_Value\_Definition:* Endangered on state list*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* T*Enumerated\_Domain\_Value\_Definition:* Threatened on state list*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* C*Enumerated\_Domain\_Value\_Definition:* Species of Special Concern*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines*Attribute:**Attribute\_Label:* F*Attribute\_Definition:* Federal threatened or endangered status.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* E*Enumerated\_Domain\_Value\_Definition:* Endangered on federal list*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* T*Enumerated\_Domain\_Value\_Definition:* Threatened on federal list*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* C*Enumerated\_Domain\_Value\_Definition:* Species of Special Concern*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines*Attribute:**Attribute\_Label:* I

*Attribute\_Definition:* International threatened or endangered status.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E

*Enumerated\_Domain\_Value\_Definition:* Endangered on international list

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T

*Enumerated\_Domain\_Value\_Definition:* Threatened on international list

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* C

*Enumerated\_Domain\_Value\_Definition:* Species of Special Concern

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

*Attribute:*

*Attribute\_Label:* S\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign state status values for each species, if used.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

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

*Attribute:*

*Attribute\_Label:* F\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign federal status values for each species, if used.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

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

*Attribute:*

*Attribute\_Label:* I\_DATE

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month



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

*Attribute*:

*Attribute\_Label*: EL\_SPE

*Attribute\_Definition*:

Concatenation of ELEMENT and SPECIES\_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: E#####

*Enumerated\_Domain\_Value\_Definition*:

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

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

*Distribution\_Information*:

*Distributor*:

*Contact\_Information*:

*Contact\_Person\_Primary*:

*Contact\_Person*: John Kaperick

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

*Contact\_Address*:

*Address\_Type*: Physical Address

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

*City*: Seattle

*State\_or\_Province*: Washington

*Postal\_Code*: 98115-6349

*Contact\_Voice\_Telephone*: (206) 526-6400

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

*Resource\_Description*: ESI Atlas for Northern California

*Distribution\_Liability*:

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

*Custom\_Order\_Process*:

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

*Metadata\_Reference\_Information*:

*Metadata\_Date*: 200902

*Metadata\_Review\_Date:* 200902

*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](mailto:Jill.Petersen@noaa.gov)

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

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

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# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: 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:*

##### *Citation\_Information:*

##### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Publication\_Date:* 200812

##### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: FISH (Fish Polygons)

*Edition:* Second

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

##### *Series\_Information:*

*Series\_Name:* None

*Issue\_Identification:* Northern California

##### *Publication\_Information:*

*Publication\_Place:* Seattle, Washington

##### *Publisher:*

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

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

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

Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Description:*

*Abstract:*

This data set contains sensitive biological resource data for marine, estuarine, anadromous, and freshwater fish species in Northern California. Vector polygons in this data set represent fish distribution, concentration areas, nursery areas, and salmon/trout spawning runs. Species specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Northern California. 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 FISHL (Fish Lines) data layer, part of the larger Northern California ESI database, for additional fish information.

*Purpose:*

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

*Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:* 1972

*Ending\_Date:* 2007

*Currentness\_Reference:*

The biological data were compiled during 2007. The currentness dates for this data range from 1972 to 2007 and are documented in the Lineage section.

*Status:*

*Progress:* Complete

*Maintenance\_and\_Update\_Frequency:* None Scheduled

*Spatial\_Domain:*

*Bounding\_Coordinates:*

*West\_Bounding\_Coordinate:* -124.45800

*East\_Bounding\_Coordinate:* -122.75000

*North\_Bounding\_Coordinate:* 37.97900

*South\_Bounding\_Coordinate:* 42.00000

*Keywords:*

*Theme:*

*Theme\_Keyword\_Thesaurus:* None

*Theme\_Keyword:* ESI

*Theme\_Keyword:* Sensitivity maps

*Theme\_Keyword:* Coastal resources

*Theme\_Keyword:* Oil spill planning

*Theme\_Keyword:* Coastal Zone Management

*Theme\_Keyword:* Wildlife

*Theme\_Keyword:* Fish

*Place:**Place\_Keyword\_Thesaurus:* None*Place\_Keyword:* Northern California*Access\_Constraints:* None*Use\_Constraints:*

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

*Browse\_Graphic:**Browse\_Graphic\_File\_Name:* [datafig.jpg](#)*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the Northern California ESI data.

*Browse\_Graphic\_File\_Type:* JPEG*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO® (version 9.2) and SQL SERVER® (version 2000). The hardware configuration is PCs with Windows Operating System (2000/XP/2003).

The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio\_lut, biofile, biores, breed, breed\_dt, seasonal, soc\_dat, soc\_lut, sources, species, and status.

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

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

evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

#### *Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER® to ARC/INFO® consistencies. A final review is made by the GIS manager, where the data are written to CD or DVD, and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new IDs and RARNUMs or HUNUMs are also generated. The new IDs 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 RARNUMs are also modified to include the atlas number, so multiple atlases can be combined and RARNUMs remain unique. RARNUMs are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUMs are also modified to include the atlas number.

#### *Completeness\_Report:*

These data represent a synthesis of expert knowledge, digital data, and hardcopy documents. See also the FISHL (Fish Lines) data layer, part of the larger Northern California ESI database, for additional fish information. These data do not necessarily represent all fish occurrences in Northern California. The following species are included in this data set: (Species\_ID, Common Name, Scientific Name [n/a if not applicable]): 2, Lingcod, *Ophiodon elongatus*; 3, Pacific sanddab, *Citharichthys sordidus*; 7, Pacific halibut, *Hippoglossus stenolepis*; 11, English sole, *Parophrys vetulus*; 12, Starry flounder, *Platichthys stellatus*; 15, Sand sole, *Psettichthys melanostictus*; 18, Plainfin midshipman, *Porichthys notatus*; 21, Pacific tomcod, *Microgadus proximus*; 26, Copper rockfish, *Sebastes caurinus*; 28, Yellowtail rockfish, *Sebastes flavidus*; 29, Black rockfish, *Sebastes melanops*; 30, Bocaccio, *Sebastes paucispinis*; 32, Canary rockfish (orange), *Sebastes pinniger*; 33, Chilipepper, *Sebastes goodei*; 38, Brown rockfish, *Sebastes auriculatus*; 40, Big skate, *Raja binoculata*; 41, Longnose skate, *Raja rhina*; 43, White sturgeon, *Acipenser transmontanus*; 44, Green sturgeon, *Acipenser medirostris*; 45, Coastal cutthroat trout, *Oncorhynchus clarkii clarkii*; 46, Kelp greenling, *Hexagrammos decagrammus*; 47, Rock greenling, *Hexagrammos lagocephalus*; 49, Buffalo sculpin, *Enophrys bison*; 51, Pacific staghorn sculpin, *Leptocottus armatus*; 52, Tidepool sculpin, *Oligocottus maculosus*; 53, Cabezon, *Scorpaenichthys marmoratus*; 54, Redtail surfperch, *Amphistichus rhodoterus*; 56, Shiner surfperch, *Cymatogaster aggregata*; 57, Striped surfperch, *Embiotoca lateralis*; 58, Walleye surfperch, *Hyperprosopon argenteum*; 59, Pile surfperch, *Rhacochilus vacca*; 60, White seaperch, *Phanerodon furcatus*; 61, Penpoint gunnel, *Apodichthys flavidus*; 62, Saddleback gunnel, *Pholis ornata*; 64, Quillback rockfish, *Sebastes maliger*; 66, Pacific herring, *Clupea pallasii pallasii*; 67, Northern anchovy, *Engraulis mordax*; 68, Chinook salmon, *Oncorhynchus tshawytscha*; 69, Coho salmon, *Oncorhynchus kisutch*; 72, Chum salmon, *Oncorhynchus keta*; 74, Steelhead, *Oncorhynchus mykiss*; 75, Surf smelt, *Hypomesus pretiosus*; 77, Eulachon, *Thaleichthys pacificus*; 79, White seabass, *Atractoscion nobilis*; 80, Pacific sand lance, *Ammodytes hexapterus*; 81, Spiny dogfish, *Squalus acanthias*; 83, Salmon, n/a; 87, American shad, *Alosa sapidissima*; 91, Threespine stickleback, *Gasterosteus aculeatus*; 104, Striped bass, *Morone saxatilis*; 106, California grunion, *Leuresthes tenuis*; 172, Longfin smelt, *Spirinchus thaleichthys*; 177, Leopard shark, *Triakis semifasciata*; 179, Largemouth bass, *Micropterus salmoides*; 192, Topsmelt, *Atherinops affinis*; 193, Jacksmelt, *Atherinopsis californiensis*; 195, Silver surfperch, *Hyperprosopon ellipticum*; 196, Blue rockfish, *Sebastes mystinus*; 197, Grass rockfish, *Sebastes rastrelliger*; 219, Pacific lamprey, *Lampetra tridentata*; 223, Rockfish, *Sebastes* spp.; 224, Surfperch, n/a; 225, California halibut, *Paralichthys californicus*; 226, Tidewater goby, *Eucyclogobius*

newberryi; 227, Prickly sculpin, Cottus asper; 228, Night smelt, Spirinchus starksi; 473, Bat ray, Myliobatis californica; 494, White croaker, Genyonemus lineatus; 567, Sculpin, Cottidae; 894, Barred surfperch, Amphistichus argenteus; 895, Rainbow seaperch, Hypsurus caryi; 899, Rubberlip surfperch, Rhacochilus toxotes; 992, Sixgill shark, Hexanchus griseus; 1014, Speckled sanddab, Citharichthys stigmaeus; 1029, Gobies, n/a; 1072, Vermilion rockfish, Sebastes miniatus; 1075, Black-and-yellow rockfish, Sebastes chrysomelas; 1077, China rockfish, Sebastes nebulosus; 1078, Gopher rockfish, Sebastes carnatus; 1083, Calico surfperch, Amphistichus koelzi; 1084, Monkeyface prickleback, Cebidichthys violaceus; 1086, Pacific sardine, Sardinops sagax; 1087, White shark, Carcharodon carcharias; 1110, Arrow goby, Clevelandia ios; 1111, Sandpaper skate, Bathyraja interrupta; 1112, California skate, Raja inornata; 1113, Bay pipefish, Syngnathus leptorhynchus; 1115, Bay goby, Lepidogobius lepidus; 1116, Sevengill shark, Notorynchus cepedianus; 1119, Gray smoothhound, Mustelus californicus; 1120, Brown smoothhound, Mustelus henlei; 1121, California roach, Hesperoleucus symmetricus; 1122, Coastrange sculpin, Cottus aleuticus; 1123, Silverspotted sculpin, Blepsias cirrhosus; 1124, Jack mackerel, Trachurus symmetricus; 1125, Ringtail snailfish, Liparis rutteri.

*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. See the Lineage and Process\_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy," and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* ALLEN, S. (NATIONAL PARK SERVICE, POINT REYES)

*Publication\_Date:* 2005

*Title:*

DISTRIBUTION AND SEASONALITY OF SPECIES AND SOC\_ECON  
FEATURES ON NPS LANDS

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

*Other\_Citation\_Details:* UNPUBLISHED

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

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* ASHTON, D.  
*Publication\_Date:* 2007  
*Title:* SALMONID DISTRIBUTION AND SEASONALITY IN NORTHERN CALIFORNIA  
*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE  
*Other\_Citation\_Details:* UNPUBLISHED  
*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
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*Calendar\_Date:* 2007  
*Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* BARNHART, R.A., M.J. BOYD, AND J.E. PEQUEGNAT  
*Publication\_Date:* 1992  
*Title:* THE ECOLOGY OF HUMBOLDT BAY, CALIFORNIA: AN ESTUARINE PROFILE  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:*  
 U.S. DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, BIOLOGICAL REPORT 1, WASHINGTON D.C.  
*Type\_of\_Source\_Media:* PAPER  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 1992  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* BUSBY, M.S., R.A. BARNHART, P.P. PETROS  
*Publication\_Date:* 1988  
*Title:*  
 NATURAL RESOURCES OF THE MATTOLE RIVER ESTUARY, CALIFORNIA: NATURAL RESOURCES AND HABITAT INVENTORY SUMMARY REPORT  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:*  
 BLM AGREEMENT NUMBER CA-950-CA6-018, CA COOPERATIVE FISHERY RESEARCH UNIT, HSU  
*Type\_of\_Source\_Media:* ONLINE  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 1988  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION



*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
 BUSBY, WAINWRIGHT, BRYANT, LIERHEIMER, WAPLES,  
 WAKNITZ, AND LAGOMARSINO  
*Publication\_Date:* 1996  
*Title:*  
 STATUS REVIEW OF WEST COAST STEELHEAD FROM  
 WASHINGTON, IDAHO, OREGON, AND CALIFORNIA  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:* U.S. DEP. COMMER., NOAA TECH. MEMO.  
 NMFS-NWFSC-27, 261 P.  
*Type\_of\_Source\_Media:* PAPER  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 1996  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* CANNATA, S.  
*Publication\_Date:* 2007  
*Title:*  
 DISTRIBUTION OF FISH AND INVERTS IN RIVERS AND ESTUARIES  
 IN NORTHERN CALIFORNIA  
*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:* 2007  
*Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* CANNATA, S.  
*Publication\_Date:* 1998  
*Title:*  
 OBSERVATIONS OF STEELHEAD TROUT COHO SALMON AND  
 WATER QUALITY OF THE NAVARRO RIVER ESTUARY/LAGOON  
 MAY 1996 TO DEC. 1997  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* EMAIL  
*Source\_Time\_Period\_of\_Content:*  
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         *Single\_Date/Time:*  
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     *Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
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         *Citation\_Information:*  
             *Originator:* CALIFORNIA DEPT. OF FISH & GAME (CDF&G)  
             *Publication\_Date:* 2007  
             *Title:* KEY SPAWNING AREAS FOR PACIFIC HERRING  
             *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:* 2001  
                 *Ending\_Date:* 2007  
     *Source\_Currentness\_Reference:* DATE OF SURVEY  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
*Source\_Information:*  
     *Source\_Citation:*  
         *Citation\_Information:*  
             *Originator:* CALIFORNIA DEPT. OF FISH & GAME (CDF&G)  
             *Publication\_Date:* 2001  
             *Title:*  
                 CALIFORNIA'S LIVING MARINE RESOURCES: A STATUS REPORT -  
                 COASTAL CUTTHROAT TROUT  
             *Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
             *Other\_Citation\_Details:* CDF&G  
     *Type\_of\_Source\_Media:* ONLINE  
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         *Time\_Period\_Information:*  
             *Single\_Date/Time:*  
                 *Calendar\_Date:* 2001  
     *Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
*Source\_Information:*  
     *Source\_Citation:*  
         *Citation\_Information:*  
             *Originator:* CALIFORNIA DEPT. OF FISH & GAME (CDF&G)  
             *Publication\_Date:* 2004  
             *Title:* RECOVERY STRATEGY FOR CALIFORNIA COHO SALMON  
             *Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
             *Other\_Citation\_Details:* REPORT TO THE CALIFORNIA FISH AND GAME  
             COMMISSION, 594 PP.

*Type\_of\_Source\_Media:* ONLINE  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2004  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* CALIFORNIA DEPT. OF FISH & GAME (CDF&G)  
*Publication\_Date:* 2001  
*Title:*  
 CALIFORNIA'S MARINE LIVING RESOURCES: A STATUS REPORT -  
 SANDDABS  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:* CDF&G  
*Type\_of\_Source\_Media:* ONLINE  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2001  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
 CALIFORNIA DEPT. OF FISH & GAME (CDF&G) BIOGEOGRAPHIC  
 DATA BRANCH  
*Publication\_Date:* 2007  
*Title:* CALIFORNIA NATURAL DIVERSITY DATABASE  
*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA  
*Other\_Citation\_Details:*  
<http://www.dfg.ca.gov/biogeodata/> (Contact the site webmaster if this  
 URL is no longer active.)  
*Source\_Scale\_Denominator:* VARIES  
*Type\_of\_Source\_Media:* CD-ROM  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2007  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* CDF&G MARINE REGION  
*Publication\_Date:* 2007

*Title:* CALIFORNIA MARINE SPORTFISH IDENTIFICATION

*Geospatial\_Data\_Presentation\_Form:* WEBSITE

*Other\_Citation\_Details:*

<http://www.dfg.ca.gov/marine/msfindx0.asp> (Contact the site webmaster if this URL is no longer active.)

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2007

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* CALIFORNIA DEPT. OF FISH & GAME (CDF&G) MARINE REGION

*Publication\_Date:* 2007

*Title:* NEARSHORE, SHELF AND SLOPE ROCKFISH OF CALIFORNIA

*Geospatial\_Data\_Presentation\_Form:* WEBSITE

*Other\_Citation\_Details:*

<http://www.dfg.ca.gov/marine/rockfish.asp> (Contact the site webmaster if this URL is no longer active.)

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2007

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* CALIFORNIA DEPT. OF FISH & GAME (CDF&G) STAFF

*Publication\_Date:* 2007

*Title:* MARINE SPORTFISH AND OTHER MARINE 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:* 2007

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

CALIFORNIA DEPT. OF FISH & GAME (CDF&G), U.S. COAST  
GUARD (USCG)

*Publication\_Date:* 2005

*Title:*

SAN FRANCISCO GEOGRAPHIC RESPONSE AREA 1 SONOMA AND  
NORTH MARIN COAST

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

*Other\_Citation\_Details:* ACP 2 SF BAY & DELTA - GRA 1

*Type\_of\_Source\_Media:* DISC

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* COX, B. (CDF&G)

*Publication\_Date:* 2007

*Title:*

FISH, INVERTS, AND HABITATS IN SONOMA/MARIN COUNTY  
STREAMS AND ESTUARIES

*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:* 2007

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* DAYTON, J. (CDF&G)

*Publication\_Date:* 2007

*Title:* FISH, WILDLIFE, AND HABITAT DISTRIBUTION IN NORTHERN  
CALIFORNIA

*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:* 2007

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:**Citation\_Information:**Originator:* DILLON, J. (NMFS)*Publication\_Date:* 2007*Title:* MARINE FISH DISTRIBUTION*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE*Other\_Citation\_Details:* UNPUBLISHED*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 2007*Source\_Currentness\_Reference:* DATE OF COMMUNICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* FISH INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* FREY, V. (CDF&G, EUREKA)*Publication\_Date:* 2007*Title:*MARINE RESOURCE DISTRIBUTION AND SEASONALITY IN  
NORTHERN CALIFORNIA*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:* 2007*Source\_Currentness\_Reference:* DATE OF COMMUNICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* FISH INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* HARRIS, JAY (CSP, EUREKA)*Publication\_Date:* 2007*Title:* CALIFORNIA STATE PARK 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:* 2007*Source\_Currentness\_Reference:* DATE OF COMMUNICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* FISH INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:*

*Originator:* KOVACS, K.  
*Publication\_Date:* 2007  
*Title:* WADING BIRD, RAPTOR, AND FISH DISTRIBUTION AND SEASONALITY  
*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE  
*Other\_Citation\_Details:* UNPUBLISHED  
*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
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*Calendar\_Date:* 2007  
*Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* LEE, D.  
*Publication\_Date:* 1975  
*Title:* NATURAL RESOURCES OF LAKE EARL AND THE SMITH RIVER DELTA  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:* STATE OF CALIFORNIA DEPARTMENT OF FISH AND GAME, R-33  
*Type\_of\_Source\_Media:* PAPER  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 1975  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* LEET, W.S., C.M. DEWEES, R. KLINGBEIL, E.J. LARSON  
*Publication\_Date:* 2001  
*Title:* CALIFORNIA'S LIVING MARINE RESOURCES: A STATUS REPORT  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:* CDF&G SG01-11, 593 PP.  
*Type\_of\_Source\_Media:* ONLINE  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2001  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* LOVE, M.

*Publication\_Date:* 1996

*Title:*

PROBABLY MORE THAN YOU WANT TO KNOW ABOUT THE  
FISHES OF THE PACIFIC COAST

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

*Other\_Citation\_Details:* REALLY BIG PRESS, SANTA BARBARA, CA

*Type\_of\_Source\_Media:* PAPER

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

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*Single\_Date/Time:*

*Calendar\_Date:* 1996

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* MAAHS, M. AND S. CANNATA

*Publication\_Date:* 1998

*Title:*

THE ALBION RIVER ESTUARY. ITS HISTORY, WATER QUALITY,  
AND USE BY SALMONIDS AND OTHER FISH AND WILDLIFE  
SPECIES.

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

*Other\_Citation\_Details:* CALIFORNIA DEPT. OF FISH & GAME (CDF&G),  
UNPUBLISHED REPORT

*Type\_of\_Source\_Media:* EMAIL

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1998

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* MARTIN, K. (PEPPERDINE)

*Publication\_Date:* 2006

*Title:* GRUNION DISTRIBUTION AND SEASONALITY

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

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* EMAIL

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

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*Calendar\_Date:* 2006

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*



*Citation\_Information:**Originator:*

MONTEREY BAY NATIONAL MARINE SANCTUARY (MBNMS),  
 CDF&G OFFICE OF SPILL PREVENTION AND RESPONSE (OSPR),  
 MONTEREY BAY SANCTUARY FOUNDATION (MBSF)

*Publication\_Date:* 2006*Title:*

SENSITIVITY OF COASTAL ENVIRONMENTS TO SPILLED OIL:  
 CENTRAL CALIFORNIA ATLAS

*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA*Other\_Citation\_Details:* NOAA OR&R HAZMAT, SEATTLE, WASHINGTON*Source\_Scale\_Denominator:* VARIES*Type\_of\_Source\_Media:* CD-ROM*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 2006*Source\_Currentness\_Reference:* DATE OF PUBLICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* FISH INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* MELLO, J. (CDF&G, EUREKA)*Publication\_Date:* 2007*Title:*

MARINE RESOURCE DISTRIBUTION AND SEASONALITY IN  
 NORTHERN CALIFORNIA

*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:* 2007*Source\_Currentness\_Reference:* DATE OF COMMUNICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* FISH INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* MILLER, D.J. AND R.N. LEA*Publication\_Date:* 1972*Title:*

GUIDE TO THE COASTAL MARINE FISHES OF CALIFORNIA FISH  
 BULLETIN NO. 157

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT*Other\_Citation\_Details:* CALIFORNIA DEPARTMENT OF FISH AND  
 GAME, SACRAMENTO, 1972*Type\_of\_Source\_Media:* PAPER*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1972

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* MONACO, M.E., R.L. EMMETT, D.M. NELSON, AND S.A. HINTON

*Publication\_Date:* 1990

*Title:*

DISTRIBUTION AND ABUNDANCE OF FISHES AND INVERTEBRATES IN WEST COAST ESTUARIES, VOLUME I. DATA SUMMARIES.

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

*Other\_Citation\_Details:*

ELMR REP. NO. 4. NOAA/NOS STRATEGIC ENVIRONMENTAL ASSESSMENTS DIVISION, SILVER SPRING, MD 232 P.

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1990

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

MYERS, KOPE, BRYANT, TEEL, LIERHEIMER, WAINWRIGHT, GRANT, WAKNITZ, NEELY, LINDLEY, AND WAPLES

*Publication\_Date:* 1998

*Title:*

STATUS REVIEW OF CHINOOK SALMON FROM WASHINGTON, IDAHO, OREGON, AND CALIFORNIA

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

*Other\_Citation\_Details:* U.S. DEPT. COMMERCE, NOAA TECH. MEMO. NMFS-NWFSC-35, 443 P.

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1998

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* NMFS (NOAA FISHERIES)

*Publication\_Date:* 2005

*Title:* CCC\_STEELHEAD\_DISTRIBUTION\_06\_2005

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

*Other\_Citation\_Details:*

<http://swr.nmfs.noaa.gov/salmon/layers/finalgis.htm> (Contact the site webmaster if this URL is no longer active.)

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

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*Source\_Citation:*

*Citation\_Information:*

*Originator:* NMFS (NOAA FISHERIES)

*Publication\_Date:* 2005

*Title:* CC\_CHINOOK\_DISTRIBUTION\_06\_2005

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

*Other\_Citation\_Details:*

<http://swr.nmfs.noaa.gov/salmon/layers/finalgis.htm> (Contact the site webmaster if this URL is no longer active.)

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

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*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* NMFS HABITAT CONSERVATION DIVISION

*Publication\_Date:* 1999

*Title:* CENTRAL CALIFORNIA COAST COHO SALMON ESU

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

*Other\_Citation\_Details:* NMFS, PORTLAND, OR

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1999

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* ODA, K. (CDF&G, BELMONT)

*Publication\_Date:* 2005

*Title:*

DISTRIBUTION AND SEASONALITY OF FISH AND  
INVERTEBRATES AND SOC\_ECON FEATURES

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

*Other\_Citation\_Details:* UNPUBLISHED

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

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* ROBERTS, E. (CDF&G, EUREKA)

*Publication\_Date:* 2007

*Title:* MARINE RESOURCE DISTRIBUTION AND SEASONALITY

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

*Other\_Citation\_Details:* UNPUBLISHED

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

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2007

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* SPENCE, B.C., G.A. LOMNICKY, R.M. HUGHES, AND R.P.  
NOVITZKI

*Publication\_Date:* 1996

*Title:* AN ECOSYSTEM APPROACH TO SALMONID CONSERVATION

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

*Other\_Citation\_Details:*

TR-4501-96-6057. MANTECH ENVIRONMENTAL RESEARCH  
SERVICES CORP. CORVALLIS, OR

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1996

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* THE GOLD RIDGE RESOURCE CONSERVATION DISTRICT  
*Publication\_Date:* 2007  
*Title:* THE ESTERO AMERICANO WATERSHED MANAGEMENT PLAN  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:* SWRCB CONTRACT NO. 03-138-250-1  
*Type\_of\_Source\_Media:* ONLINE  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2007  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* U.S. DEPT. OF THE INTERIOR, FISH AND WILDLIFE SERVICE  
*Publication\_Date:* 1992  
*Title:* THE ECOLOGY OF HUMBOLDT BAY, CALIFORNIA: AN ESTUARINE PROFILE  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:*  
 U.S. DEPT. OF THE INTERIOR, FISH AND WILDLIFE SERVICE,  
 WASHINGTON, D.C., BIOLOGICAL REPORT 1  
*Type\_of\_Source\_Media:* PAPER  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 1992  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* U.S. FISH AND WILDLIFE SERVICE  
*Publication\_Date:* 2005  
*Title:* RECOVERY PLAN FOR THE TIDEWATER GOBY  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:* U.S. FISH AND WILDLIFE SERVICE, PORTLAND, OREGON. VI + 199 PP.  
*Type\_of\_Source\_Media:* ONLINE  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2005  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*

*Originator:* USCG SECTOR SAN FRANCISCO

*Publication\_Date:* 2005

*Title:*

2005 SECTOR SAN FRANCISCO-ACP 1 NORTH COAST: HUMBOLDT  
BAY SECTION 9813

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

*Other\_Citation\_Details:* USCG SECTOR SAN FRANCISCO, OCTOBER 1,  
2005

*Source\_Scale\_Denominator:* VARIES

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* USCG SECTOR SAN FRANCISCO

*Publication\_Date:* 2005

*Title:*

2005 SECTOR SAN FRANCISCO-ACP 1 NORTH COAST: DEL NORTE  
COUNTY SECTION 9811

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

*Other\_Citation\_Details:* USCG SECTOR SAN FRANCISCO, OCTOBER 1,  
2005

*Source\_Scale\_Denominator:* VARIES

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* USCG SECTOR SAN FRANCISCO

*Publication\_Date:* 2005

*Title:*

2005 SECTOR SAN FRANCISCO AREA ACP 1 NORTH COAST;  
VOLUME 2: HUMBOLDT COUNTY COAST SECTION 9812

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

*Other\_Citation\_Details:* USCG SECTOR SAN FRANCISCO, OCTOBER 1,  
2005

*Source\_Scale\_Denominator:* VARIES

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*  
*Calendar\_Date:* 2005  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* USCG SECTOR SAN FRANCISCO  
*Publication\_Date:* 2005  
*Title:*  
 2005 SECTOR SAN FRANCISCO AREA ACP 1 NORTH COAST;  
 VOLUME 2: MENDOCINO COUNTY SECTION 9814  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:* USCG SECTOR SAN FRANCISCO, OCTOBER 1,  
 2005  
*Source\_Scale\_Denominator:* VARIES  
*Type\_of\_Source\_Media:* ONLINE  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2005  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* USFWS (ARCATA)  
*Publication\_Date:* 2007  
*Title:* TIDEWATER GOBY LOCATIONS  
*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:* 2007  
*Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISH INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* WEITKAMP, WAINWRIGHT, BRYANT, MILNER, TEEL,  
 KOPE, WAPLES  
*Publication\_Date:* 1995  
*Title:*  
 STATUS REVIEW OF COHO SALMON FROM WASHINGTON,  
 OREGON, AND CALIFORNIA  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:* U.S. DEPT. COMMERCE, NOAA TECH. MEMO.

NMFS-NWFSC-24, 258 P.

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1995

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISH INFORMATION

*Process\_Step:*

*Process\_Description:*

Three main sources of data were used to depict fish distribution and seasonality for this data layer: 1) personal interviews with resource experts from the California Department of Fish & Game (CDF&G), NOAA National Marine Fisheries Service (NMFS), National Park Service (NPS), and California State Parks (CSP); 2) published and unpublished documents and maps; and 3) digital data provided by NMFS displaying distribution of steelhead and chinook salmon in rivers and streams, CDF&G digital data displaying coastal cutthroat trout, and USFWS tabular data for tidewater goby locations.

The above digital and/or hardcopy sources were compiled by the project biologist to create the FISH data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: 1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; 2) hardcopy maps are digitized at their source scale; and/or 3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the FISH data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:* 200812

*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](mailto:Jill.Petersen@noaa.gov)

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*Spatial\_Data\_Organization\_Information:*



*Direct\_Spatial\_Reference\_Method*: Vector

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

*SDTS\_Terms\_Description*:

*SDTS\_Point\_and\_Vector\_Object\_Type*: GT-polygon composed of chains

*Point\_and\_Vector\_Object\_Count*: 6955

*SDTS\_Terms\_Description*:

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

*Point\_and\_Vector\_Object\_Count*: 6954

*SDTS\_Terms\_Description*:

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

*Point\_and\_Vector\_Object\_Count*: 7759

*SDTS\_Terms\_Description*:

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

*Point\_and\_Vector\_Object\_Count*: 294542

*SDTS\_Terms\_Description*:

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

*Point\_and\_Vector\_Object\_Count*: 7528

*Spatial\_Reference\_Information*:

*Horizontal\_Coordinate\_System\_Definition*:

*Geographic*:

*Latitude\_Resolution*: 0.0000001

*Longitude\_Resolution*: 0.0000001

*Geographic\_Coordinate\_Units*: Decimal degrees

*Geodetic\_Model*:

*Horizontal\_Datum\_Name*: North American Datum of 1927

*Ellipsoid\_Name*: Clark 1866

*Semi-major\_Axis*: 6378206.400000

*Denominator\_of\_Flattening\_Ratio*: 294.978698

*Entity\_and\_Attribute\_Information*:

*Overview\_Description*:

*Entity\_and\_Attribute\_Overview*:

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, FISH) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO\_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Northern California atlas, the number is 207), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files

described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN\_SPEC, S, F, NHP, DATE\_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G\_SOURCE, S\_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED\_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed\_Description of the BREED data table. The link to the BIOFILE may be made through the BIO\_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED\_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED\_DT is the BREED item.

A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G\_SOURCE and S\_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* FISH.PAT

*Entity\_Type\_Definition:*

The FISH.PAT table contains attribute information for the vector polygons in this data set representing fish distribution, concentration areas, nursery areas, and salmon/trout spawning runs. Note that all attribute information is stored in a series of relational files, described below. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (207), 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:* 2070200002

*Range\_Domain\_Maximum:* 2070206975

*Attribute:*

*Attribute\_Label:* RARNUM

*Attribute\_Definition:*

An identifier that links directly to the BIORES table or the flat format BIOFILE table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source*: NOAA

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 207000507

*Range\_Domain\_Maximum*: 207000717

*Detailed\_Description*:

*Entity\_Type*:

*Entity\_Type\_Label*: BIO\_LUT

*Entity\_Type\_Definition*:

The data table BIO\_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: RARNUM

*Attribute\_Definition*:

An identifier that links records in the BIO\_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source*: NOAA

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 207000001

*Range\_Domain\_Maximum*: 207001115

*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 (207), 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*: 2070100002

*Range\_Domain\_Maximum*: 2072200500

*Detailed\_Description*:

*Entity\_Type*:

*Entity\_Type\_Label*: BIORES

*Entity\_Type\_Definition*:

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

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: RARNUM

*Attribute\_Definition*:

An identifier that links records in the BIORES data table to records in the BIO\_LUT

data table or the flat format BIOFILE data table.

*Attribute\_Definition\_Source*: NOAA

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 207000001

*Range\_Domain\_Maximum*: 207001115

*Attribute*:

*Attribute\_Label*: SPECIES\_ID

*Attribute\_Definition*:

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

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: CONC

*Attribute\_Definition*:

The field CONC refers to "concentration," abundance, or density values of a species at a particular location. No quantitative data were available for fish, so the concentration field may contain a descriptive term such as "HIGH" or "VERY HIGH". If no concentration information was available from any source, the CONC field is populated with "-".

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: SEASON\_ID

*Attribute\_Definition*:

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: G\_SOURCE

*Attribute\_Definition*:

Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: S\_SOURCE

*Attribute\_Definition*:

Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: ELEMENT

*Attribute\_Definition*: Major categories of biological data.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: BIRD

*Enumerated\_Domain\_Value\_Definition*: Birds

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: FISH

*Enumerated\_Domain\_Value\_Definition*: Fish

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: HABITAT

*Enumerated\_Domain\_Value\_Definition*: Habitats and Plants

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: INVERT

*Enumerated\_Domain\_Value\_Definition*: Invertebrates

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: M\_MAMMAL

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

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: REPTILE

*Enumerated\_Domain\_Value\_Definition*: Reptiles and Amphibians

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition*: Terrestrial mammals

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

*Attribute*:

*Attribute\_Label*: EL\_SPE

*Attribute\_Definition*:

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

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

*Attribute:*

*Attribute\_Label:* EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

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

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* SPECIES

*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* SPECIES\_ID

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* NAME

*Attribute\_Definition:* Species common name for the entire ESI data set.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* GEN\_SPEC

*Attribute\_Definition:* Species scientific name for the entire ESI data set.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:* ELEMENT*Attribute\_Definition:* Major categories of biological data.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* BIRD*Enumerated\_Domain\_Value\_Definition:* Birds*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* FISH*Enumerated\_Domain\_Value\_Definition:* Fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* HABITAT*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* INVERT*Enumerated\_Domain\_Value\_Definition:* Invertebrates*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* M\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Marine Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* REPTILE*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* T\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* SUBELEMENT*Attribute\_Definition:* Element subgroup delineating a logical grouping of species.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* alcid*Enumerated\_Domain\_Value\_Definition:* Alcid*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* amphibian*Enumerated\_Domain\_Value\_Definition:* Amphibian

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.  
*Attribute\_Domain\_Values*:  
     *Enumerated\_Domain*:  
         *Enumerated\_Domain\_Value*: bivalve  
         *Enumerated\_Domain\_Value\_Definition*: Bivalve  
         *Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.  
*Attribute\_Domain\_Values*:  
     *Enumerated\_Domain*:  
         *Enumerated\_Domain\_Value*: cephalopod  
         *Enumerated\_Domain\_Value\_Definition*: Cephalopod  
         *Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.  
*Attribute\_Domain\_Values*:  
     *Enumerated\_Domain*:  
         *Enumerated\_Domain\_Value*: crab  
         *Enumerated\_Domain\_Value\_Definition*: Crab  
         *Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.  
*Attribute\_Domain\_Values*:  
     *Enumerated\_Domain*:  
         *Enumerated\_Domain\_Value*: diadromous  
         *Enumerated\_Domain\_Value\_Definition*: Diadromous fish  
         *Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.  
*Attribute\_Domain\_Values*:  
     *Enumerated\_Domain*:  
         *Enumerated\_Domain\_Value*: diving  
         *Enumerated\_Domain\_Value\_Definition*: Diving bird  
         *Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.  
*Attribute\_Domain\_Values*:  
     *Enumerated\_Domain*:  
         *Enumerated\_Domain\_Value*: dolphin  
         *Enumerated\_Domain\_Value\_Definition*: Dolphin  
         *Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.  
*Attribute\_Domain\_Values*:  
     *Enumerated\_Domain*:  
         *Enumerated\_Domain\_Value*: echinoderm  
         *Enumerated\_Domain\_Value\_Definition*: Echinoderm  
         *Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.  
*Attribute\_Domain\_Values*:  
     *Enumerated\_Domain*:  
         *Enumerated\_Domain\_Value*: e\_nursery  
         *Enumerated\_Domain\_Value\_Definition*: Estuarine nursery fish  
         *Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.  
*Attribute\_Domain\_Values*:  
     *Enumerated\_Domain*:  
         *Enumerated\_Domain\_Value*: e\_resident  
         *Enumerated\_Domain\_Value\_Definition*: Estuarine resident  
         *Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.  
*Attribute\_Domain\_Values*:  
     *Enumerated\_Domain*:  
         *Enumerated\_Domain\_Value*: freshwater  
         *Enumerated\_Domain\_Value\_Definition*: Freshwater fish  
         *Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.  
*Attribute\_Domain\_Values*:



*Enumerated\_Domain:**Enumerated\_Domain\_Value:* gastropod*Enumerated\_Domain\_Value\_Definition:* Gastropod*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* gull\_tern*Enumerated\_Domain\_Value\_Definition:* Gull or tern*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* insect*Enumerated\_Domain\_Value\_Definition:* Insect*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* kelp*Enumerated\_Domain\_Value\_Definition:* Kelp*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* m\_benthic*Enumerated\_Domain\_Value\_Definition:* Marine benthic fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* m\_pelagic*Enumerated\_Domain\_Value\_Definition:* Marine pelagic fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* passerine*Enumerated\_Domain\_Value\_Definition:* Passerine bird*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* pelagic*Enumerated\_Domain\_Value\_Definition:* Pelagic bird*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* pinniped*Enumerated\_Domain\_Value\_Definition:* Pinniped*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* plant*Enumerated\_Domain\_Value\_Definition:* Plant*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* raptor

*Enumerated\_Domain\_Value\_Definition:* Raptor

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sav

*Enumerated\_Domain\_Value\_Definition:* Submerged aquatic vegetation

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sea otter

*Enumerated\_Domain\_Value\_Definition:* Sea otter

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* shorebird

*Enumerated\_Domain\_Value\_Definition:* Shorebird

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* shrimp

*Enumerated\_Domain\_Value\_Definition:* Shrimps

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sm\_mammal

*Enumerated\_Domain\_Value\_Definition:* Small mammal

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* turtle

*Enumerated\_Domain\_Value\_Definition:* Turtle

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* ungulate

*Enumerated\_Domain\_Value\_Definition:* Ungulate

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* wading

*Enumerated\_Domain\_Value\_Definition:* Wading bird

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* waterfowl

*Enumerated\_Domain\_Value\_Definition:* Waterfowl

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* whale

*Enumerated\_Domain\_Value\_Definition:* Whale

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

*Attribute:**Attribute\_Label:* NHP*Attribute\_Definition:* Natural Heritage Program global ranking.*Attribute\_Definition\_Source:* Network of Natural Heritage Program*Attribute\_Domain\_Values:**Codeset\_Domain:**Codeset\_Name:* NHP Global Conservation Status Rank*Codeset\_Source:* Natural Heritage Program*Attribute:**Attribute\_Label:* DATE\_PUB*Attribute\_Definition:* Date of NHP listing.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* YYYYMM*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* 0*Enumerated\_Domain\_Value\_Definition:* Date unspecified*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* EL\_SPE*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* E#####*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* SEASONAL*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* ELEMENT*Attribute\_Definition:* Major categories of biological data.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* BIRD

*Enumerated\_Domain\_Value\_Definition:* Birds

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* FISH

*Enumerated\_Domain\_Value\_Definition:* Fish

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* HABITAT

*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* INVERT

*Enumerated\_Domain\_Value\_Definition:* Invertebrates

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* M\_MAMMAL

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

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* REPTILE

*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals

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

*Attribute:*

*Attribute\_Label:* SPECIES\_ID

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* JAN

*Attribute\_Definition:* January

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in January

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

*Attribute:*

*Attribute\_Label:* FEB

*Attribute\_Definition:* February

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in February

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

*Attribute:*

*Attribute\_Label:* MAR

*Attribute\_Definition:* March

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in March

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

*Attribute:*

*Attribute\_Label:* APR

*Attribute\_Definition:* April

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in April

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

*Attribute:*

*Attribute\_Label:* MAY

*Attribute\_Definition:* May

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in May

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

*Attribute:*

*Attribute\_Label:* JUN

*Attribute\_Definition:* June

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: X*  
*Enumerated\_Domain\_Value\_Definition: Present in June*  
*Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.*

*Attribute:*

*Attribute\_Label: JUL*  
*Attribute\_Definition: July*  
*Attribute\_Definition\_Source: Research Planning, Inc.*  
*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value: X*  
*Enumerated\_Domain\_Value\_Definition: Present in July*  
*Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.*

*Attribute:*

*Attribute\_Label: AUG*  
*Attribute\_Definition: August*  
*Attribute\_Definition\_Source: Research Planning, Inc.*  
*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value: X*  
*Enumerated\_Domain\_Value\_Definition: Present in August*  
*Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.*

*Attribute:*

*Attribute\_Label: SEP*  
*Attribute\_Definition: September*  
*Attribute\_Definition\_Source: Research Planning, Inc.*  
*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value: X*  
*Enumerated\_Domain\_Value\_Definition: Present in September*  
*Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.*

*Attribute:*

*Attribute\_Label: OCT*  
*Attribute\_Definition: October*  
*Attribute\_Definition\_Source: Research Planning, Inc.*  
*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value: X*  
*Enumerated\_Domain\_Value\_Definition: Present in October*  
*Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.*

*Attribute:*

*Attribute\_Label: NOV*  
*Attribute\_Definition: November*  
*Attribute\_Definition\_Source: Research Planning, Inc.*  
*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value: X*  
*Enumerated\_Domain\_Value\_Definition: Present in November*  
*Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.*

*Attribute:*

*Attribute\_Label: DEC*  
*Attribute\_Definition: December*  
*Attribute\_Definition\_Source: Research Planning, Inc.*

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* X*Enumerated\_Domain\_Value\_Definition:* Present in December*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* EL\_SPE\_SEA*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* E#####*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* BREED*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* EL\_SPE\_SEA*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* E#####*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

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

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

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* 12

*Attribute:**Attribute\_Label:* BREED1*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

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

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* BREED2*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

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

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



*Attribute:**Attribute\_Label:* BREED3*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = interesting; if ELEMENT is "M\_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

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

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* BREED4*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M\_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

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

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

*Attribute:**Attribute\_Label:* BREED5*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M\_MAMMAL, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

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

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* SOURCES*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* SOURCE\_ID*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* ORIGINATOR*Attribute\_Definition:* Author or developer of source material or data set.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* DATE\_PUB

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

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

*Attribute:*

*Attribute\_Label:* TITLE

*Attribute\_Definition:* Title of source material or data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* DATA\_FORMAT

*Attribute\_Definition:* The format of the source material.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* PUBLICATION

*Attribute\_Definition:* Additional citation information.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* SCALE

*Attribute\_Definition:* Description of the source scale.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* TIME\_PERIOD

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* STATUS

*Entity\_Type\_Definition:*

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

*Attribute:*

*Attribute\_Label:* ELEMENT

*Attribute\_Definition:* Major categories of biological data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* BIRD

*Enumerated\_Domain\_Value\_Definition:* Birds

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* FISH

*Enumerated\_Domain\_Value\_Definition:* Fish

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* HABITAT

*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* INVERT

*Enumerated\_Domain\_Value\_Definition:* Invertebrates

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* M\_MAMMAL

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

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* REPTILE

*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals

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

*Attribute:*

*Attribute\_Label:* SPECIES\_ID

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* STATE

*Attribute\_Definition:* Two-letter state abbreviation.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* COUNTRY

*Attribute\_Definition:* Three-letter country abbreviation.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* S

*Attribute\_Definition:* State threatened or endangered status.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E

*Enumerated\_Domain\_Value\_Definition:* Endangered on state list

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T

*Enumerated\_Domain\_Value\_Definition:* Threatened on state list

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* C

*Enumerated\_Domain\_Value\_Definition:* Species of Special Concern

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

*Attribute:*

*Attribute\_Label:* F

*Attribute\_Definition:* Federal threatened or endangered status.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E

*Enumerated\_Domain\_Value\_Definition:* Endangered on federal list

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T

*Enumerated\_Domain\_Value\_Definition:* Threatened on federal list

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* C

*Enumerated\_Domain\_Value\_Definition:* Species of Special Concern

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

*Attribute:*

*Attribute\_Label:* I

*Attribute\_Definition:* International threatened or endangered status.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E

*Enumerated\_Domain\_Value\_Definition:* Endangered on international list

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T

*Enumerated\_Domain\_Value\_Definition:* Threatened on international list

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* C

*Enumerated\_Domain\_Value\_Definition:* Species of Special Concern

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

*Attribute:*

*Attribute\_Label:* S\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign state status values for each species, if used.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

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

*Attribute:*

*Attribute\_Label:* F\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign federal status values for each species, if used.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

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

*Attribute:*

*Attribute\_Label:* I\_DATE

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

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

*Attribute:*

*Attribute\_Label:* EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links the STATUS data table

to the BIORES and SPECIES data tables.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: E#####

*Enumerated\_Domain\_Value\_Definition*:

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

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

*Distribution\_Information*:

*Distributor*:

*Contact\_Information*:

*Contact\_Person\_Primary*:

*Contact\_Person*: John Kaperick

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

*Contact\_Address*:

*Address\_Type*: Physical Address

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

*City*: Seattle

*State\_or\_Province*: Washington

*Postal\_Code*: 98115-6349

*Contact\_Voice\_Telephone*: (206) 526-6400

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

*Resource\_Description*: ESI Atlas for Northern California

*Distribution\_Liability*:

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

*Custom\_Order\_Process*:

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

*Metadata\_Reference\_Information*:

*Metadata\_Date*: 200902

*Metadata\_Review\_Date*: 200902

*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](mailto:Jill.Petersen@noaa.gov)

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

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

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# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: FISHL (Fish 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:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Publication Date:* 200812

##### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: FISHL (Fish Lines)

*Edition:* Second

*Geospatial Data Presentation Form:* Vector digital data

##### *Series Information:*

*Series Name:* None

*Issue Identification:* Northern California

##### *Publication Information:*

*Publication Place:* Seattle, Washington

##### *Publisher:*

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

##### *Other Citation Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast

Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Description:*

*Abstract:*

This data set contains sensitive biological resource data for anadromous and threatened/endangered stream species in Northern California. Vector lines in this data set represent trout and salmon spawning runs and sensitive stream species. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Northern California. 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 FISH (Fish Polygons) data layer, part of the larger Northern California ESI database, for additional fish 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:* 1959

*Ending\_Date:* 2007

*Currentness\_Reference:*

The biological data were compiled during 2007. The currentness dates for the data range from 1959 to 2007 and are documented in the Lineage section.

*Status:*

*Progress:* Complete

*Maintenance\_and\_Update\_Frequency:* None Scheduled

*Spatial\_Domain:*

*Bounding\_Coordinates:*

*West\_Bounding\_Coordinate:* -124.45800

*East\_Bounding\_Coordinate:* -122.75000

*North\_Bounding\_Coordinate:* 37.97900

*South\_Bounding\_Coordinate:* 42.00000

*Keywords:*

*Theme:*

*Theme\_Keyword\_Thesaurus:* None

*Theme\_Keyword:* ESI

*Theme\_Keyword:* Sensitivity maps

*Theme\_Keyword:* Coastal resources

*Theme\_Keyword:* Oil spill planning

*Theme\_Keyword:* Coastal Zone Management

*Theme\_Keyword:* Wildlife

*Theme\_Keyword:* Fish

*Place:*

*Place\_Keyword\_Thesaurus:* None

*Place\_Keyword:* Northern California

*Access\_Constraints:* None

*Use\_Constraints:*

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

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:* [datafig.jpg](#)

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the Northern California ESI data.

*Browse\_Graphic\_File\_Type:* JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO® (version 9.2) and SQL SERVER® (version 2000). The hardware configuration is PCs with Windows Operating System (2000/XP/2003).

The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00. Associated relational and desktop data tables provided in ARC export and text format are bio\_lut, biofile, biores, breed, breed\_dt, seasonal, soc\_dat, soc\_lut, sources, species, and status.

*Data\_Quality\_Information:*

*Attribute\_Accuracy:*

*Attribute\_Accuracy\_Report:*

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

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to

verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER® to ARC/INFO® consistencies. A final review is made by the GIS manager, where the data are written to CD or DVD, and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new IDs and RARNUMs or HUNUMs are also generated. The new IDs 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 RARNUMs are also modified to include the atlas number, so multiple atlases can be combined and RARNUMs remain unique. RARNUMs are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUMs are also modified to include the atlas number.

*Completeness\_Report:*

These data represent a synthesis of expert knowledge, digital data and hardcopy maps. See also the FISH (Fish Polygons) data layer, part of the larger Northern California ESI database, for additional fish information. These data do not necessarily represent all fish occurrences in Northern California. The following species are included in this data set: (Species\_ID, Common Name, Scientific Name [n/a if not applicable]): 44, Green sturgeon, *Acipenser medirostris*; 45, Coastal cutthroat trout, *Oncorhynchus clarkii clarkii*; 68, Chinook salmon, *Oncorhynchus tshawytscha*; 69, Coho salmon, *Oncorhynchus kisutch*; 70, Pink salmon, *Oncorhynchus gorbuscha*; 74, Steelhead, *Oncorhynchus mykiss*; 226, Tidewater goby, *Eucyclogobius newberryi*.

*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. See the Lineage and Process\_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy," and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* ASHTON, D.

*Publication\_Date:* 2007

*Title:* SALMONID DISTRIBUTION AND SEASONALITY IN NORTHERN CALIFORNIA

*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:* 2007*Source\_Currentness\_Reference:* DATE OF COMMUNICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* FISHL INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:*BUSBY, WAINWRIGHT, BRYANT, LIERHEIMER, WAPLES,  
WAKNITZ, AND LAGOMARSINO*Publication\_Date:* 1996*Title:*STATUS REVIEW OF WEST COAST STEELHEAD FROM  
WASHINGTON, IDAHO, OREGON, AND CALIFORNIA*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT*Other\_Citation\_Details:* U.S. DEPT. COMMERCE, NOAA TECH. MEMO.  
NMFS-NWFSC-27, 261 P.*Type\_of\_Source\_Media:* PAPER*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 1996*Source\_Currentness\_Reference:* DATE OF PUBLICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* FISHL INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* CALIFORNIA DEPT. OF FISH & GAME (CDF&G)*Publication\_Date:* 2001*Title:*CALIFORNIA'S LIVING MARINE RESOURCES: A STATUS REPORT -  
COASTAL CUTTHROAT TROUT*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT*Other\_Citation\_Details:* CDF&G*Type\_of\_Source\_Media:* ONLINE*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 2001*Source\_Currentness\_Reference:* DATE OF PUBLICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* FISHL INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* CALIFORNIA DEPT. OF FISH & GAME (CDF&G)*Publication\_Date:* 2004*Title:* RECOVERY STRATEGY FOR CALIFORNIA COHO SALMON*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:* REPORT TO THE CALIFORNIA FISH AND GAME COMMISSION, 594 PP.

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2004

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISHL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* CDF&G BIOGEOGRAPHIC DATA BRANCH

*Publication\_Date:* 2007

*Title:* CALIFORNIA NATURAL DIVERSITY DATABASE

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

*Other\_Citation\_Details:*

<http://www.dfg.ca.gov/biogeodata/> (Contact the site webmaster if this URL is no longer active.)

*Source\_Scale\_Denominator:* VARIES

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

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2007

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISHL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* COX, B. (CDF&G)

*Publication\_Date:* 2007

*Title:*

FISH, INVERTS, AND HABITATS IN SONOMA/MARIN COUNTY STREAMS AND ESTUARIES

*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:* 2007

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISHL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* DILLON, J. (NMFS)

*Publication\_Date:* 2007

*Title:* MARINE FISH DISTRIBUTION  
*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE  
*Other\_Citation\_Details:* UNPUBLISHED  
*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2007  
*Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISHL INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* MELLO, J. (CDF&G, EUREKA)  
*Publication\_Date:* 2007  
*Title:*  
 MARINE RESOURCE DISTRIBUTION AND SEASONALITY IN  
 NORTHERN CALIFORNIA  
*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE  
*Other\_Citation\_Details:* UNPUBLISHED  
*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION  
*Source\_Time\_Period\_of\_Content:*  
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*Single\_Date/Time:*  
*Calendar\_Date:* 2007  
*Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISHL INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
 MYERS, KOPE, BRYANT, TEEL, LIERHEIMER, WAINWRIGHT,  
 GRANT, WAKNITZ, NEELY, LINDLEY, AND WAPLES  
*Publication\_Date:* 1998  
*Title:*  
 STATUS REVIEW OF CHINOOK SALMON FROM WASHINGTON,  
 IDAHO, OREGON, AND CALIFORNIA  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:* U.S. DEPT. COMMERCE, NOAA TECH. MEMO.  
 NMFS-NWFSC-35, 443 P.  
*Type\_of\_Source\_Media:* PAPER  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 1998  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* FISHL INFORMATION  
*Source\_Information:*  
*Source\_Citation:*

*Citation\_Information:**Originator:* NMFS (NOAA FISHERIES)*Publication\_Date:* 2005*Title:* CCC\_STEELHEAD\_DISTRIBUTION\_06\_2005*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA*Other\_Citation\_Details:*<http://swr.nmfs.noaa.gov/salmon/layers/finalgis.htm> (Contact the site webmaster if this URL is no longer active.)*Type\_of\_Source\_Media:* ONLINE*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 2005*Source\_Currentness\_Reference:* DATE OF PUBLICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* FISHL INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* NMFS (NOAA FISHERIES)*Publication\_Date:* 2005*Title:* CC\_CHINOOK\_DISTRIBUTION\_06\_2005*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA*Other\_Citation\_Details:*<http://swr.nmfs.noaa.gov/salmon/layers/finalgis.htm> (Contact the site webmaster if this URL is no longer active.)*Type\_of\_Source\_Media:* ONLINE*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 2005*Source\_Currentness\_Reference:* DATE OF PUBLICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* FISHL INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* NMFS HABITAT CONSERVATION DIVISION*Publication\_Date:* 1999*Title:* CENTRAL CALIFORNIA COAST COHO SALMON ESU*Geospatial\_Data\_Presentation\_Form:* HARDCOPY MAP*Other\_Citation\_Details:* NMFS, PORTLAND, OR*Type\_of\_Source\_Media:* ONLINE*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 1999*Source\_Currentness\_Reference:* DATE OF PUBLICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* FISHL INFORMATION*Source\_Information:**Source\_Citation:*



*Citation\_Information:*

*Originator:* SPENCE, B.C., G.A. LOMNICKY, R.M. HUGHES, AND R.P. NOVITZKI

*Publication\_Date:* 1996

*Title:* AN ECOSYSTEM APPROACH TO SALMONID CONSERVATION

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

*Other\_Citation\_Details:*

TR-4501-96-6057. MANTECH ENVIRONMENTAL RESEARCH SERVICES CORP. CORVALLIS, OR

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1996

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISHL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* U.S. FISH AND WILDLIFE SERVICE

*Publication\_Date:* 2005

*Title:* RECOVERY PLAN FOR THE TIDEWATER GOBY

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

*Other\_Citation\_Details:* U.S. FISH AND WILDLIFE SERVICE, PORTLAND, OREGON. VI + 199 PP.

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISHL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* U.S. GEOLOGICAL SURVEY (USGS)

*Publication\_Date:* 1972

*Title:* SCANNED TOPOGRAPHIC MAPS

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

*Other\_Citation\_Details:*

<http://archive.casil.ucdavis.edu/casil/maps/drg>

[/7.5\\_minute\\_series\\_albers\\_nad83\\_trimmed/](http://archive.casil.ucdavis.edu/casil/maps/drg/7.5_minute_series_albers_nad83_trimmed/) (Contact the site webmaster

if this URL is no longer active.)

*Source\_Scale\_Denominator:* 24,000

*Type\_of\_Source\_Media:* PAPER

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1959

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISHL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* USCG SECTOR SAN FRANCISCO

*Publication\_Date:* 2005

*Title:*

2005 SECTOR SAN FRANCISCO AREA ACP 1 NORTH COAST;  
VOLUME 2: MENDOCINO COUNTY SECTION 9814

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

*Other\_Citation\_Details:* USCG SECTOR SAN FRANCISCO, OCTOBER 1,  
2005

*Source\_Scale\_Denominator:* VARIES

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISHL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* USCG SECTOR SAN FRANCISCO

*Publication\_Date:* 2005

*Title:*

2005 SECTOR SAN FRANCISCO AREA ACP 1 NORTH COAST;  
VOLUME 2: HUMBOLDT COUNTY COAST SECTION 9812

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

*Other\_Citation\_Details:* USCG SECTOR SAN FRANCISCO, OCTOBER 1,  
2005

*Source\_Scale\_Denominator:* VARIES

*Type\_of\_Source\_Media:* ONLINE

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

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* FISHL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* USFWS (ARCATA)

*Publication\_Date:* 2007

*Title:* TIDEWATER GOBY LOCATIONS

*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:* 2007*Source\_Currentness\_Reference:* DATE OF COMMUNICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* FISHL INFORMATION*Source\_Information:**Source\_Citation:**Citation\_Information:**Originator:* WEITKAMP, WAINWRIGHT, BRYANT, MILNER, TEEL,  
KOPE, WAPLES*Publication\_Date:* 1995*Title:*STATUS REVIEW OF COHO SALMON FROM WASHINGTON,  
OREGON, AND CALIFORNIA*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT*Other\_Citation\_Details:* U.S. DEPT. COMMERCE, NOAA TECH. MEMO.  
NMFS-NWFSC-24, 258 P.*Type\_of\_Source\_Media:* PAPER*Source\_Time\_Period\_of\_Content:**Time\_Period\_Information:**Single\_Date/Time:**Calendar\_Date:* 1995*Source\_Currentness\_Reference:* DATE OF PUBLICATION*Source\_Citation\_Abbreviation:* NONE*Source\_Contribution:* FISHL INFORMATION*Process\_Step:**Process\_Description:*

Three main sources of data were used to depict fish distribution and seasonality for this data layer: 1) personal interviews with resource experts from the California Department of Fish & Game (CDF&G) and NOAA National Marine Fisheries Service (NMFS); 2) published documents and maps; and 3) digital data provided by NMFS displaying distribution of steelhead and chinook salmon in rivers and streams, CDF&G digital data displaying coastal cutthroat trout, and USFWS tabular data for tidewater goby locations.

The above digital and/or hardcopy sources were compiled by the project biologist to create the FISHL data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: 1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; 2) hardcopy maps are digitized at their source scale; and/or 3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the FISHL data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:* 200812*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](mailto: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:* 500*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:* Link*Point\_and\_Vector\_Object\_Count:* 42781*SDTS\_Terms\_Description:**SDTS\_Point\_and\_Vector\_Object\_Type:* Node, planar graph*Point\_and\_Vector\_Object\_Count:* 716*Spatial\_Reference\_Information:**Horizontal\_Coordinate\_System\_Definition:**Geographic:**Latitude\_Resolution:* 0.0000001*Longitude\_Resolution:* 0.0000001*Geographic\_Coordinate\_Units:* Decimal degrees*Geodetic\_Model:**Horizontal\_Datum\_Name:* North American Datum of 1927*Ellipsoid\_Name:* Clark 1866*Semi-major\_Axis:* 6378206.400000*Denominator\_of\_Flattening\_Ratio:* 294.978698*Entity\_and\_Attribute\_Information:**Overview\_Description:**Entity\_and\_Attribute\_Overview:*

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, FISHL) 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 Northern California atlas, the number is 207), an element/layer specific number (BIRDS are layer 1,

FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN\_SPEC, S, F, NHP, DATE\_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G\_SOURCE, S\_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED\_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed\_Description of the BREED data table. The link to the BIOFILE may be made through the BIO\_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED\_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED\_DT is the BREED item.

A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G\_SOURCE and S\_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

#### *Detailed\_Description:*

##### *Entity\_Type:*

*Entity\_Type\_Label:* FISHL.AAT

##### *Entity\_Type\_Definition:*

The FISHL.AAT table contains attribute information for the vector lines in this data set representing trout and salmon spawning runs and sensitive stream species. Note that all attribute information is stored in a series of relational files, described below. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

##### *Attribute:*

*Attribute\_Label:* ID

##### *Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (207), element number (22; 20 because it is a line feature, plus 2, the element value for FISH), and record number.

*Attribute\_Definition\_Source:* NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:**Range\_Domain\_Minimum:* 2072200001*Range\_Domain\_Maximum:* 2072200500*Attribute:**Attribute\_Label:* RARNUM*Attribute\_Definition:*

An identifier that links directly to the BIORES table or the flat format BIOFILE table.

*Attribute\_Definition\_Source:* NOAA*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 207000516*Range\_Domain\_Maximum:* 207000629*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* BIO\_LUT*Entity\_Type\_Definition:*

The data table BIO\_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* RARNUM*Attribute\_Definition:*

An identifier that links records in the BIO\_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:* NOAA*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 207000001*Range\_Domain\_Maximum:* 207001115*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 (207), element number (22; 20 because it is a line feature, plus 2, the element value for FISH), 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:* 2070100002*Range\_Domain\_Maximum:* 2072200500*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* BIORES*Entity\_Type\_Definition:*

The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO\_LUT data table to other associated data tables. See the Browse\_Graphic section for a link to the entity-

relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: RARNUM

*Attribute\_Definition*:

An identifier that links records in the BIORES data table to records in the BIO\_LUT data table or the flat format BIOFILE data table.

*Attribute\_Definition\_Source*: NOAA

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 207000001

*Range\_Domain\_Maximum*: 207001115

*Attribute*:

*Attribute\_Label*: SPECIES\_ID

*Attribute\_Definition*:

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

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: CONC

*Attribute\_Definition*:

The field CONC refers to "concentration," abundance, or density values of a species at a particular location. No quantitative data were available for fish, so the concentration field may contain a descriptive concentration term, such as "HIGH". If no concentration information was available from any source, the CONC field is populated with "-".

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: SEASON\_ID

*Attribute\_Definition*:

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: G\_SOURCE

*Attribute\_Definition*:

Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* S\_SOURCE

*Attribute\_Definition:*

Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* ELEMENT

*Attribute\_Definition:* Major categories of biological data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* BIRD

*Enumerated\_Domain\_Value\_Definition:* Birds

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* FISH

*Enumerated\_Domain\_Value\_Definition:* Fish

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* HABITAT

*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* INVERT

*Enumerated\_Domain\_Value\_Definition:* Invertebrates

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* M\_MAMMAL

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

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* REPTILE

*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals

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

*Attribute:*



*Attribute\_Label:* EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

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

*Attribute:*

*Attribute\_Label:* EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

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

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* SPECIES

*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* SPECIES\_ID

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* NAME

*Attribute\_Definition:* Species common name for the entire ESI data set.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* GEN\_SPEC

*Attribute\_Definition:* Species scientific name for the entire ESI data set.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* ELEMENT

*Attribute\_Definition:* Major categories of biological data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* BIRD

*Enumerated\_Domain\_Value\_Definition:* Birds

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* FISH

*Enumerated\_Domain\_Value\_Definition:* Fish

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* HABITAT

*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* INVERT

*Enumerated\_Domain\_Value\_Definition:* Invertebrates

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* M\_MAMMAL

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

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* REPTILE

*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals

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

*Attribute:*

*Attribute\_Label:* SUBELEMENT

*Attribute\_Definition:* Element subgroup delineating a logical grouping of species.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* alcid  
*Enumerated\_Domain\_Value\_Definition:* Alcid  
*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:* amphibian  
*Enumerated\_Domain\_Value\_Definition:* Amphibian  
*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:* bivalve  
*Enumerated\_Domain\_Value\_Definition:* Bivalve  
*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:* cephalopod  
*Enumerated\_Domain\_Value\_Definition:* Cephalopod  
*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:* crab  
*Enumerated\_Domain\_Value\_Definition:* Crab  
*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:* diadromous  
*Enumerated\_Domain\_Value\_Definition:* Diadromous fish  
*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:* diving  
*Enumerated\_Domain\_Value\_Definition:* Diving bird  
*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:* dolphin  
*Enumerated\_Domain\_Value\_Definition:* Dolphin  
*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:* echinoderm  
*Enumerated\_Domain\_Value\_Definition:* Echinoderm  
*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:* e\_nursery  
*Enumerated\_Domain\_Value\_Definition:* Estuarine nursery fish  
*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.  
*Attribute\_Domain\_Values:*  
*Enumerated\_Domain:*  
*Enumerated\_Domain\_Value:* e\_resident  
*Enumerated\_Domain\_Value\_Definition:* Estuarine resident

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: freshwater

*Enumerated\_Domain\_Value\_Definition*: Freshwater fish

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: gastropod

*Enumerated\_Domain\_Value\_Definition*: Gastropod

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: gull\_tern

*Enumerated\_Domain\_Value\_Definition*: Gull or tern

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: insect

*Enumerated\_Domain\_Value\_Definition*: Insect

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: kelp

*Enumerated\_Domain\_Value\_Definition*: Kelp

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: m\_benthic

*Enumerated\_Domain\_Value\_Definition*: Marine benthic fish

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: m\_pelagic

*Enumerated\_Domain\_Value\_Definition*: Marine pelagic fish

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: passerine

*Enumerated\_Domain\_Value\_Definition*: Passerine bird

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: pelagic

*Enumerated\_Domain\_Value\_Definition*: Pelagic bird

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: pinniped

*Enumerated\_Domain\_Value\_Definition*: Pinniped

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* plant*Enumerated\_Domain\_Value\_Definition:* Plant*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* raptor*Enumerated\_Domain\_Value\_Definition:* Raptor*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* sav*Enumerated\_Domain\_Value\_Definition:* Submerged aquatic vegetation*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* sea otter*Enumerated\_Domain\_Value\_Definition:* Sea otter*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* shorebird*Enumerated\_Domain\_Value\_Definition:* Shorebird*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* shrimp*Enumerated\_Domain\_Value\_Definition:* Shrimps*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* sm\_mammal*Enumerated\_Domain\_Value\_Definition:* Small mammal*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* turtle*Enumerated\_Domain\_Value\_Definition:* Turtle*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* ungulate*Enumerated\_Domain\_Value\_Definition:* Ungulate*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* wading*Enumerated\_Domain\_Value\_Definition:* Wading bird*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* waterfowl

*Enumerated\_Domain\_Value\_Definition:* Waterfowl

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* whale

*Enumerated\_Domain\_Value\_Definition:* Whale

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

*Attribute:*

*Attribute\_Label:* NHP

*Attribute\_Definition:* Natural Heritage Program global ranking.

*Attribute\_Definition\_Source:* Network of Natural Heritage Program

*Attribute\_Domain\_Values:*

*Codeset\_Domain:*

*Codeset\_Name:* NHP Global Conservation Status Rank

*Codeset\_Source:* Natural Heritage Program

*Attribute:*

*Attribute\_Label:* DATE\_PUB

*Attribute\_Definition:* Date of NHP listing.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 0

*Enumerated\_Domain\_Value\_Definition:* Date unspecified

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

*Attribute:*

*Attribute\_Label:* EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

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

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* SEASONAL

*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: ELEMENT

*Attribute\_Definition*: Major categories of biological data.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: BIRD

*Enumerated\_Domain\_Value\_Definition*: Birds

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: FISH

*Enumerated\_Domain\_Value\_Definition*: Fish

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: HABITAT

*Enumerated\_Domain\_Value\_Definition*: Habitats and Plants

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: INVERT

*Enumerated\_Domain\_Value\_Definition*: Invertebrates

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: M\_MAMMAL

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

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: REPTILE

*Enumerated\_Domain\_Value\_Definition*: Reptiles and Amphibians

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition*: Terrestrial Mammals

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

*Attribute*:

*Attribute\_Label*: SPECIES\_ID

*Attribute\_Definition*:

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

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* JAN

*Attribute\_Definition:* January

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in January

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

*Attribute:*

*Attribute\_Label:* FEB

*Attribute\_Definition:* February

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in February

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

*Attribute:*

*Attribute\_Label:* MAR

*Attribute\_Definition:* March

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in March

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

*Attribute:*

*Attribute\_Label:* APR

*Attribute\_Definition:* April

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in April

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

*Attribute:*

*Attribute\_Label:* MAY

*Attribute\_Definition:* May

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in May



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

*Attribute*:

*Attribute\_Label*: JUN

*Attribute\_Definition*: June

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: X

*Enumerated\_Domain\_Value\_Definition*: Present in June

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

*Attribute*:

*Attribute\_Label*: JUL

*Attribute\_Definition*: July

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: X

*Enumerated\_Domain\_Value\_Definition*: Present in July

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

*Attribute*:

*Attribute\_Label*: AUG

*Attribute\_Definition*: August

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: X

*Enumerated\_Domain\_Value\_Definition*: Present in August

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

*Attribute*:

*Attribute\_Label*: SEP

*Attribute\_Definition*: September

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: X

*Enumerated\_Domain\_Value\_Definition*: Present in September

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

*Attribute*:

*Attribute\_Label*: OCT

*Attribute\_Definition*: October

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: X

*Enumerated\_Domain\_Value\_Definition*: Present in October

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

*Attribute*:

*Attribute\_Label*: NOV

*Attribute\_Definition*: November

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in November

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

*Attribute:*

*Attribute\_Label:* DEC

*Attribute\_Definition:* December

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in December

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

*Attribute:*

*Attribute\_Label:* EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

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

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* BREED

*Entity\_Type\_Definition:*

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

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

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

*Attribute:*

*Attribute\_Label:* MONTH

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* 12

*Attribute:*

*Attribute\_Label:* BREED1

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* Y

*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* N

*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* -

*Enumerated\_Domain\_Value\_Definition:*

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

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

*Attribute:*

*Attribute\_Label:* BREED2

*Attribute\_Definition:*

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

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* Y

*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present

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

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* N

*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: -

*Enumerated\_Domain\_Value\_Definition*:

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

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

*Attribute*:

*Attribute\_Label*: BREED3

*Attribute\_Definition*:

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

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: Y

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity present

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: N

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity not present or not reported

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: -

*Enumerated\_Domain\_Value\_Definition*:

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

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

*Attribute*:

*Attribute\_Label*: BREED4

*Attribute\_Definition*:

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M\_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: Y

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity present

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: N

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity not present or not reported

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

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: -

*Enumerated\_Domain\_Value\_Definition*:

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

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

*Attribute*:

*Attribute\_Label*: BREED5

*Attribute\_Definition*:

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M\_MAMMAL, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: Y

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: N

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: -

*Enumerated\_Domain\_Value\_Definition*:

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Detailed\_Description*:

*Entity\_Type*:

*Entity\_Type\_Label*: SOURCES

*Entity\_Type\_Definition*:

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: SOURCE\_ID

*Attribute\_Definition*:

Source identifier that links records in the SOURCES data table to the items G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID in the ESI and HYDRO data layers.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label:* ORIGINATOR

*Attribute\_Definition:* Author or developer of source material or data set.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* DATE\_PUB

*Attribute\_Definition:*

Date of source material, publication, or date of personal communication with expert source.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* TITLE

*Attribute\_Definition:* Title of source material or data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* DATA\_FORMAT

*Attribute\_Definition:* The format of the source material.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* PUBLICATION

*Attribute\_Definition:* Additional citation information.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* SCALE

*Attribute\_Definition:* Description of the source scale.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* TIME\_PERIOD

*Attribute\_Definition:*

Date(s) of data collection that the source material is based upon.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* STATUS

*Entity\_Type\_Definition:*

The data table STATUS identifies the species that are listed as 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*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: ELEMENT

*Attribute\_Definition*: Major categories of biological data.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: BIRD

*Enumerated\_Domain\_Value\_Definition*: Birds

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: FISH

*Enumerated\_Domain\_Value\_Definition*: Fish

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: HABITAT

*Enumerated\_Domain\_Value\_Definition*: Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: INVERT

*Enumerated\_Domain\_Value\_Definition*: Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition*: Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: REPTILE

*Enumerated\_Domain\_Value\_Definition*: Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition*: Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: SPECIES\_ID

*Attribute\_Definition*:

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* STATE

*Attribute\_Definition:* Two-letter state abbreviation.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* COUNTRY

*Attribute\_Definition:* Three-letter country abbreviation.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* S

*Attribute\_Definition:* State threatened or endangered status.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E

*Enumerated\_Domain\_Value\_Definition:* Endangered on state list

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T

*Enumerated\_Domain\_Value\_Definition:* Threatened on state list

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* C

*Enumerated\_Domain\_Value\_Definition:* Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:* F

*Attribute\_Definition:* Federal threatened or endangered status.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E

*Enumerated\_Domain\_Value\_Definition:* Endangered on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T

*Enumerated\_Domain\_Value\_Definition:* Threatened on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* C

*Enumerated\_Domain\_Value\_Definition:* Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines



*Attribute:**Attribute\_Label:* I*Attribute\_Definition:* International threatened or endangered status.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* E*Enumerated\_Domain\_Value\_Definition:* Endangered on international list*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* T*Enumerated\_Domain\_Value\_Definition:* Threatened on international list*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* C*Enumerated\_Domain\_Value\_Definition:* Species of Special Concern*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines*Attribute:**Attribute\_Label:* S\_DATE*Attribute\_Definition:*

Publication date of source material used to assign state status values for each species, if used.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* YYYYMM*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* F\_DATE*Attribute\_Definition:*

Publication date of source material used to assign federal status values for each species, if used.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* YYYYMM*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* I\_DATE*Attribute\_Definition:*

Publication date of source material used to assign international status values for each species, if used.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Distribution\_Information:*

*Distributor:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:* John Kaperick

*Contact\_Organization:* NOAA, Office of Response and Restoration

*Contact\_Address:*

*Address\_Type:* Physical Address

*Address:* 7600 Sand Point Way N.E.

*City:* Seattle

*State\_or\_Province:* Washington

*Postal\_Code:* 98115-6349

*Contact\_Voice\_Telephone:* (206) 526-6400

*Contact\_Facsimile\_Telephone:* (206) 526-6329

*Resource\_Description:* ESI Atlas for Northern California

*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration (NOAA), no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Access Personal Geodatabase, ARC export files, Shape files, and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

*Metadata\_Reference\_Information:**Metadata\_Date:* 200902*Metadata\_Review\_Date:* 200902*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](mailto:Jill.Petersen@noaa.gov)*Metadata\_Standard\_Name:* Content Standards for Digital Geospatial Metadata*Metadata\_Standard\_Version:* FGDC-STD-001-1998

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# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: INVERT (Invertebrate 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](#)

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### *Identification\_Information:*

#### *Citation:*

##### *Citation\_Information:*

##### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Publication\_Date:* 200812

##### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: INVERT (Invertebrate Polygons)

*Edition:* Second

*Geospatial\_Data\_Presentation\_Form:* Vector digital data

##### *Series\_Information:*

*Series\_Name:* None

*Issue\_Identification:* Northern California

##### *Publication\_Information:*

*Publication\_Place:* Seattle, Washington

##### *Publisher:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington.

##### *Other\_Citation\_Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous

Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Description:*

*Abstract:*

This data set contains sensitive biological resource data for marine, estuarine, freshwater, and terrestrial invertebrate species in Northern California. Vector polygons in this data set represent invertebrate distribution and concentration areas. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Northern California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources.

*Purpose:*

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

*Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:* 1990

*Ending\_Date:* 2007

*Currentness\_Reference:*

The biological data were compiled during 2007. The currentness dates for the data range from 1990 to 2007 and are documented in the Lineage section.

*Status:*

*Progress:* Complete

*Maintenance\_and\_Update\_Frequency:* None Scheduled

*Spatial\_Domain:*

*Bounding\_Coordinates:*

*West\_Bounding\_Coordinate:* -124.45800

*East\_Bounding\_Coordinate:* -122.75000

*North\_Bounding\_Coordinate:* 37.97900

*South\_Bounding\_Coordinate:* 42.00000

*Keywords:*

*Theme:*

*Theme\_Keyword\_Thesaurus:* None

*Theme\_Keyword:* ESI

*Theme\_Keyword:* Sensitivity maps

*Theme\_Keyword:* Coastal resources

*Theme\_Keyword:* Oil spill planning

*Theme\_Keyword:* Coastal Zone Management

*Theme\_Keyword:* Wildlife

*Theme\_Keyword:* Invertebrate

*Place:*

*Place\_Keyword\_Thesaurus:* None

*Place\_Keyword:* Northern California

*Access\_Constraints:* None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:* [datafig.jpg](#)

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the Northern California ESI data.

*Browse\_Graphic\_File\_Type:* JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO® (version 9.2) and SQL SERVER® (version 2000). The hardware configuration is PCs with Windows Operating System (2000/XP/2003).

The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00. Associated relational and desktop data tables provided in ARC export and text format are bio\_lut, biofile, biores, breed, breed\_dt, seasonal, soc\_dat, soc\_lut, sources, species, and status.

*Data\_Quality\_Information:*

*Attribute\_Accuracy:*

*Attribute\_Accuracy\_Report:*

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to

verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER® to ARC/INFO® consistencies. A final review is made by the GIS manager, where the data are written to CD or DVD, and the metadata are written.

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new IDs and RARNUMs or HUNUMs are also generated. The new IDs 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 RARNUMs are also modified to include the atlas number, so multiple atlases can be combined and RARNUMs remain unique. RARNUMs are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUMs are also modified to include the atlas number.

#### *Completeness\_Report:*

These data represent a synthesis of expert knowledge, available hardcopy documents, maps, and digital data on invertebrate distribution and concentration areas. These data do not necessarily represent all invertebrate occurrences in Northern California. The following species are included in this data set: (Species\_ID, Common Name, Scientific Name [n/a if not applicable]): 1, California butterclam, *Saxidomus nuttallii*; 3, California bay shrimp, *Crangon franciscorum*; 5, Ocean pink shrimp, *Pandalus jordani*; 8, Spot prawn, *Pandalus platyceros*; 14, Dungeness crab, *Cancer magister*; 15, Lined shore crab, *Pachygrapsus crassipes*; 19, Bay mussel, *Mytilus edulis*; 20, California mussel, *Mytilus californianus*; 21, Washington butterclam, *Saxidomus gigantea*; 23, Horseneck gaper, *Tresus capax*; 24, Pacific gaper, *Tresus nuttallii*; 25, Softshell clam, *Mya arenaria*; 26, Manila clam, *Venerupis philippinarum*; 28, Pacific razor clam, *Siliqua patula*; 29, Pacific littleneck, *Protothaca staminea*; 32, Geoduck, *Panopea abrupta*; 37, California market squid, *Loligo opalescens*; 38, California native oyster, *Ostrea conchaphila*; 53, Red rock crab, *Cancer productus*; 57, Brown rock crab, *Cancer antennarius*; 61, Red abalone, *Haliotis rufescens*; 62, Black abalone, *Haliotis cracherodii*; 66, California jackknife clam, *Tagelus californianus*; 70, Purple shore crab, *Hemigrapsus nudus*; 79, Pacific oyster, *Crassostrea gigas*; 290, California freshwater shrimp, *Syncaris pacifica*; 294, San Bruno elfin butterfly, *Incisalia mossii bayensis*; 304, Green crab, *Carcinus maenas*; 354, Pacific sand crab, *Emerita analoga*; 447, Ghost shrimp, *Calianassa* sp.; 505, Monarch butterfly, *Danaus plexippus*; 510, Yellow shore crab, *Hemigrapsus oregonensis*; 526, Lewis's moonsnail, *Euspira lewisii*; 549, Myrtle's silverspot, *Speyeria zerene myrtleae*; 555, Globose dune beetle, *Coelus globosus*; 577, Mediterranean mussel, *Mytilus galloprovincialis*; 578, Oregon silverspot butterfly, *Speyeria zerene hippolyta*; 579, Behren's silverspot butterfly, *Speyeria zerene behrensii*; 580, Lotis blue butterfly, *Lycaeides argyrognomon lotis*; 581, Zebra leafslug, *Phyllaplysia taylori*; 582, Black tegula, *Tegula funebris*; 583, Brown tegula, *Tegula brunnea*; 1009, Sea urchins, n/a; 1015, Mussels, n/a; 1052, Cockles, 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. See the Lineage and Process\_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy," and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* ALLEN, S. (NATIONAL PARK SERVICE, POINT REYES)

*Publication\_Date:* 2005

*Title:*

DISTRIBUTION AND SEASONALITY OF SPECIES AND SOC\_ECON  
FEATURES ON NPS LANDS

*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* BARNHARDT, R.A., M.J. BOYD, AND J.E. PEQUEGNAT

*Publication\_Date:* 1992

*Title:*

ESSENTIAL FISH HABITAT SPECIES IN HUMBOLDT BAY CA,  
FROM THE ECOLOGY OF HUMBOLDT BAY: AN ESTUARINE  
PROFILE

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:* U.S. FISH AND WILDLIFE SERVICE BIOLOGICAL  
REPORT 1. 121 PP.

*Type\_of\_Source\_Media:* PAPER

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1992

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* CANNATA, S.

*Publication\_Date:* 2007

*Title:*

DISTRIBUTION OF FISH AND INVERTS IN RIVERS AND ESTUARIES



## IN NORTHERN CALIFORNIA

*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*: 2007*Source\_Currentness\_Reference*: DATE OF COMMUNICATION*Source\_Citation\_Abbreviation*: NONE*Source\_Contribution*: INVERT INFORMATION*Source\_Information*:*Source\_Citation*:*Citation\_Information*:*Originator*: CDF&G*Publication\_Date*: 2001*Title*:CALIFORNIA LIVING MARINE RESOURCES: A STATUS REPORT -  
DUNGENESS CRAB*Geospatial\_Data\_Presentation\_Form*: HARDCOPY TEXT*Other\_Citation\_Details*: CALIFORNIA DEPT. OF FISH & GAME (CDF&G)*Type\_of\_Source\_Media*: PAPER*Source\_Time\_Period\_of\_Content*:*Time\_Period\_Information*:*Single\_Date/Time*:*Calendar\_Date*: 2001*Source\_Currentness\_Reference*: DATE OF PUBLICATION*Source\_Citation\_Abbreviation*: NONE*Source\_Contribution*: INVERT INFORMATION*Source\_Information*:*Source\_Citation*:*Citation\_Information*:*Originator*: CDF&G*Publication\_Date*: 2007*Title*: PACIFIC LITTLENECK CLAM*Geospatial\_Data\_Presentation\_Form*: HARDCOPY TEXT*Other\_Citation\_Details*: CALIFORNIA FINFISH AND SHELLFISH  
IDENTIFICATION BOOK*Type\_of\_Source\_Media*: ONLINE*Source\_Time\_Period\_of\_Content*:*Time\_Period\_Information*:*Single\_Date/Time*:*Calendar\_Date*: 2007*Source\_Currentness\_Reference*: DATE OF PUBLICATION*Source\_Citation\_Abbreviation*: NONE*Source\_Contribution*: INVERT INFORMATION*Source\_Information*:*Source\_Citation*:*Citation\_Information*:*Originator*: CDF&G*Publication\_Date*: 2001*Title*:

CALIFORNIA'S LIVING MARINE RESOURCES: A STATUS REPORT -  
CULTURED MUSSELS

*Geospatial\_Data\_Presentation\_Form*: HARDCOPY TEXT

*Other\_Citation\_Details*: CDF&G ONLINE

*Type\_of\_Source\_Media*: ONLINE

*Source\_Time\_Period\_of\_Content*:

*Time\_Period\_Information*:

*Single\_Date/Time*:

*Calendar\_Date*: 2001

*Source\_Currentness\_Reference*: DATE OF PUBLICATION

*Source\_Citation\_Abbreviation*: NONE

*Source\_Contribution*: INVERT INFORMATION

*Source\_Information*:

*Source\_Citation*:

*Citation\_Information*:

*Originator*: CDF&G

*Publication\_Date*: 2007

*Title*: AQUACULTURE LEASE

*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*: 2007

*Source\_Currentness\_Reference*: DATE OF PUBLICATION

*Source\_Citation\_Abbreviation*: NONE

*Source\_Contribution*: INVERT INFORMATION

*Source\_Information*:

*Source\_Citation*:

*Citation\_Information*:

*Originator*: CDF&G

*Publication\_Date*: 2001

*Title*:

CALIFORNIA'S LIVING MARINE RESOURCES: A STATUS REPORT -  
WASHINGTON CLAMS

*Geospatial\_Data\_Presentation\_Form*: HARDCOPY TEXT

*Other\_Citation\_Details*: CDF&G

*Type\_of\_Source\_Media*: ONLINE

*Source\_Time\_Period\_of\_Content*:

*Time\_Period\_Information*:

*Single\_Date/Time*:

*Calendar\_Date*: 2001

*Source\_Currentness\_Reference*: DATE OF PUBLICATION

*Source\_Citation\_Abbreviation*: NONE

*Source\_Contribution*: INVERT INFORMATION

*Source\_Information*:

*Source\_Citation*:

*Citation\_Information*:

*Originator*: CDF&G

*Publication\_Date*: 2001

*Title*: CALIFORNIA LIVING MARINE RESOURCES: A STATUS REPORT -

## ABALONE

*Geospatial\_Data\_Presentation\_Form*: HARDCOPY TEXT*Other\_Citation\_Details*: CDF&G*Type\_of\_Source\_Media*: ONLINE*Source\_Time\_Period\_of\_Content*:*Time\_Period\_Information*:*Single\_Date/Time*:*Calendar\_Date*: 2001*Source\_Currentness\_Reference*: DATE OF PUBLICATION*Source\_Citation\_Abbreviation*: NONE*Source\_Contribution*: INVERT INFORMATION*Source\_Information*:*Source\_Citation*:*Citation\_Information*:*Originator*: CDF&G*Publication\_Date*: 2001*Title*: PACIFIC RAZOR CLAM*Geospatial\_Data\_Presentation\_Form*: HARDCOPY TEXT*Other\_Citation\_Details*:CALIFORNIA'S LIVING MARINE RESOURCES: A STATUS REPORT -  
PACIFIC RAZOR CLAM*Type\_of\_Source\_Media*: ONLINE*Source\_Time\_Period\_of\_Content*:*Time\_Period\_Information*:*Single\_Date/Time*:*Calendar\_Date*: 2001*Source\_Currentness\_Reference*: DATE OF PUBLICATION*Source\_Citation\_Abbreviation*: NONE*Source\_Contribution*: INVERT INFORMATION*Source\_Information*:*Source\_Citation*:*Citation\_Information*:*Originator*: CDF&G BIOGEOGRAPHIC DATA BRANCH*Publication\_Date*: 2007*Title*: CALIFORNIA NATURAL DIVERSITY DATABASE*Geospatial\_Data\_Presentation\_Form*: VECTOR DIGITAL DATA*Other\_Citation\_Details*:<http://www.dfg.ca.gov/biogeodata/> (Contact the site webmaster if this  
URL is no longer active.)*Source\_Scale\_Denominator*: VARIES*Type\_of\_Source\_Media*: CD-ROM*Source\_Time\_Period\_of\_Content*:*Time\_Period\_Information*:*Single\_Date/Time*:*Calendar\_Date*: 2007*Source\_Currentness\_Reference*: DATE OF PUBLICATION*Source\_Citation\_Abbreviation*: NONE*Source\_Contribution*: INVERT INFORMATION*Source\_Information*:*Source\_Citation*:*Citation\_Information*:*Originator*: CDF&G STAFF

*Publication\_Date:* 2007  
*Title:* MARINE SPORTFISH AND OTHER MARINE RESOURCES  
*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE  
*Other\_Citation\_Details:* UNPUBLISHED  
*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION  
*Source\_Time\_Period\_of\_Content:*  
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*Calendar\_Date:* 2007  
*Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* INVERT INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* CDF&G, USCG  
*Publication\_Date:* 2005  
*Title:*  
SAN FRANCISCO GEOGRAPHIC RESPONSE AREA 1 SONOMA AND  
NORTH MARIN COAST  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:* ACP 2 SF BAY & DELTA - GRA 1  
*Type\_of\_Source\_Media:* DISC  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2005  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* INVERT INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* FREY, V. (CDF&G, EUREKA)  
*Publication\_Date:* 2007  
*Title:*  
MARINE RESOURCE DISTRIBUTION AND SEASONALITY IN  
NORTHERN CALIFORNIA  
*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE  
*Other\_Citation\_Details:* UNPUBLISHED  
*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION  
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*Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* INVERT INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* HARRIS, JAY (CSP, EUREKA)

*Publication\_Date:* 2007  
*Title:* CALIFORNIA STATE PARK RESOURCES  
*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE  
*Other\_Citation\_Details:* UNPUBLISHED  
*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION  
*Source\_Time\_Period\_of\_Content:*  
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*Calendar\_Date:* 2007  
*Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* INVERT INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* HUMBOLDT BAY HARBOR RECREATION AND  
CONSERVATION DISTRICT  
*Publication\_Date:* 2002  
*Title:* ACTIVE PRODUCTION OYSTER BEDS  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY MAP  
*Other\_Citation\_Details:* HUMBOLDT BAY HARBOR RECREATION AND  
CONSERVATION DISTRICT  
*Type\_of\_Source\_Media:* PAPER  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2002  
*Source\_Currentness\_Reference:* DATE OF SURVEY  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* INVERT INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* LEET, W.S., C.M. DEWEES, R. KLINGBEIL, E.J. LARSON  
*Publication\_Date:* 2001  
*Title:* CALIFORNIA'S LIVING MARINE RESOURCES: A STATUS REPORT  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:* CDF&G SG01-11, 593 PP.  
*Type\_of\_Source\_Media:* ONLINE  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2001  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* INVERT INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* LEVALLEY, R. (MAD RIVER BIOLOGISTS, ARCATA)  
*Publication\_Date:* 2007  
*Title:*

COASTAL RESOURCE DISTRIBUTION AND SEASONALITY IN  
NORTHERN CALIFORNIA

*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*: 2007

*Source\_Currentness\_Reference*: DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation*: NONE

*Source\_Contribution*: INVERT INFORMATION

*Source\_Information*:

*Source\_Citation*:

*Citation\_Information*:

*Originator*: MAAHS, M. AND S. CANNATA

*Publication\_Date*: 1998

*Title*:

THE ALBION RIVER ESTUARY. ITS HISTORY, WATER QUALITY,  
AND USE BY SALMONIDS AND OTHER FISH AND WILDLIFE  
SPECIES.

*Geospatial\_Data\_Presentation\_Form*: HARDCOPY TEXT

*Other\_Citation\_Details*: CDF&G, UNPUBLISHED REPORT

*Type\_of\_Source\_Media*: EMAIL

*Source\_Time\_Period\_of\_Content*:

*Time\_Period\_Information*:

*Single\_Date/Time*:

*Calendar\_Date*: 1998

*Source\_Currentness\_Reference*: DATE OF PUBLICATION

*Source\_Citation\_Abbreviation*: NONE

*Source\_Contribution*: INVERT INFORMATION

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*Source\_Citation*:

*Citation\_Information*:

*Originator*: MELLO, J. (CDF&G, EUREKA)

*Publication\_Date*: 2007

*Title*:

MARINE RESOURCE DISTRIBUTION AND SEASONALITY IN  
NORTHERN CALIFORNIA

*Geospatial\_Data\_Presentation\_Form*: EXPERT KNOWLEDGE

*Other\_Citation\_Details*: UNPUBLISHED

*Type\_of\_Source\_Media*: PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content*:

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*Single\_Date/Time*:

*Calendar\_Date*: 2007

*Source\_Currentness\_Reference*: DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation*: NONE

*Source\_Contribution*: INVERT INFORMATION

*Source\_Information*:

*Source\_Citation*:

*Citation\_Information*:

*Originator:* MONACO, M.E., R.L. EMMETT, D.M. NELSON, AND S.A.  
HINTON

*Publication\_Date:* 1990

*Title:*

DISTRIBUTION AND ABUNDANCE OF FISHES AND  
INVERTEBRATES IN WEST COAST ESTUARIES, VOLUME I. DATA  
SUMMARIES.

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:*

ELMR REP. NO. 4. NOAA/NOS STRATEGIC ENVIRONMENTAL  
ASSESSMENTS DIVISION, SILVER SPRING, MD 232 P.

*Type\_of\_Source\_Media:* PAPER

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1990

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* NOAA NOS OR&R HAZMAT

*Publication\_Date:* 2001

*Title:*

SENSITIVITY OF COASTAL ENVIRONMENTS AND WILDLIFE TO  
SPILLED OIL: NORTHERN CALIFORNIA

*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA

*Other\_Citation\_Details:* SEATTLE, WASHINGTON

*Source\_Scale\_Denominator:* 24,000

*Type\_of\_Source\_Media:* CD-ROM

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:* 1994

*Ending\_Date:* 2001

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* ODA, K. (CDF&G, BELMONT)

*Publication\_Date:* 2005

*Title:*

DISTRIBUTION AND SEASONALITY OF FISH AND  
INVERTEBRATES AND SOC\_ECON FEATURES

*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* ROBERTS, E. (CDF&G, EUREKA)

*Publication\_Date:* 2007

*Title:* MARINE RESOURCE DISTRIBUTION AND SEASONALITY

*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2007

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* SAKAI, W. (SANTA MONICA COLLEGE)

*Publication\_Date:* 2004

*Title:* ACCESSIBLE MONARCH OVERWINTERING COLONIES IN CALIFORNIA

*Geospatial\_Data\_Presentation\_Form:* WEBSITE

*Other\_Citation\_Details:*

[http://homepage.smc.edu/SAKAI\\_WALTER](http://homepage.smc.edu/SAKAI_WALTER)

[/MONARCH%20BUTTERFLY/MONARCH.HTM](http://homepage.smc.edu/SAKAI_WALTER/MONARCH%20BUTTERFLY/MONARCH.HTM) (Contact the site webmaster if this URL is no longer active.)

*Type\_of\_Source\_Media:* ONLINE

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2004

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* THE GOLD RIDGE RESOURCE CONSERVATION DISTRICT

*Publication\_Date:* 2007

*Title:* THE ESTERO AMERICANO WATERSHED MANAGEMENT PLAN

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:* SWRCB CONTRACT NO. 03-138-250-1

*Type\_of\_Source\_Media:* ONLINE

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*



*Single\_Date/Time:*

*Calendar\_Date:* 2007

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* U.S. DEPT. OF THE INTERIOR, FISH AND WILDLIFE SERVICE

*Publication\_Date:* 1992

*Title:* THE ECOLOGY OF HUMBOLDT BAY, CALIFORNIA: AN ESTUARINE PROFILE

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:*

U.S. DEPT. OF THE INTERIOR, FISH AND WILDLIFE SERVICE,  
WASHINGTON, D.C., BIOLOGICAL REPORT 1

*Type\_of\_Source\_Media:* PAPER

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1992

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* USCG SECTOR SAN FRANCISCO

*Publication\_Date:* 2005

*Title:*

2005 SECTOR SAN FRANCISCO AREA ACP 1 NORTH COAST;  
VOLUME 2: MENDOCINO COUNTY SECTION 9814

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:* USCG SECTOR SAN FRANCISCO, OCTOBER 1,  
2005

*Source\_Scale\_Denominator:* VARIES

*Type\_of\_Source\_Media:* ONLINE

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* USCG SECTOR SAN FRANCISCO

*Publication\_Date:* 2005

*Title:*

2005 SECTOR SAN FRANCISCO AREA ACP 1 NORTH COAST;  
VOLUME 2: HUMBOLDT COUNTY COAST SECTION 9812

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:* USCG SECTOR SAN FRANCISCO, OCTOBER 1, 2005

*Source\_Scale\_Denominator:* VARIES

*Type\_of\_Source\_Media:* ONLINE

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* INVERT INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* USFWS

*Publication\_Date:* 1998

*Title:*

CALIFORNIA FRESHWATER SHRIMP (SYNCARIS PACIFICA HOLMES) RECOVERY PLAN

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:* U.S. FISH AND WILDLIFE SERVICE, PORTLAND, OREGON, 94 PP.

*Type\_of\_Source\_Media:* ONLINE

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1998

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* INVERT INFORMATION

*Process\_Step:*

*Process\_Description:*

Three main sources of data were used to depict invert distribution and seasonality for this data layer: 1) personal interviews with resource experts from the California Department of Fish & Game (CDF&G), NOAA National Marine Fisheries Service (NMFS), National Park Service (NPS), and California State Parks (CSP); 2) published and unpublished documents and maps; and 3) CDF&G digital data displaying sensitive species occurrences.

The above digital and/or hardcopy sources were compiled by the project biologist to create the INVERT data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: 1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; 2) hardcopy maps are digitized at their source scale; and/or 3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the INVERT data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are

created.

*Process\_Date*: 200812

*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](mailto:Jill.Petersen@noaa.gov)

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*Spatial\_Data\_Organization\_Information*:

*Direct\_Spatial\_Reference\_Method*: Vector

*Point\_and\_Vector\_Object\_Information*:

*SDTS\_Terms\_Description*:

*SDTS\_Point\_and\_Vector\_Object\_Type*: GT-polygon composed of chains

*Point\_and\_Vector\_Object\_Count*: 6987

*SDTS\_Terms\_Description*:

*SDTS\_Point\_and\_Vector\_Object\_Type*: Area point

*Point\_and\_Vector\_Object\_Count*: 6986

*SDTS\_Terms\_Description*:

*SDTS\_Point\_and\_Vector\_Object\_Type*: Complete chain

*Point\_and\_Vector\_Object\_Count*: 8201

*SDTS\_Terms\_Description*:

*SDTS\_Point\_and\_Vector\_Object\_Type*: Link

*Point\_and\_Vector\_Object\_Count*: 348697

*SDTS\_Terms\_Description*:

*SDTS\_Point\_and\_Vector\_Object\_Type*: Node, planar graph

*Point\_and\_Vector\_Object\_Count*: 7991

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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 1927

*Ellipsoid\_Name*: Clark 1866

*Semi-major\_Axis*: 6378206.400000

*Denominator\_of\_Flattening\_Ratio*: 294.978698

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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, 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 Northern California atlas, the number is 207), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN\_SPEC, S, F, NHP, DATE\_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G\_SOURCE, S\_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED\_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed\_Description of the BREED data table. The link to the BIOFILE may be made through the BIO\_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED\_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED\_DT is the BREED item.

A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G\_SOURCE and S\_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

*Detailed\_Description:**Entity\_Type:*

*Entity\_Type\_Label:* INVERT.PAT

*Entity\_Type\_Definition:*

The INVERT.PAT table contains attribute information for the vector polygons in this data set representing invertebrate distribution and concentration areas. Note that all attribute information is stored in a series of relational files, described below. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: ID

*Attribute\_Definition*:

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (207), 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*: 2070700002

*Range\_Domain\_Maximum*: 2070707341

*Attribute*:

*Attribute\_Label*: RARNUM

*Attribute\_Definition*:

An identifier that links directly to the BIORES table or the flat format BIOFILE table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source*: NOAA

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 207000740

*Range\_Domain\_Maximum*: 207000834

*Detailed\_Description*:

*Entity\_Type*:

*Entity\_Type\_Label*: BIO\_LUT

*Entity\_Type\_Definition*:

The data table BIO\_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: RARNUM

*Attribute\_Definition*:

An identifier that links records in the BIO\_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source*: NOAA

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 207000001

*Range\_Domain\_Maximum*: 207001115

*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 (207), 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:* 2070100002*Range\_Domain\_Maximum:* 2072200500*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* BIORES*Entity\_Type\_Definition:*

The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO\_LUT data table to other associated data tables. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* RARNUM*Attribute\_Definition:*

An identifier that links records in the BIORES data table to records in the BIO\_LUT data table or the flat format BIOFILE data table.

*Attribute\_Definition\_Source:* NOAA*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 207000001*Range\_Domain\_Maximum:* 207001115*Attribute:**Attribute\_Label:* SPECIES\_ID*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* CONC*Attribute\_Definition:*

The field CONC refers to "concentration," abundance, or density values, and may contain counts of a species at a particular location. Descriptive terms such as "HIGH" were used to describe the relative abundance of particular invertebrate species at specific locations. In cases where no concentration information was available from any source, the field was populated with "-".

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* SEASON\_ID*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:*

*Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* G\_SOURCE*Attribute\_Definition:*

Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* S\_SOURCE*Attribute\_Definition:*

Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* ELEMENT*Attribute\_Definition:* Major categories of biological data.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* BIRD*Enumerated\_Domain\_Value\_Definition:* Birds*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* FISH*Enumerated\_Domain\_Value\_Definition:* Fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* HABITAT*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* INVERT*Enumerated\_Domain\_Value\_Definition:* Invertebrates*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* M\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Marine Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* REPTILE*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* T\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* EL\_SPE*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* E#####*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* EL\_SPE\_SEA*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* E#####*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* SPECIES*Entity\_Type\_Definition:*

The data table SPECIES identifies all species in the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness\_Report for a list of layer-specific species.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* SPECIES\_ID*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a



nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: NAME

*Attribute\_Definition*: Species common name for the entire ESI data set.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: GEN\_SPEC

*Attribute\_Definition*: Species scientific name for the entire ESI data set.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: ELEMENT

*Attribute\_Definition*: Major categories of biological data.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: BIRD

*Enumerated\_Domain\_Value\_Definition*: Birds

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: FISH

*Enumerated\_Domain\_Value\_Definition*: Fish

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: HABITAT

*Enumerated\_Domain\_Value\_Definition*: Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: INVERT

*Enumerated\_Domain\_Value\_Definition*: Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition*: Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: REPTILE

*Enumerated\_Domain\_Value\_Definition*: Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* T\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* SUBELEMENT*Attribute\_Definition:* Element subgroup delineating a logical grouping of species.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* alcid*Enumerated\_Domain\_Value\_Definition:* Alcid*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* amphibian*Enumerated\_Domain\_Value\_Definition:* Amphibian*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* bivalve*Enumerated\_Domain\_Value\_Definition:* Bivalve*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* cephalopod*Enumerated\_Domain\_Value\_Definition:* Cephalopod*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* crab*Enumerated\_Domain\_Value\_Definition:* Crab*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* diadromous*Enumerated\_Domain\_Value\_Definition:* Diadromous fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* diving*Enumerated\_Domain\_Value\_Definition:* Diving bird*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* dolphin*Enumerated\_Domain\_Value\_Definition:* Dolphin*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* echinoderm

*Enumerated\_Domain\_Value\_Definition:* Echinoderm

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* e\_nursery

*Enumerated\_Domain\_Value\_Definition:* Estuarine nursery fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* e\_resident

*Enumerated\_Domain\_Value\_Definition:* Estuarine resident

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* freshwater

*Enumerated\_Domain\_Value\_Definition:* Freshwater fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* gastropod

*Enumerated\_Domain\_Value\_Definition:* Gastropod

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* gull\_tern

*Enumerated\_Domain\_Value\_Definition:* Gull or tern

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* insect

*Enumerated\_Domain\_Value\_Definition:* Insect

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* kelp

*Enumerated\_Domain\_Value\_Definition:* Kelp

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* m\_benthic

*Enumerated\_Domain\_Value\_Definition:* Marine benthic fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* m\_pelagic

*Enumerated\_Domain\_Value\_Definition:* Marine pelagic fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* passerine

*Enumerated\_Domain\_Value\_Definition:* Passerine bird

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* pelagic

*Enumerated\_Domain\_Value\_Definition:* Pelagic bird

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* pinniped

*Enumerated\_Domain\_Value\_Definition:* Pinniped

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* plant

*Enumerated\_Domain\_Value\_Definition:* Plant

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* raptor

*Enumerated\_Domain\_Value\_Definition:* Raptor

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sav

*Enumerated\_Domain\_Value\_Definition:* Submerged aquatic vegetation

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sea otter

*Enumerated\_Domain\_Value\_Definition:* Sea otter

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* shorebird

*Enumerated\_Domain\_Value\_Definition:* Shorebird

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* shrimp

*Enumerated\_Domain\_Value\_Definition:* Shrimps

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sm\_mammal

*Enumerated\_Domain\_Value\_Definition:* Small mammal

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* turtle

*Enumerated\_Domain\_Value\_Definition:* Turtle

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* ungulate

*Enumerated\_Domain\_Value\_Definition:* Ungulate

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* wading

*Enumerated\_Domain\_Value\_Definition:* Wading bird

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* waterfowl

*Enumerated\_Domain\_Value\_Definition:* Waterfowl

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* whale

*Enumerated\_Domain\_Value\_Definition:* Whale

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* NHP

*Attribute\_Definition:* Natural Heritage Program global ranking.

*Attribute\_Definition\_Source:* Network of Natural Heritage Program

*Attribute\_Domain\_Values:*

*Codeset\_Domain:*

*Codeset\_Name:* NHP Global Conservation Status Rank

*Codeset\_Source:* Natural Heritage Program

*Attribute:*

*Attribute\_Label:* DATE\_PUB

*Attribute\_Definition:* Date of NHP listing.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 0

*Enumerated\_Domain\_Value\_Definition:* Date unspecified

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters

are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1;  
EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Detailed\_Description*:

*Entity\_Type*:

*Entity\_Type\_Label*: SEASONAL

*Entity\_Type\_Definition*:

The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: ELEMENT

*Attribute\_Definition*: Major categories of biological data.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: BIRD

*Enumerated\_Domain\_Value\_Definition*: Birds

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: FISH

*Enumerated\_Domain\_Value\_Definition*: Fish

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: HABITAT

*Enumerated\_Domain\_Value\_Definition*: Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: INVERT

*Enumerated\_Domain\_Value\_Definition*: Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition*: Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: REPTILE

*Enumerated\_Domain\_Value\_Definition*: Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition*: Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label:* SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* JAN

*Attribute\_Definition:* January

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in January

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* FEB

*Attribute\_Definition:* February

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in February

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* MAR

*Attribute\_Definition:* March

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in March

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* APR

*Attribute\_Definition:* April

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: X*

*Enumerated\_Domain\_Value\_Definition: Present in April*

*Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.*

*Attribute:*

*Attribute\_Label: MAY*

*Attribute\_Definition: May*

*Attribute\_Definition\_Source: Research Planning, Inc.*

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: X*

*Enumerated\_Domain\_Value\_Definition: Present in May*

*Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.*

*Attribute:*

*Attribute\_Label: JUN*

*Attribute\_Definition: June*

*Attribute\_Definition\_Source: Research Planning, Inc.*

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: X*

*Enumerated\_Domain\_Value\_Definition: Present in June*

*Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.*

*Attribute:*

*Attribute\_Label: JUL*

*Attribute\_Definition: July*

*Attribute\_Definition\_Source: Research Planning, Inc.*

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: X*

*Enumerated\_Domain\_Value\_Definition: Present in July*

*Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.*

*Attribute:*

*Attribute\_Label: AUG*

*Attribute\_Definition: August*

*Attribute\_Definition\_Source: Research Planning, Inc.*

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: X*

*Enumerated\_Domain\_Value\_Definition: Present in August*

*Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.*

*Attribute:*

*Attribute\_Label: SEP*

*Attribute\_Definition: September*

*Attribute\_Definition\_Source: Research Planning, Inc.*

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: X*

*Enumerated\_Domain\_Value\_Definition: Present in September*

*Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.*

*Attribute:*

*Attribute\_Label: OCT*

*Attribute\_Definition: October*

*Attribute\_Definition\_Source: Research Planning, Inc.*



*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* X*Enumerated\_Domain\_Value\_Definition:* Present in October*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* NOV*Attribute\_Definition:* November*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* X*Enumerated\_Domain\_Value\_Definition:* Present in November*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* DEC*Attribute\_Definition:* December*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* X*Enumerated\_Domain\_Value\_Definition:* Present in December*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* EL\_SPE\_SEA*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* E#####*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* BREED*Entity\_Type\_Definition:*

The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* EL\_SPE\_SEA*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* E#####*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* MONTH*Attribute\_Definition:*

Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* 12*Attribute:**Attribute\_Label:* BREED1*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M\_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* BREED2*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M\_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: Y

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: N

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: -

*Enumerated\_Domain\_Value\_Definition*:

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: BREED3

*Attribute\_Definition*:

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = interesting; if ELEMENT is "M\_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: Y

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: N

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: -

*Enumerated\_Domain\_Value\_Definition*:

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: BREED4

*Attribute\_Definition*:

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M\_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: Y

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: N

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: -

*Enumerated\_Domain\_Value\_Definition*:

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: BREED5

*Attribute\_Definition*:

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M\_MAMMAL, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: Y

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: N

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: -

*Enumerated\_Domain\_Value\_Definition*:

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Detailed\_Description*:

*Entity\_Type*:

*Entity\_Type\_Label*: SOURCES

*Entity\_Type\_Definition*:

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label:* SOURCE\_ID

*Attribute\_Definition:*

Source identifier that links records in the SOURCES data table to the items G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID in the ESI and HYDRO data layers.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* ORIGINATOR

*Attribute\_Definition:* Author or developer of source material or data set.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* DATE\_PUB

*Attribute\_Definition:*

Date of source material, publication, or date of personal communication with expert source.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* TITLE

*Attribute\_Definition:* Title of source material or data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* DATA\_FORMAT

*Attribute\_Definition:* The format of the source material.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* PUBLICATION

*Attribute\_Definition:* Additional citation information.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* SCALE

*Attribute\_Definition:* Description of the source scale.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:**Attribute\_Label:* TIME\_PERIOD*Attribute\_Definition:*

Date(s) of data collection that the source material is based upon.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* STATUS*Entity\_Type\_Definition:*

The data table STATUS identifies the species that are listed as 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:* Research Planning, Inc.*Attribute:**Attribute\_Label:* ELEMENT*Attribute\_Definition:* Major categories of biological data.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* BIRD*Enumerated\_Domain\_Value\_Definition:* Birds*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* FISH*Enumerated\_Domain\_Value\_Definition:* Fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* HABITAT*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* INVERT*Enumerated\_Domain\_Value\_Definition:* Invertebrates*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* M\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Marine Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* REPTILE*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* STATE

*Attribute\_Definition:* Two-letter state abbreviation.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* COUNTRY

*Attribute\_Definition:* Three-letter country abbreviation.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* S

*Attribute\_Definition:* State threatened or endangered status.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E

*Enumerated\_Domain\_Value\_Definition:* Endangered on state list

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T

*Enumerated\_Domain\_Value\_Definition:* Threatened on state list

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* C

*Enumerated\_Domain\_Value\_Definition:* Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:* F

*Attribute\_Definition:* Federal threatened or endangered status.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E

*Enumerated\_Domain\_Value\_Definition:* Endangered on federal list

*Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: T

*Enumerated\_Domain\_Value\_Definition*: Threatened on federal list

*Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: C

*Enumerated\_Domain\_Value\_Definition*: Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines

*Attribute*:

*Attribute\_Label*: I

*Attribute\_Definition*: International threatened or endangered status.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: E

*Enumerated\_Domain\_Value\_Definition*: Endangered on international list

*Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: T

*Enumerated\_Domain\_Value\_Definition*: Threatened on international list

*Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: C

*Enumerated\_Domain\_Value\_Definition*: Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines

*Attribute*:

*Attribute\_Label*: S\_DATE

*Attribute\_Definition*:

Publication date of source material used to assign state status values for each species, if used.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: YYYYMM

*Enumerated\_Domain\_Value\_Definition*: YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: F\_DATE

*Attribute\_Definition*:

Publication date of source material used to assign federal status values for each species, if used.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: YYYYMM

*Enumerated\_Domain\_Value\_Definition*: YYYY for year and optionally MM for



month

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute:*

*Attribute\_Label*: I\_DATE

*Attribute\_Definition*:

Publication date of source material used to assign international status values for each species, if used.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: YYYYMM

*Enumerated\_Domain\_Value\_Definition*: YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute:*

*Attribute\_Label*: EL\_SPE

*Attribute\_Definition*:

Concatenation of ELEMENT and SPECIES\_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: E#####

*Enumerated\_Domain\_Value\_Definition*:

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Distribution\_Information:*

*Distributor:*

*Contact\_Information:*

*Contact\_Person\_Primary*:

*Contact\_Person*: John Kaperick

*Contact\_Organization*: NOAA, Office of Response and Restoration

*Contact\_Address*:

*Address\_Type*: Physical Address

*Address*: 7600 Sand Point Way N.E.

*City*: Seattle

*State\_or\_Province*: Washington

*Postal\_Code*: 98115-6349

*Contact\_Voice\_Telephone*: (206) 526-6400

*Contact\_Facsimile\_Telephone*: (206) 526-6329

*Resource\_Description*: ESI Atlas for Northern California

*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration (NOAA), no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Access Personal Geodatabase, ARC export files, Shape files, and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

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*Metadata\_Reference\_Information:**Metadata\_Date:* 200902*Metadata\_Review\_Date:* 200902*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](mailto:Jill.Petersen@noaa.gov)*Metadata\_Standard\_Name:* Content Standards for Digital Geospatial Metadata*Metadata\_Standard\_Version:* FGDC-STD-001-1998

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# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: REPTILES (Reptile and Amphibian 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:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Publication\_Date:* 200812

##### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: REPTILES (Reptile and Amphibian Polygons)

*Edition:* Second

*Geospatial\_Data\_Presentation\_Form:* Vector digital data

##### *Series\_Information:*

*Series\_Name:* None

*Issue\_Identification:* Northern California

##### *Publication\_Information:*

*Publication\_Place:* Seattle, Washington

##### *Publisher:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington.

##### *Other\_Citation\_Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle,

Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Description:*

*Abstract:*

This data set contains sensitive biological resource data for sea turtles and estuarine frogs and turtles in Northern California. Vector polygons in this data set represent reptile and amphibian distribution. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Northern California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources.

*Purpose:*

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

*Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:* 1994

*Ending\_Date:* 2007

*Currentness\_Reference:*

The biological data were compiled during 2007. The currentness dates for the data range from 1994 to 2007 and are documented in the Lineage section.

*Status:*

*Progress:* Complete

*Maintenance\_and\_Update\_Frequency:* None Scheduled

*Spatial\_Domain:*

*Bounding\_Coordinates:*

*West\_Bounding\_Coordinate:* -124.45800

*East\_Bounding\_Coordinate:* -122.75000

*North\_Bounding\_Coordinate:* 37.97900

*South\_Bounding\_Coordinate:* 42.00000

*Keywords:*

*Theme:*

*Theme\_Keyword\_Thesaurus:* None

*Theme\_Keyword:* ESI

*Theme\_Keyword:* Sensitivity maps

*Theme\_Keyword:* Coastal resources

*Theme\_Keyword:* Oil spill planning

*Theme\_Keyword:* Coastal Zone Management

*Theme\_Keyword:* Wildlife

*Theme\_Keyword:* Reptiles

*Theme\_Keyword:* Amphibians

*Place:*

*Place\_Keyword\_Thesaurus:* None

*Place\_Keyword:* Northern California

*Access\_Constraints:* None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:* [datafig.jpg](#)

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the Northern California ESI data.

*Browse\_Graphic\_File\_Type:* JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO® (version 9.2) and SQL SERVER® (version 2000). The hardware configuration is PCs with Windows Operating System (2000/XP/2003).

The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00. Associated relational and desktop data tables provided in ARC export and text format are bio\_lut, biofile, biores, breed, breed\_dt, seasonal, soc\_dat, soc\_lut, sources, species, and status.

*Data\_Quality\_Information:*

*Attribute\_Accuracy:*

*Attribute\_Accuracy\_Report:*

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to

verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER® to ARC/INFO® consistencies. A final review is made by the GIS manager, where the data are written to CD or DVD, and the metadata are written.

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new IDs and RARNUMs or HUNUMs are also generated. The new IDs 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 RARNUMs are also modified to include the atlas number, so multiple atlases can be combined and RARNUMs remain unique. RARNUMs are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUMs are also modified to include the atlas number.

*Completeness\_Report:*

These data represent a synthesis of expert knowledge and digital data on reptile/amphibian distribution. These data do not necessarily represent all reptile and amphibian occurrences in Northern California. The following species are included in this data set: (Species\_ID, Common Name, Scientific Name [n/a if not applicable]): 5, Leatherback sea turtle, Dermochelys coriacea; 54, California red-legged frog, Rana draytonii; 62, Northwestern pond turtle, Clemmys marmorata marmorata; 154, Northern red-legged frog, Rana aurora.

*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. See the Lineage and Process\_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy," and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* BENSON, S. (NOAA)

*Publication\_Date:* 2006

*Title:*

SEA TURTLE AND MARINE MAMMAL DISTRIBUTION AND  
SEASONALITY IN CALIFORNIA

*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2006  
*Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* REPTILES INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:*  
 BENSON, S.R., K.A. FORNEY, J.T. HARVEY, J.V. CARRETTA, AND  
 P.H. DUTTON  
*Publication\_Date:* 2007  
*Title:*  
 ABUNDANCE, DISTRIBUTION, AND HABITAT OF LEATHERBACK  
 TURTLES (DERMOCHELYS CORIACEA) OFF CALIFORNIA,  
 1990-2003  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:* FISH. BULL. 105:337-347.  
*Type\_of\_Source\_Media:* ONLINE  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2007  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* REPTILES INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* CDF&G BIOGEOGRAPHIC DATA BRANCH  
*Publication\_Date:* 2007  
*Title:* CALIFORNIA NATURAL DIVERSITY DATABASE  
*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA  
*Other\_Citation\_Details:*  
<http://www.dfg.ca.gov/biogeodata/> (Contact the site webmaster if this  
 URL is no longer active.)  
*Source\_Scale\_Denominator:* VARIES  
*Type\_of\_Source\_Media:* CD-ROM  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2007  
*Source\_Currentness\_Reference:* DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* REPTILES INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* CDF&G WILDLIFE BRANCH  
*Publication\_Date:* 1994

*Title:*

AMPHIBIAN AND REPTILE SPECIES OF SPECIAL CONCERN IN  
CALIFORNIA, WESTERN POND TURTLE

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:*

<http://www.dfg.ca.gov/wildlife/species/ssc/amphibian-reptile.html>

(Contact the site webmaster if this URL is no longer active.)

*Type\_of\_Source\_Media:* ONLINE

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 1994

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* REPTILES INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* CDF&G. CALIFORNIA WILDLIFE TASK GROUP

*Publication\_Date:* 2005

*Title:*

CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS VERSION 8.1  
PERSONAL COMPUTER PROGRAM

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:* SACRAMENTO, CA

*Type\_of\_Source\_Media:* ONLINE

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* REPTILES INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* MBNMS, CDF&G OSPR, MBSF

*Publication\_Date:* 2006

*Title:*

SENSITIVITY OF COASTAL ENVIRONMENTS TO SPILLED OIL:  
CENTRAL CALIFORNIA ATLAS

*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA

*Other\_Citation\_Details:* NOAA OR&R HAZMAT, SEATTLE, WASHINGTON

*Source\_Scale\_Denominator:* VARIES

*Type\_of\_Source\_Media:* CD-ROM

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2006

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* REPTILES INFORMATION



*Process\_Step:**Process\_Description:*

Three main sources of data were used to depict reptile/amphibian distribution and seasonality for this data layer: 1) personal interviews with resource experts from the National Oceanic and Atmospheric Administration (NOAA), 2) published reports, and 3) the California Natural Diversity Database (CNDDDB) provided by the California Dept. of Fish and Game (CDF&G).

The above digital and/or hardcopy sources were compiled by the project biologist to create the REPTILES data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: 1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; 2) hardcopy maps are digitized at their source scale; and/or 3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the REPTILES data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:* 200812

*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](mailto: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:* 6588

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:* Area point

*Point\_and\_Vector\_Object\_Count:* 6587

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:* Complete chain

*Point\_and\_Vector\_Object\_Count:* 6833

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type*: Link

*Point\_and\_Vector\_Object\_Count*: 193618

*SDTS\_Terms\_Description*:

*SDTS\_Point\_and\_Vector\_Object\_Type*: Node, planar graph

*Point\_and\_Vector\_Object\_Count*: 6812

---

*Spatial\_Reference\_Information*:

*Horizontal\_Coordinate\_System\_Definition*:

*Geographic*:

*Latitude\_Resolution*: 0.0000001

*Longitude\_Resolution*: 0.0000001

*Geographic\_Coordinate\_Units*: Decimal degrees

*Geodetic\_Model*:

*Horizontal\_Datum\_Name*: North American Datum of 1927

*Ellipsoid\_Name*: Clark 1866

*Semi-major\_Axis*: 6378206.400000

*Denominator\_of\_Flattening\_Ratio*: 294.978698

---

*Entity\_and\_Attribute\_Information*:

*Overview\_Description*:

*Entity\_and\_Attribute\_Overview*:

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, REPTILES) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO\_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Northern California atlas, the number is 207), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN\_SPEC, S, F, NHP, DATE\_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G\_SOURCE, S\_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED\_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed\_Description of the BREED data table. The link to the BIOFILE may be made through the BIO\_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned,

BREED\_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED\_DT is the BREED item.

A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G\_SOURCE and S\_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* REPTILES.PAT

*Entity\_Type\_Definition:*

The REPTILES.PAT table contains attribute information for the vector polygons in this data set representing reptile and amphibian distribution. Note that all attribute information is stored in a series of relational files, described below. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (207), 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:* 2070600114

*Range\_Domain\_Maximum:* 2070706503

*Attribute:*

*Attribute\_Label:* RARNUM

*Attribute\_Definition:*

An identifier that links directly to the BIORES table or the flat format BIOFILE table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:* NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 207001097

*Range\_Domain\_Maximum:* 207001104

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* BIO\_LUT

*Entity\_Type\_Definition:*

The data table BIO\_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes

the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: RARNUM

*Attribute\_Definition*:

An identifier that links records in the BIO\_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source*: NOAA

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 207000001

*Range\_Domain\_Maximum*: 207001115

*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 (207), 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*: 2070100002

*Range\_Domain\_Maximum*: 2072200500

*Detailed\_Description*:

*Entity\_Type*:

*Entity\_Type\_Label*: BIORES

*Entity\_Type\_Definition*:

The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO\_LUT data table to other associated data tables. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: RARNUM

*Attribute\_Definition*:

An identifier that links records in the BIORES data table to records in the BIO\_LUT data table or the flat format BIOFILE data table.

*Attribute\_Definition\_Source*: NOAA

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 207000001

*Range\_Domain\_Maximum*: 207001115

*Attribute*:

*Attribute\_Label*: SPECIES\_ID

*Attribute\_Definition*:

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* CONC*Attribute\_Definition:*

The field CONC refers to "concentration," abundance, or density values of a species at a particular location. No quantitative count data were available, so the field may contain descriptive terms such as "HIGH" or "VERY LOW". If no concentration information was available from any source, the CONC field is populated with "-".

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* SEASON\_ID*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* G\_SOURCE*Attribute\_Definition:*

Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* S\_SOURCE*Attribute\_Definition:*

Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* ELEMENT*Attribute\_Definition:* Major categories of biological data.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* BIRD*Enumerated\_Domain\_Value\_Definition:* Birds*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* FISH*Enumerated\_Domain\_Value\_Definition:* Fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* HABITAT*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* INVERT*Enumerated\_Domain\_Value\_Definition:* Invertebrates*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* M\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Marine Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* REPTILE*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* T\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* EL\_SPE*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* E#####*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* EL\_SPE\_SEA*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* SPECIES

*Entity\_Type\_Definition:*

The data table SPECIES identifies all species in the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness\_Report for a list of layer-specific species.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* NAME

*Attribute\_Definition:* Species common name for the entire ESI data set.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* GEN\_SPEC

*Attribute\_Definition:* Species scientific name for the entire ESI data set.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* ELEMENT

*Attribute\_Definition:* Major categories of biological data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* BIRD

*Enumerated\_Domain\_Value\_Definition:* Birds

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* FISH

*Enumerated\_Domain\_Value\_Definition:* Fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* HABITAT*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* INVERT*Enumerated\_Domain\_Value\_Definition:* Invertebrates*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* M\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Marine Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* REPTILE*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* T\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* SUBELEMENT*Attribute\_Definition:* Element subgroup delineating a logical grouping of species.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* alcid*Enumerated\_Domain\_Value\_Definition:* Alcid*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* amphibian*Enumerated\_Domain\_Value\_Definition:* Amphibian*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* bivalve*Enumerated\_Domain\_Value\_Definition:* Bivalve*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* cephalopod*Enumerated\_Domain\_Value\_Definition:* Cephalopod*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* crab



*Enumerated\_Domain\_Value\_Definition:* Crab

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* diadromous

*Enumerated\_Domain\_Value\_Definition:* Diadromous fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* diving

*Enumerated\_Domain\_Value\_Definition:* Diving bird

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* dolphin

*Enumerated\_Domain\_Value\_Definition:* Dolphin

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* echinoderm

*Enumerated\_Domain\_Value\_Definition:* Echinoderm

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* e\_nursery

*Enumerated\_Domain\_Value\_Definition:* Estuarine nursery fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* e\_resident

*Enumerated\_Domain\_Value\_Definition:* Estuarine resident

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* freshwater

*Enumerated\_Domain\_Value\_Definition:* Freshwater fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* gastropod

*Enumerated\_Domain\_Value\_Definition:* Gastropod

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* gull\_tern

*Enumerated\_Domain\_Value\_Definition:* Gull or tern

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* insect

*Enumerated\_Domain\_Value\_Definition:* Insect

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* kelp

*Enumerated\_Domain\_Value\_Definition:* Kelp

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* m\_benthic

*Enumerated\_Domain\_Value\_Definition:* Marine benthic fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* m\_pelagic

*Enumerated\_Domain\_Value\_Definition:* Marine pelagic fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* passerine

*Enumerated\_Domain\_Value\_Definition:* Passerine bird

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* pelagic

*Enumerated\_Domain\_Value\_Definition:* Pelagic bird

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* pinniped

*Enumerated\_Domain\_Value\_Definition:* Pinniped

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* plant

*Enumerated\_Domain\_Value\_Definition:* Plant

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* raptor

*Enumerated\_Domain\_Value\_Definition:* Raptor

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sav

*Enumerated\_Domain\_Value\_Definition:* Submerged aquatic vegetation

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sea otter

*Enumerated\_Domain\_Value\_Definition:* Sea otter

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* shorebird

*Enumerated\_Domain\_Value\_Definition:* Shorebird

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* shrimp

*Enumerated\_Domain\_Value\_Definition:* Shrimps

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sm\_mammal

*Enumerated\_Domain\_Value\_Definition:* Small mammal

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* turtle

*Enumerated\_Domain\_Value\_Definition:* Turtle

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* ungulate

*Enumerated\_Domain\_Value\_Definition:* Ungulate

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* wading

*Enumerated\_Domain\_Value\_Definition:* Wading bird

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* waterfowl

*Enumerated\_Domain\_Value\_Definition:* Waterfowl

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* whale

*Enumerated\_Domain\_Value\_Definition:* Whale

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* NHP

*Attribute\_Definition:* Natural Heritage Program global ranking.

*Attribute\_Definition\_Source:* Network of Natural Heritage Program

*Attribute\_Domain\_Values:*

*Codeset\_Domain:*

*Codeset\_Name:* NHP Global Conservation Status Rank

*Codeset\_Source:* Natural Heritage Program

*Attribute:*

*Attribute\_Label:* DATE\_PUB

*Attribute\_Definition:* Date of NHP listing.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 0

*Enumerated\_Domain\_Value\_Definition:* Date unspecified

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* SEASONAL

*Entity\_Type\_Definition:*

The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* ELEMENT

*Attribute\_Definition:* Major categories of biological data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* BIRD

*Enumerated\_Domain\_Value\_Definition:* Birds

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* FISH

*Enumerated\_Domain\_Value\_Definition:* Fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* HABITAT

*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* INVERT*Enumerated\_Domain\_Value\_Definition:* Invertebrates*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* M\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Marine Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* REPTILE*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* T\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* SPECIES\_ID*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* SEASON\_ID*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* JAN*Attribute\_Definition:* January*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* X*Enumerated\_Domain\_Value\_Definition:* Present in January*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* FEB*Attribute\_Definition:* February*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in February

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* MAR

*Attribute\_Definition:* March

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in March

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* APR

*Attribute\_Definition:* April

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in April

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* MAY

*Attribute\_Definition:* May

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in May

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* JUN

*Attribute\_Definition:* June

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in June

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* JUL

*Attribute\_Definition:* July

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in July

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* AUG

*Attribute\_Definition:* August

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in August

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* SEP

*Attribute\_Definition:* September

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in September

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* OCT

*Attribute\_Definition:* October

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in October

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* NOV

*Attribute\_Definition:* November

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in November

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* DEC

*Attribute\_Definition:* December

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in December

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the SEASONAL data table to records in the BIORIS and BREED data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Detailed\_Description:**Entity\_Type:*

*Entity\_Type\_Label:* BREED

*Entity\_Type\_Definition:*

The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* MONTH

*Attribute\_Definition:*

Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:**Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* 12

*Attribute:*

*Attribute\_Label:* BREED1

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M\_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* Y

*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.



*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* BREED2*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M\_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* BREED3*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = internesting; if ELEMENT is "M\_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* BREED4*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M\_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* BREED5*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M\_MAMMAL, HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* SOURCES*Entity\_Type\_Definition:*

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* SOURCE\_ID*Attribute\_Definition:*

Source identifier that links records in the SOURCES data table to the items G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID in the ESI and HYDRO data layers.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* ORIGINATOR*Attribute\_Definition:* Author or developer of source material or data set.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* DATE\_PUB*Attribute\_Definition:*

Date of source material, publication, or date of personal communication with expert source.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* YYYYMM*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* TITLE*Attribute\_Definition:* Title of source material or data.*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* DATA\_FORMAT

*Attribute\_Definition:* The format of the source material.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* PUBLICATION

*Attribute\_Definition:* Additional citation information.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* SCALE

*Attribute\_Definition:* Description of the source scale.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* TIME\_PERIOD

*Attribute\_Definition:*

Date(s) of data collection that the source material is based upon.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* STATUS

*Entity\_Type\_Definition:*

The data table STATUS identifies the species that are listed as 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:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* ELEMENT

*Attribute\_Definition:* Major categories of biological data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* BIRD

*Enumerated\_Domain\_Value\_Definition:* Birds

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* FISH

*Enumerated\_Domain\_Value\_Definition:* Fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* HABITAT

*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* INVERT

*Enumerated\_Domain\_Value\_Definition:* Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* REPTILE

*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* STATE

*Attribute\_Definition:* Two-letter state abbreviation.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* COUNTRY

*Attribute\_Definition:* Three-letter country abbreviation.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* S

*Attribute\_Definition:* State threatened or endangered status.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E

*Enumerated\_Domain\_Value\_Definition:* Endangered on state list

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T

*Enumerated\_Domain\_Value\_Definition:* Threatened on state list

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* C

*Enumerated\_Domain\_Value\_Definition:* Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:* F

*Attribute\_Definition:* Federal threatened or endangered status.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E

*Enumerated\_Domain\_Value\_Definition:* Endangered on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T

*Enumerated\_Domain\_Value\_Definition:* Threatened on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* C

*Enumerated\_Domain\_Value\_Definition:* Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:* I

*Attribute\_Definition:* International threatened or endangered status.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E

*Enumerated\_Domain\_Value\_Definition:* Endangered on international list

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T

*Enumerated\_Domain\_Value\_Definition:* Threatened on international list

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* C

*Enumerated\_Domain\_Value\_Definition:* Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:* S\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign state status values for each species, if used.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* F\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign federal status values for each species, if used.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* I\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign international status values for each species, if used.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

---

*Distribution\_Information:*

*Distributor:*

*Contact\_Information:**Contact\_Person\_Primary:**Contact\_Person:* John Kaperick*Contact\_Organization:* NOAA, Office of Response and Restoration*Contact\_Address:**Address\_Type:* Physical Address*Address:* 7600 Sand Point Way N.E.*City:* Seattle*State\_or\_Province:* Washington*Postal\_Code:* 98115-6349*Contact\_Voice\_Telephone:* (206) 526-6400*Contact\_Facsimile\_Telephone:* (206) 526-6329*Resource\_Description:* ESI Atlas for Northern California*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration (NOAA), no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Access Personal Geodatabase, ARC export files, Shape files, and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

*Metadata\_Reference\_Information:**Metadata\_Date:* 200902*Metadata\_Review\_Date:* 200902*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](mailto:Jill.Petersen@noaa.gov)*Metadata\_Standard\_Name:* Content Standards for Digital Geospatial Metadata*Metadata\_Standard\_Version:* FGDC-STD-001-1998



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# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: M\_MAMMAL (Marine Mammal 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](#)

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### *Identification\_Information:*

#### *Citation:*

##### *Citation\_Information:*

##### *Originator:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Publication\_Date:* 200812

##### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: M\_MAMMAL (Marine Mammal Polygons)

*Edition:* Second

*Geospatial\_Data\_Presentation\_Form:* Vector digital data

##### *Series\_Information:*

*Series\_Name:* None

*Issue\_Identification:* Northern California

##### *Publication\_Information:*

*Publication\_Place:* Seattle, Washington

##### *Publisher:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington.

##### *Other\_Citation\_Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous

Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Description:*

*Abstract:*

This data set contains sensitive biological resource data for seals, whales, dolphins, porpoises, sea otters, and sea lions in Northern California. Vector polygons in this data set represent marine mammal distribution, haul-out sites, and rookeries. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Northern California. 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:* 1998

*Ending\_Date:* 2007

*Currentness\_Reference:*

The biological data were compiled during 2007. The currentness dates for the data range from 1998 to 2007 and are documented in the Lineage section.

*Status:*

*Progress:* Complete

*Maintenance\_and\_Update\_Frequency:* None Scheduled

*Spatial\_Domain:*

*Bounding\_Coordinates:*

*West\_Bounding\_Coordinate:* -124.45800

*East\_Bounding\_Coordinate:* -122.75000

*North\_Bounding\_Coordinate:* 37.97900

*South\_Bounding\_Coordinate:* 42.00000

*Keywords:*

*Theme:*

*Theme\_Keyword\_Thesaurus:* None

*Theme\_Keyword:* ESI

*Theme\_Keyword:* Sensitivity maps

*Theme\_Keyword:* Coastal resources

*Theme\_Keyword:* Oil spill planning

*Theme\_Keyword:* Coastal Zone Management

*Theme\_Keyword:* Wildlife

*Theme\_Keyword:* Marine Mammal

*Place:*

*Place\_Keyword\_Thesaurus:* None

*Place\_Keyword:* Northern California

*Access\_Constraints:* None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:* [datafig.jpg](#)

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the Northern California ESI data.

*Browse\_Graphic\_File\_Type:* JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO® (version 9.2) and SQL SERVER® (version 2000). The hardware configuration is PCs with Windows Operating System (2000/XP/2003).

The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00. Associated relational and desktop data tables provided in ARC export and text format are bio\_lut, biofile, biores, breed, breed\_dt, seasonal, soc\_dat, soc\_lut, sources, species, and status.

*Data\_Quality\_Information:*

*Attribute\_Accuracy:*

*Attribute\_Accuracy\_Report:*

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to

verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER® to ARC/INFO® consistencies. A final review is made by the GIS manager, where the data are written to CD or DVD, and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new IDs and RARNUMs or HUNUMs are also generated. The new IDs 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 RARNUMs are also modified to include the atlas number, so multiple atlases can be combined and RARNUMs remain unique. RARNUMs are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUMs are also modified to include the atlas number.

#### *Completeness\_Report:*

These data represent a synthesis of expert knowledge, available hardcopy documents, survey data, maps, and digital data on marine mammal distribution, haul-out sites, and rookeries. These data do not necessarily represent all marine mammal occurrences in Northern California. The following species are included in this data set: (Species\_ID, Common Name, Scientific Name [n/a if not applicable]): 1, Steller sea lion, *Eumetopias jubatus*; 2, Harbor seal, *Phoca vitulina*; 4, Killer whale, *Orcinus orca*; 6, Harbor porpoise, *Phocoena phocoena*; 7, Sea otter, *Enhydra lutris*; 11, Fin whale, *Balaenoptera physalus*; 12, Minke whale, *Balaenoptera acutorostrata*; 13, Humpback whale, *Megaptera novaeangliae*; 17, Bottlenose dolphin, *Tursiops truncatus*; 19, Short-finned pilot whale, *Globicephala macrorhynchus*; 22, California sea lion, *Zalophus californianus*; 24, Northern elephant seal, *Mirounga angustirostris*; 26, Gray whale, *Eschrichtius robustus*; 29, Blue whale, *Balaenoptera musculus*; 45, Pacific white-sided dolphin, *Lagenorhynchus obliquidens*; 46, Risso's dolphin, *Grampus griseus*; 47, Dall's porpoise, *Phocoenoides dalli dalli*; 60, Short-beaked saddleback dolphin, *Delphinus delphis*; 106, Long-beaked saddleback dolphin, *Delphinus capensis*; 107, North Pacific right whale, *Eubalaena japonica*; 1002, Seals, n/a; 1003, Pinnipeds, n/a; 1004, Sea lions, 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. See the Lineage and Process\_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy," and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

#### *Lineage:*

##### *Source\_Information:*

##### *Source\_Citation:*

##### *Citation\_Information:*

*Originator:* ALLEN, S. (NPS, POINT REYES)

*Publication\_Date:* 2005

*Title:*

DISTRIBUTION AND SEASONALITY OF SPECIES AND SOC\_ECON  
FEATURES ON NPS LANDS

*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* ANDERSON, D. (NPS, ORICK)

*Publication\_Date:* 2007

*Title:* REDWOOD NATIONAL PARK 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:* 2007

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* BENSON, S. (NOAA)

*Publication\_Date:* 2006

*Title:*

SEA TURTLE AND MARINE MAMMAL DISTRIBUTION AND  
SEASONALITY IN CALIFORNIA

*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2006

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* BROWN, J.

*Publication\_Date:* 2005

*Title:*

HUMPBACK WHALE (EASTERN NORTH PACIFIC STOCK)  
MEGAPTERA NOVAEANGLIAE

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* DISC

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* BROWN, J.

*Publication\_Date:* 2005

*Title:*

GRAY WHALE (EASTERN NORTHERN PACIFIC STOCK)  
ESCHRICHTIUS ROBUSTUS

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* DISC

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* BROWN, J.

*Publication\_Date:* 2005

*Title:* BLUE WHALE (EASTERN NORTH PACIFIC STOCK)

BALAENOPTERA MUSCULUS

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* DISC

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*

CALIFORNIA STATE PARKS (CSP) NORTH COAST REDWOODS  
DISTRICT (NCRD)

*Publication\_Date:* 2005

*Title:*

MAPS OF SPECIAL STATUS SPECIES, REC ACTIVITIES, AND MGT  
ISSUES AT CSP NCRD STATE PARKS

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY MAP

*Other\_Citation\_Details:* CSP NORTH COAST REDWOOD DISTRICT

*Source\_Scale\_Denominator:* 10,000-20,000

*Type\_of\_Source\_Media:* PAPER

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* CARETTA, FORNEY, MUTO, ET AL

*Publication\_Date:* 2005

*Title:* U.S. PACIFIC MARINE MAMMAL STOCK ASSESSMENTS: 2005

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:* U.S. DOC, NOAA, NMFS, NOAA-TM-  
NMFS-SWFSC-375, 323 PP.

*Type\_of\_Source\_Media:* ONLINE

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* CARRETTA, J.V., B.J. TAYLOR, AND S.J. CHIVERS

*Publication\_Date:* 2000

*Title:*

ABUNDANCE AND DEPTH DISTRIBUTION OF HARBOR PORPOISE  
IN NORTHERN CALIFORNIA DETERMINED FROM A 1995 SHIP  
SURVEY

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:* FISH. BULL. 99:29-39

*Type\_of\_Source\_Media:* ONLINE

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2000

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE



*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* CALIFORNIA DEPT. OF FISH & GAME (CDF&G) STAFF

*Publication\_Date:* 2007

*Title:* MARINE SPORTFISH AND OTHER MARINE 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:* 2007

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* CDF&G, USCG

*Publication\_Date:* 2005

*Title:*

SAN FRANCISCO GEOGRAPHIC RESPONSE AREA 1 SONOMA AND  
NORTH MARIN COAST

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:* ACP 2 SF BAY & DELTA - GRA 1

*Type\_of\_Source\_Media:* DISC

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* FORNEY, K. (NMFS, MOSS LANDING)

*Publication\_Date:* 2006

*Title:*

MARINE MAMMAL DISTRIBUTION AND SEASONALITY IN  
NORTHERN CALIFORNIA

*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2006

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* HARRIS, JAY (CSP, EUREKA)

*Publication\_Date:* 2007

*Title:* CALIFORNIA STATE PARK 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:* 2007

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* LEVALLEY, R. (MAD RIVER BIOLOGISTS, ARCATA)

*Publication\_Date:* 2007

*Title:*

COASTAL RESOURCE DISTRIBUTION AND SEASONALITY IN  
NORTHERN CALIFORNIA

*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:* 2007

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* LOWRY, M. (NMFS, LA JOLLA)

*Publication\_Date:* 2007

*Title:*

PACIFIC HARBOR SEAL, CALIFORNIA SEA LION, AND STELLER  
SEA LION HAUL OUT SITES IN NORTHERN CALIFORNIA

*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:* 1998

*Ending\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF SURVEY

*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* M\_MAMMAL INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* LOWRY, M. (NMFS, LA JOLLA)  
*Publication\_Date:* 2006  
*Title:* SEASONALITY FOR PINNIPEDS IN NORTHERN CALIFORNIA  
*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE  
*Other\_Citation\_Details:* UNPUBLISHED  
*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2006  
*Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* M\_MAMMAL INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* LOWRY, M. (NMFS, LA JOLLA)  
*Publication\_Date:* 2005  
*Title:*  
 CALIFORNIA AND STELLER SEA LION AND HARBOR SEAL  
 HAUL-OUT LOCATIONS  
*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:* 1998  
*Ending\_Date:* 2004  
*Source\_Currentness\_Reference:* DATE OF SURVEY  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* M\_MAMMAL INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* MELLO, J. (CDF&G, EUREKA)  
*Publication\_Date:* 2007  
*Title:*  
 MARINE RESOURCE DISTRIBUTION AND SEASONALITY IN  
 NORTHERN CALIFORNIA  
*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:* 2007

*Source\_Currentness\_Reference*: DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation*: NONE  
*Source\_Contribution*: M\_MAMMAL INFORMATION  
*Source\_Information*:  
*Source\_Citation*:  
*Citation\_Information*:  
*Originator*: NATIONAL MARINE FISHERIES SERVICE (NMFS)  
*Publication\_Date*: 2003  
*Title*:  
MINKE WHALE (BALAENOPTERA ACUTOROSTRATA)  
CALIFORNIA/OREGON/WASHINGTON STOCK  
*Geospatial\_Data\_Presentation\_Form*: HARDCOPY TEXT  
*Other\_Citation\_Details*:  
<http://www.nmfs.noaa.gov/pr/sars/species.htm#largewhales> (Contact the site webmaster if this URL is no longer active.)  
*Type\_of\_Source\_Media*: ONLINE  
*Source\_Time\_Period\_of\_Content*:  
*Time\_Period\_Information*:  
*Single\_Date/Time*:  
*Calendar\_Date*: 2003  
*Source\_Currentness\_Reference*: DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation*: NONE  
*Source\_Contribution*: M\_MAMMAL INFORMATION  
*Source\_Information*:  
*Source\_Citation*:  
*Citation\_Information*:  
*Originator*: NATIONAL MARINE FISHERIES SERVICE (NMFS)  
*Publication\_Date*: 2005  
*Title*: SHORT-FINNED PILOT WHALE (GLOBICEPHALA MACRORHYNCHUS)  
*Geospatial\_Data\_Presentation\_Form*: HARDCOPY TEXT  
*Other\_Citation\_Details*:  
<http://www.nmfs.noaa.gov/pr/sars/species.htm#largewhales> (Contact the site webmaster if this URL is no longer active.)  
*Type\_of\_Source\_Media*: PAPER  
*Source\_Time\_Period\_of\_Content*:  
*Time\_Period\_Information*:  
*Single\_Date/Time*:  
*Calendar\_Date*: 2005  
*Source\_Currentness\_Reference*: DATE OF PUBLICATION  
*Source\_Citation\_Abbreviation*: NONE  
*Source\_Contribution*: M\_MAMMAL INFORMATION  
*Source\_Information*:  
*Source\_Citation*:  
*Citation\_Information*:  
*Originator*: NATIONAL MARINE FISHERIES SERVICE (NMFS)  
*Publication\_Date*: 2005  
*Title*:  
HUMPBACK WHALE (MEGAPTERA NOVAEANGLIAE): EASTERN NORTH PACIFIC STOCK  
*Geospatial\_Data\_Presentation\_Form*: HARDCOPY TEXT  
*Other\_Citation\_Details*:

<http://www.nmfs.noaa.gov/pr/sars/species.htm#largewhales> (Contact the site webmaster if this URL is no longer active.)

*Type\_of\_Source\_Media:* ONLINE

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* NATIONAL MARINE FISHERIES SERVICE (NMFS)

*Publication\_Date:* 2005

*Title:* BLUE WHALE (BALAENOPTERA MUSCULUS): EASTERN NORTH PACIFIC STOCK

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:*

<http://www.nmfs.noaa.gov/pr/sars/species.htm#largewhales> (Contact the site webmaster if this URL is no longer active.)

*Type\_of\_Source\_Media:* ONLINE

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* NATIONAL MARINE FISHERIES SERVICE (NMFS)

*Publication\_Date:* 2003

*Title:*

KILLER WHALE (ORCINUS ORCA): EASTERN NORTH PACIFIC OFFSHORE STOCK

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:*

<http://www.nmfs.noaa.gov/pr/sars/species.htm> (Contact the site webmaster if this URL is no longer active.)

*Type\_of\_Source\_Media:* ONLINE

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2003

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* NATIONAL MARINE FISHERIES SERVICE (NMFS)

*Publication\_Date:* 2003

*Title:*

PACIFIC WHITE-SIDED DOLPHIN (LAGENORYNCHUS  
OBLIQUIDENS): CALIFORNIA/OREGON/WASHINGTON,  
NORTHERN AND SOUTHERN STOCKS

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:*

<http://www.nmfs.noaa.gov/pr/sars/species.htm#largewhales> (Contact the  
site webmaster if this URL is no longer active.)

*Type\_of\_Source\_Media:* ONLINE

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2003

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* NATIONAL OCEANIC AND ATMOSPHERIC  
ADMINISTRATION (NOAA)

*Publication\_Date:* 2003

*Title:*

RISSE'S DOLPHIN (GRAMPUS GRISEUS): CALIFORNIA/OREGON  
/WASHINGTON STOCK

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:*

<http://www.nmfs.noaa.gov/pr/sars/species.htm#largewhales> (Contact the  
site webmaster if this URL is no longer active.)

*Type\_of\_Source\_Media:* ONLINE

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2003

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* NPS

*Publication\_Date:* 2007

*Title:* REDWOOD NATIONAL PARK 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:* 2007

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* M\_MAMMAL INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* ROBERTS, E. (CDF&G, EUREKA)  
*Publication\_Date:* 2007  
*Title:* MARINE RESOURCE DISTRIBUTION AND SEASONALITY  
*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE  
*Other\_Citation\_Details:* UNPUBLISHED  
*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2007  
*Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* M\_MAMMAL INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* TINKER, T (UCSC, LONG MARINE LAB)  
*Publication\_Date:* 2005  
*Title:* SEA OTTER SPRING CENSUSES (2003, 2004, AND 2005)  
*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA  
*Other\_Citation\_Details:* UNPUBLISHED  
*Type\_of\_Source\_Media:* EMAIL  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Range\_of\_Dates/Times:*  
*Beginning\_Date:* 2003  
*Ending\_Date:* 2005  
*Source\_Currentness\_Reference:* DATE OF SURVEY  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* M\_MAMMAL INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* U.S. COAST GUARD (USCG) SECTOR SAN FRANCISCO  
*Publication\_Date:* 2005  
*Title:*  
 2005 SECTOR SAN FRANCISCO-ACP 1 NORTH COAST: DEL NORTE  
 COUNTY SECTION 9811  
*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT  
*Other\_Citation\_Details:* USCG SECTOR SAN FRANCISCO, OCTOBER 1,  
 2005  
*Source\_Scale\_Denominator:* VARIES  
*Type\_of\_Source\_Media:* ONLINE  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* USGS, NOAA, MLML

*Publication\_Date:* 2006

*Title:* MARINE MAMMAL, SEABIRD, AND SEA TURTLE 'ZONES' AND HOT SPOTS

*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2006

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* M\_MAMMAL INFORMATION

*Process\_Step:*

*Process\_Description:*

Three main sources of data were used to depict marine mammal distribution and seasonality for this data layer: 1) personal interviews with resource experts from National Park Service (NPS), California Department of Fish & Game (CDF&G), NOAA National Marine Fisheries Service (NMFS), and Mad River Biologists; 2) numerous published reports and maps; and 3) survey data for seal and sea lion haul outs provided by NMFS.

The above digital and/or hardcopy sources were compiled by the project biologist to create the M\_MAMMAL data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: 1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; 2) hardcopy maps are digitized at their source scale; and/or 3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the M\_MAMMAL data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:* 200812

*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](mailto: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:* 6811

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:* Area point

*Point\_and\_Vector\_Object\_Count:* 6810

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:* Complete chain

*Point\_and\_Vector\_Object\_Count:* 7311

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:* Link

*Point\_and\_Vector\_Object\_Count:* 263191

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:* Node, planar graph

*Point\_and\_Vector\_Object\_Count:* 7113

*Spatial\_Reference\_Information:*

*Horizontal\_Coordinate\_System\_Definition:*

*Geographic:*

*Latitude\_Resolution:* 0.0000001

*Longitude\_Resolution:* 0.0000001

*Geographic\_Coordinate\_Units:* Decimal degrees

*Geodetic\_Model:*

*Horizontal\_Datum\_Name:* North American Datum of 1927

*Ellipsoid\_Name:* Clark 1866

*Semi-major\_Axis:* 6378206.400000

*Denominator\_of\_Flattening\_Ratio:* 294.978698

*Entity\_and\_Attribute\_Information:*

*Overview\_Description:*

*Entity\_and\_Attribute\_Overview:*

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, M\_MAMMAL) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO\_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Northern California atlas, the number is 207), an element/layer specific number (BIRDS are layer 1,

FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN\_SPEC, S, F, NHP, DATE\_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G\_SOURCE, S\_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED\_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed\_Description of the BREED data table. The link to the BIOFILE may be made through the BIO\_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED\_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED\_DT is the BREED item.

A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G\_SOURCE and S\_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

#### *Detailed\_Description:*

##### *Entity\_Type:*

*Entity\_Type\_Label:* M\_MAMMAL.PAT

##### *Entity\_Type\_Definition:*

The M\_MAMMAL.PAT table contains attribute information for the vector polygons in this data set representing marine mammal distribution, haul-out sites, and rookeries. Note that all attribute information is stored in a series of relational files, described below. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

##### *Attribute:*

*Attribute\_Label:* ID

##### *Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (207), element number (4), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:* NOAA

*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 2070400002*Range\_Domain\_Maximum:* 2070406812*Attribute:**Attribute\_Label:* RARNUM*Attribute\_Definition:*

An identifier that links directly to the BIORES table or the flat format BIOFILE table.

RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:* NOAA*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 207000835*Range\_Domain\_Maximum:* 207041096*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* BIO\_LUT*Entity\_Type\_Definition:*

The data table BIO\_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* RARNUM*Attribute\_Definition:*

An identifier that links records in the BIO\_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:* NOAA*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 207000001*Range\_Domain\_Maximum:* 207001115*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 (207), element number (4), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:* NOAA*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 2070100002*Range\_Domain\_Maximum:* 2072200500*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* BIORES*Entity\_Type\_Definition:*

The data table BIORES contains both biological attribute data and items necessary for

linking vector objects in the biological data layers via the BIO\_LUT data table to other associated data tables. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: RARNUM

*Attribute\_Definition*:

An identifier that links records in the BIORES data table to records in the BIO\_LUT data table or the flat format BIOFILE data table.

*Attribute\_Definition\_Source*: NOAA

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 207000001

*Range\_Domain\_Maximum*: 207001115

*Attribute*:

*Attribute\_Label*: SPECIES\_ID

*Attribute\_Definition*:

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: CONC

*Attribute\_Definition*:

The field CONC refers to "concentration," abundance, or density values. The field may contain counts of individual marine mammals (XX INDIV) or a range of peak counts of individuals (XX-XX INDIV). If no quantitative count data were available, the field may contain descriptive terms such as "HIGH" or "RARE". If no concentration information was available from any source, the CONC field is populated with "-". Counts were derived from a variety of surveys, and may range in date.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: SEASON\_ID

*Attribute\_Definition*:

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: G\_SOURCE

*Attribute\_Definition*:

Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: S\_SOURCE

*Attribute\_Definition*:

Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: ELEMENT

*Attribute\_Definition*: Major categories of biological data.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: BIRD

*Enumerated\_Domain\_Value\_Definition*: Birds

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: FISH

*Enumerated\_Domain\_Value\_Definition*: Fish

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: HABITAT

*Enumerated\_Domain\_Value\_Definition*: Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: INVERT

*Enumerated\_Domain\_Value\_Definition*: Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition*: Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: REPTILE

*Enumerated\_Domain\_Value\_Definition*: Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* SPECIES

*Entity\_Type\_Definition:*

The data table SPECIES identifies all species in the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness Report for a list of layer-specific species.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* NAME

*Attribute\_Definition:* Species common name for the entire ESI data set.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* GEN\_SPEC

*Attribute\_Definition:* Species scientific name for the entire ESI data set.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* ELEMENT

*Attribute\_Definition:* Major categories of biological data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* BIRD

*Enumerated\_Domain\_Value\_Definition:* Birds

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* FISH

*Enumerated\_Domain\_Value\_Definition:* Fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* HABITAT

*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* INVERT

*Enumerated\_Domain\_Value\_Definition:* Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* REPTILE

*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* SUBELEMENT

*Attribute\_Definition:* Element subgroup delineating a logical grouping of species.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: alcid

*Enumerated\_Domain\_Value\_Definition*: Alcid

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: amphibian

*Enumerated\_Domain\_Value\_Definition*: Amphibian

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: bivalve

*Enumerated\_Domain\_Value\_Definition*: Bivalve

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: cephalopod

*Enumerated\_Domain\_Value\_Definition*: Cephalopod

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: crab

*Enumerated\_Domain\_Value\_Definition*: Crab

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: diadromous

*Enumerated\_Domain\_Value\_Definition*: Diadromous fish

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: diving

*Enumerated\_Domain\_Value\_Definition*: Diving bird

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: dolphin

*Enumerated\_Domain\_Value\_Definition*: Dolphin

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: echinoderm

*Enumerated\_Domain\_Value\_Definition*: Echinoderm

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: e\_nursery

*Enumerated\_Domain\_Value\_Definition*: Estuarine nursery fish

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:



*Enumerated\_Domain:**Enumerated\_Domain\_Value:* e\_resident*Enumerated\_Domain\_Value\_Definition:* Estuarine resident*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* freshwater*Enumerated\_Domain\_Value\_Definition:* Freshwater fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* gastropod*Enumerated\_Domain\_Value\_Definition:* Gastropod*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* gull\_tern*Enumerated\_Domain\_Value\_Definition:* Gull or tern*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* insect*Enumerated\_Domain\_Value\_Definition:* Insect*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* kelp*Enumerated\_Domain\_Value\_Definition:* Kelp*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* m\_benthic*Enumerated\_Domain\_Value\_Definition:* Marine benthic fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* m\_pelagic*Enumerated\_Domain\_Value\_Definition:* Marine pelagic fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* passerine*Enumerated\_Domain\_Value\_Definition:* Passerine bird*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* pelagic*Enumerated\_Domain\_Value\_Definition:* Pelagic bird*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* pinniped

*Enumerated\_Domain\_Value\_Definition:* Pinniped

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* plant

*Enumerated\_Domain\_Value\_Definition:* Plant

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* raptor

*Enumerated\_Domain\_Value\_Definition:* Raptor

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sav

*Enumerated\_Domain\_Value\_Definition:* Submerged aquatic vegetation

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sea otter

*Enumerated\_Domain\_Value\_Definition:* Sea otter

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* shorebird

*Enumerated\_Domain\_Value\_Definition:* Shorebird

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* shrimp

*Enumerated\_Domain\_Value\_Definition:* Shrimps

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sm\_mammal

*Enumerated\_Domain\_Value\_Definition:* Small mammal

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* turtle

*Enumerated\_Domain\_Value\_Definition:* Turtle

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* ungulate

*Enumerated\_Domain\_Value\_Definition:* Ungulate

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* wading

*Enumerated\_Domain\_Value\_Definition:* Wading bird

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* waterfowl*Enumerated\_Domain\_Value\_Definition:* Waterfowl*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* whale*Enumerated\_Domain\_Value\_Definition:* Whale*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* NHP*Attribute\_Definition:* Natural Heritage Program global ranking.*Attribute\_Definition\_Source:* Network of Natural Heritage Program*Attribute\_Domain\_Values:**Codeset\_Domain:**Codeset\_Name:* NHP Global Conservation Status Rank*Codeset\_Source:* Natural Heritage Program*Attribute:**Attribute\_Label:* DATE\_PUB*Attribute\_Definition:* Date of NHP listing.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* YYYYMM*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* 0*Enumerated\_Domain\_Value\_Definition:* Date unspecified*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* EL\_SPE*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* E#####*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* SEASONAL*Entity\_Type\_Definition:*

The data table SEASONAL contains information on the seasonal presence of each

species associated with each spatial vector object. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: ELEMENT

*Attribute\_Definition*: Major categories of biological data.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: BIRD

*Enumerated\_Domain\_Value\_Definition*: Birds

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: FISH

*Enumerated\_Domain\_Value\_Definition*: Fish

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: HABITAT

*Enumerated\_Domain\_Value\_Definition*: Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: INVERT

*Enumerated\_Domain\_Value\_Definition*: Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition*: Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: REPTILE

*Enumerated\_Domain\_Value\_Definition*: Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition*: Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: SPECIES\_ID

*Attribute\_Definition*:

Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* JAN

*Attribute\_Definition:* January

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in January

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* FEB

*Attribute\_Definition:* February

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in February

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* MAR

*Attribute\_Definition:* March

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in March

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* APR

*Attribute\_Definition:* April

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in April

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* MAY

*Attribute\_Definition:* May

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* X*Enumerated\_Domain\_Value\_Definition:* Present in May*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* JUN*Attribute\_Definition:* June*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* X*Enumerated\_Domain\_Value\_Definition:* Present in June*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* JUL*Attribute\_Definition:* July*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* X*Enumerated\_Domain\_Value\_Definition:* Present in July*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* AUG*Attribute\_Definition:* August*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* X*Enumerated\_Domain\_Value\_Definition:* Present in August*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* SEP*Attribute\_Definition:* September*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* X*Enumerated\_Domain\_Value\_Definition:* Present in September*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* OCT*Attribute\_Definition:* October*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* X*Enumerated\_Domain\_Value\_Definition:* Present in October*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* NOV*Attribute\_Definition:* November

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: X

*Enumerated\_Domain\_Value\_Definition*: Present in November

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: DEC

*Attribute\_Definition*: December

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: X

*Enumerated\_Domain\_Value\_Definition*: Present in December

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: EL\_SPE\_SEA

*Attribute\_Definition*:

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: E#####

*Enumerated\_Domain\_Value\_Definition*:

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Detailed\_Description*:

*Entity\_Type*:

*Entity\_Type\_Label*: BREED

*Entity\_Type\_Definition*:

The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: EL\_SPE\_SEA

*Attribute\_Definition*:

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: E#####

*Enumerated\_Domain\_Value\_Definition*:

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute:**Attribute\_Label:* MONTH*Attribute\_Definition:*

Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* 12*Attribute:**Attribute\_Label:* BREED1*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M\_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* BREED2*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M\_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:*



*Enumerated\_Domain\_Value:* N

*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* -

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* BREED3

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = interesting; if ELEMENT is "M\_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* Y

*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* N

*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* -

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* BREED4

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M\_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* Y

*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* N

*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* -

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* BREED5

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M\_MAMMAL, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* Y

*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* N

*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* -

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* SOURCES

*Entity\_Type\_Definition:*

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* SOURCE\_ID

*Attribute\_Definition:*

Source identifier that links records in the SOURCES data table to the items G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID in the ESI and HYDRO data layers.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* ORIGINATOR

*Attribute\_Definition:* Author or developer of source material or data set.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* DATE\_PUB

*Attribute\_Definition:*

Date of source material, publication, or date of personal communication with expert source.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* TITLE

*Attribute\_Definition:* Title of source material or data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* DATA\_FORMAT

*Attribute\_Definition:* The format of the source material.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* PUBLICATION

*Attribute\_Definition:* Additional citation information.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* SCALE

*Attribute\_Definition:* Description of the source scale.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* TIME\_PERIOD

*Attribute\_Definition:*

Date(s) of data collection that the source material is based upon.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Detailed\_Description:*

*Entity\_Type:**Entity\_Type\_Label:* STATUS*Entity\_Type\_Definition:*

The data table STATUS identifies the species that are listed as 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:* Research Planning, Inc.*Attribute:**Attribute\_Label:* ELEMENT*Attribute\_Definition:* Major categories of biological data.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* BIRD*Enumerated\_Domain\_Value\_Definition:* Birds*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* FISH*Enumerated\_Domain\_Value\_Definition:* Fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* HABITAT*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* INVERT*Enumerated\_Domain\_Value\_Definition:* Invertebrates*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* M\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Marine Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* REPTILE*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* T\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* SPECIES\_ID*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: STATE

*Attribute\_Definition*: Two-letter state abbreviation.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: COUNTRY

*Attribute\_Definition*: Three-letter country abbreviation.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label*: S

*Attribute\_Definition*: State threatened or endangered status.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: E

*Enumerated\_Domain\_Value\_Definition*: Endangered on state list

*Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: T

*Enumerated\_Domain\_Value\_Definition*: Threatened on state list

*Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: C

*Enumerated\_Domain\_Value\_Definition*: Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines

*Attribute*:

*Attribute\_Label*: F

*Attribute\_Definition*: Federal threatened or endangered status.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: E

*Enumerated\_Domain\_Value\_Definition*: Endangered on federal list

*Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: T

*Enumerated\_Domain\_Value\_Definition*: Threatened on federal list

*Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value: C*

*Enumerated\_Domain\_Value\_Definition: Species of Special Concern*

*Enumerated\_Domain\_Value\_Definition\_Source: NOAA ESI Guidelines*

*Attribute:*

*Attribute\_Label: I*

*Attribute\_Definition: International threatened or endangered status.*

*Attribute\_Definition\_Source: Research Planning, Inc.*

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: E*

*Enumerated\_Domain\_Value\_Definition: Endangered on international list*

*Enumerated\_Domain\_Value\_Definition\_Source: NOAA ESI Guidelines*

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: T*

*Enumerated\_Domain\_Value\_Definition: Threatened on international list*

*Enumerated\_Domain\_Value\_Definition\_Source: NOAA ESI Guidelines*

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: C*

*Enumerated\_Domain\_Value\_Definition: Species of Special Concern*

*Enumerated\_Domain\_Value\_Definition\_Source: NOAA ESI Guidelines*

*Attribute:*

*Attribute\_Label: S\_DATE*

*Attribute\_Definition:*

Publication date of source material used to assign state status values for each species, if used.

*Attribute\_Definition\_Source: Research Planning, Inc.*

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: YYYYMM*

*Enumerated\_Domain\_Value\_Definition: YYYY for year and optionally MM for month*

*Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.*

*Attribute:*

*Attribute\_Label: F\_DATE*

*Attribute\_Definition:*

Publication date of source material used to assign federal status values for each species, if used.

*Attribute\_Definition\_Source: Research Planning, Inc.*

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: YYYYMM*

*Enumerated\_Domain\_Value\_Definition: YYYY for year and optionally MM for month*

*Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.*

*Attribute:*

*Attribute\_Label: I\_DATE*

*Attribute\_Definition:*

Publication date of source material used to assign international status values for each species, if used.

*Attribute\_Definition\_Source: Research Planning, Inc.*

*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* YYYYMM*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* EL\_SPE*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links the STATUS data table to the BIORRES and SPECIES data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* E#####*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Distribution\_Information:**Distributor:**Contact\_Information:**Contact\_Person\_Primary:**Contact\_Person:* John Kaperick*Contact\_Organization:* NOAA, Office of Response and Restoration*Contact\_Address:**Address\_Type:* Physical Address*Address:* 7600 Sand Point Way N.E.*City:* Seattle*State\_or\_Province:* Washington*Postal\_Code:* 98115-6349*Contact\_Voice\_Telephone:* (206) 526-6400*Contact\_Facsimile\_Telephone:* (206) 526-6329*Resource\_Description:* ESI Atlas for Northern California*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration (NOAA), no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Access Personal Geodatabase, ARC export files, Shape files, and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata

document includes information on both of these database formats.

---

*Metadata\_Reference\_Information:*

*Metadata\_Date:* 200902

*Metadata\_Review\_Date:* 200902

*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](mailto:Jill.Petersen@noaa.gov)

*Metadata\_Standard\_Name:* Content Standards for Digital Geospatial Metadata

*Metadata\_Standard\_Version:* FGDC-STD-001-1998

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# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: T\_MAMMAL (Terrestrial Mammal 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:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Publication\_Date:* 200812

##### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: T\_MAMMAL (Terrestrial Mammal Polygons)

*Edition:* Second

*Geospatial\_Data\_Presentation\_Form:* Vector digital data

##### *Series\_Information:*

*Series\_Name:* None

*Issue\_Identification:* Northern California

##### *Publication\_Information:*

*Publication\_Place:* Seattle, Washington

##### *Publisher:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington.

##### *Other\_Citation\_Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous

Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Description:*

*Abstract:*

This data set contains sensitive biological resource data for small mammals and elk in Northern California. Vector polygons in this data set represent terrestrial mammal distribution. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Northern California. 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:* 1998

*Ending\_Date:* 2007

*Currentness\_Reference:*

The biological data were compiled during 2007. The currentness dates for the data range from 1998 to 2007 and are documented in the Lineage section.

*Status:*

*Progress:* Complete

*Maintenance\_and\_Update\_Frequency:* None Scheduled

*Spatial\_Domain:*

*Bounding\_Coordinates:*

*West\_Bounding\_Coordinate:* -124.45800

*East\_Bounding\_Coordinate:* -122.75000

*North\_Bounding\_Coordinate:* 37.97900

*South\_Bounding\_Coordinate:* 42.00000

*Keywords:*

*Theme:*

*Theme\_Keyword\_Thesaurus:* None

*Theme\_Keyword:* ESI

*Theme\_Keyword:* Sensitivity maps

*Theme\_Keyword:* Coastal resources

*Theme\_Keyword:* Oil spill planning

*Theme\_Keyword:* Coastal Zone Management

*Theme\_Keyword:* Wildlife

*Theme\_Keyword:* Terrestrial Mammal

*Place:*

*Place\_Keyword\_Thesaurus:* None

*Place\_Keyword:* Northern California

*Access\_Constraints:* None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:* [datafig.jpg](#)

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the Northern California ESI data.

*Browse\_Graphic\_File\_Type:* JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO® (version 9.2) and SQL SERVER® (version 2000). The hardware configuration is PCs with Windows Operating System (2000/XP/2003).

The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00. Associated relational and desktop data tables provided in ARC export and text format are bio\_lut, biofile, biores, breed, breed\_dt, seasonal, soc\_dat, soc\_lut, sources, species, and status.

*Data\_Quality\_Information:*

*Attribute\_Accuracy:*

*Attribute\_Accuracy\_Report:*

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above Attribute\_Accuracy\_Report, is used to

verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER® to ARC/INFO® consistencies. A final review is made by the GIS manager, where the data are written to CD or DVD, and the metadata are written.

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new IDs and RARNUMs or HUNUMs are also generated. The new IDs 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 RARNUMs are also modified to include the atlas number, so multiple atlases can be combined and RARNUMs remain unique. RARNUMs are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUMs are also modified to include the atlas number.

*Completeness\_Report:*

These data represent a synthesis of expert knowledge, hardcopy reports, and digital data on terrestrial mammal distribution. These data do not necessarily represent all terrestrial mammal occurrences in Northern California. The following species are included in this data set: (Species\_ID, Common Name, Scientific Name [n/a if not applicable]): 8, Northern river otter, *Lontra canadensis*; 35, Roosevelt elk, *Cervus elaphus roosevelti*; 36, Beaver, *Castor canadensis*; 37, Muskrat, *Ondatra zibethicus*; 261, Point Reyes jumping mouse, *Zapus trinotatus orarius*; 262, Point Arena mountain beaver, *Aplodontia rufa nigra*.

*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. See the Lineage and Process\_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy," and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* ALLEN, S. (NATIONAL PARK SERVICE, POINT REYES)

*Publication\_Date:* 2005

*Title:*

DISTRIBUTION AND SEASONALITY OF SPECIES AND SOC\_ECON  
FEATURES ON NPS LANDS

*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION  
*Source\_Time\_Period\_of\_Content:*  
     *Time\_Period\_Information:*  
         *Single\_Date/Time:*  
             *Calendar\_Date:* 2005  
     *Source\_Currentness\_Reference:* DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* T\_MAMMAL INFORMATION  
*Source\_Information:*  
     *Source\_Citation:*  
         *Citation\_Information:*  
             *Originator:* CDF&G BIOGEOGRAPHIC DATA BRANCH  
             *Publication\_Date:* 2007  
             *Title:* CALIFORNIA NATURAL DIVERSITY DATABASE  
             *Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA  
             *Other\_Citation\_Details:*  
                 <<http://www.dfg.ca.gov/biogeodata/>> (Contact the site webmaster if this  
                 URL is no longer active.)  
     *Source\_Scale\_Denominator:* VARIES  
     *Type\_of\_Source\_Media:* CD-ROM  
     *Source\_Time\_Period\_of\_Content:*  
         *Time\_Period\_Information:*  
             *Single\_Date/Time:*  
                 *Calendar\_Date:* 2007  
     *Source\_Currentness\_Reference:* DATE OF PUBLICATION  
     *Source\_Citation\_Abbreviation:* NONE  
     *Source\_Contribution:* T\_MAMMAL INFORMATION  
*Source\_Information:*  
     *Source\_Citation:*  
         *Citation\_Information:*  
             *Originator:* CDF&G HAB CONS DIV., WHDAB  
             *Publication\_Date:* 2005  
             *Title:* CALIFORNIA NATURAL DIVERSITY DATABASE (CNDDDB)  
             *Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA  
             *Other\_Citation\_Details:*  
                 CDF&G'S HABITAT CONSERVATION DIVISION, WILDLIFE AND  
                 HABITAT DATA ANALYSIS BRANCH, SACRAMENTO, CA  
     *Type\_of\_Source\_Media:* ONLINE  
     *Source\_Time\_Period\_of\_Content:*  
         *Time\_Period\_Information:*  
             *Single\_Date/Time:*  
                 *Calendar\_Date:* 2005  
     *Source\_Currentness\_Reference:* DATE OF PUBLICATION  
     *Source\_Citation\_Abbreviation:* NONE  
     *Source\_Contribution:* T\_MAMMAL INFORMATION  
*Source\_Information:*  
     *Source\_Citation:*  
         *Citation\_Information:*  
             *Originator:* CDF&G, USCG  
             *Publication\_Date:* 2005  
             *Title:*  
                 SAN FRANCISCO GEOGRAPHIC RESPONSE AREA 1 SONOMA AND

## NORTH MARIN COAST

*Geospatial\_Data\_Presentation\_Form*: HARDCOPY TEXT*Other\_Citation\_Details*: ACP 2 SF BAY & DELTA - GRA 1*Type\_of\_Source\_Media*: DISC*Source\_Time\_Period\_of\_Content*:*Time\_Period\_Information*:*Single\_Date/Time*:*Calendar\_Date*: 2005*Source\_Currentness\_Reference*: DATE OF PUBLICATION*Source\_Citation\_Abbreviation*: NONE*Source\_Contribution*: T\_MAMMAL INFORMATION*Source\_Information*:*Source\_Citation*:*Citation\_Information*:*Originator*: DAYTON, J. (CDF&G)*Publication\_Date*: 2007*Title*: FISH, WILDLIFE, AND HABITAT DISTRIBUTION IN NORTHERN CALIFORNIA*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*: 2007*Source\_Currentness\_Reference*: DATE OF COMMUNICATION*Source\_Citation\_Abbreviation*: NONE*Source\_Contribution*: T\_MAMMAL INFORMATION*Source\_Information*:*Source\_Citation*:*Citation\_Information*:*Originator*: DEUEL, B. (CDF&G, REDDING)*Publication\_Date*: 2007*Title*:

BIRD AND MAMMAL DISTRIBUTION AND SEASONALITY IN NORTHERN CALIFORNIA

*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*: 2007*Source\_Currentness\_Reference*: DATE OF COMMUNICATION*Source\_Citation\_Abbreviation*: NONE*Source\_Contribution*: T\_MAMMAL INFORMATION*Source\_Information*:*Source\_Citation*:*Citation\_Information*:*Originator*: HARRIS, JAY (CSP, EUREKA)*Publication\_Date*: 2007*Title*: CALIFORNIA STATE PARK 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*: 2007

*Source\_Currentness\_Reference*: DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation*: NONE

*Source\_Contribution*: T\_MAMMAL INFORMATION

*Source\_Information*:

*Source\_Citation*:

*Citation\_Information*:

*Originator*: STEELE, D.T. AND L. LITMAN

*Publication\_Date*: 1998

*Title*:

RECOVERY PLAN FOR THE POINT ARENA MOUNTAIN BEAVER  
(APLODONTIA RUFA NIGRA)

*Geospatial\_Data\_Presentation\_Form*: HARDCOPY TEXT

*Other\_Citation\_Details*: REGION 1, USFWS, PORTLAND, OREGON

*Type\_of\_Source\_Media*: ONLINE

*Source\_Time\_Period\_of\_Content*:

*Time\_Period\_Information*:

*Single\_Date/Time*:

*Calendar\_Date*: 1998

*Source\_Currentness\_Reference*: DATE OF PUBLICATION

*Source\_Citation\_Abbreviation*: NONE

*Source\_Contribution*: T\_MAMMAL INFORMATION

*Source\_Information*:

*Source\_Citation*:

*Citation\_Information*:

*Originator*: USCG SECTOR SAN FRANCISCO

*Publication\_Date*: 2005

*Title*:

2005 SECTOR SAN FRANCISCO-ACP 1 NORTH COAST: HUMBOLDT  
BAY SECTION 9813

*Geospatial\_Data\_Presentation\_Form*: HARDCOPY TEXT

*Other\_Citation\_Details*: USCG SECTOR SAN FRANCISCO, OCTOBER 1,  
2005

*Source\_Scale\_Denominator*: VARIES

*Type\_of\_Source\_Media*: ONLINE

*Source\_Time\_Period\_of\_Content*:

*Time\_Period\_Information*:

*Single\_Date/Time*:

*Calendar\_Date*: 2005

*Source\_Currentness\_Reference*: DATE OF PUBLICATION

*Source\_Citation\_Abbreviation*: NONE

*Source\_Contribution*: T\_MAMMAL INFORMATION

*Source\_Information*:

*Source\_Citation*:

*Citation\_Information*:

*Originator*: USCG SECTOR SAN FRANCISCO

*Publication\_Date:* 2005

*Title:*

2005 SECTOR SAN FRANCISCO-ACP 1 NORTH COAST: DEL NORTE  
COUNTY SECTION 9811

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:* USCG SECTOR SAN FRANCISCO, OCTOBER 1,  
2005

*Source\_Scale\_Denominator:* VARIES

*Type\_of\_Source\_Media:* ONLINE

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* T\_MAMMAL INFORMATION

*Process\_Step:*

*Process\_Description:*

Three main sources of data were used to depict terrestrial mammal distribution and seasonality for this data layer: 1) personal interviews with resource experts from California Department of Fish & Game (CDF&G), California State Parks (CSP), and National Park Service (NPS); 2) published reports; and 3) the California Natural Diversity Database (CNDDDB) provided by CDF&G.

The above digital and/or hardcopy sources were compiled by the project biologist to create the T\_MAMMAL data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: 1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; 2) hardcopy maps are digitized at their source scale; and/or 3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the T\_MAMMAL data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:* 200812

*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](mailto:Jill.Petersen@noaa.gov)

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*Spatial\_Data\_Organization\_Information:*

*Direct\_Spatial\_Reference\_Method:* Vector

*Point\_and\_Vector\_Object\_Information:*

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:* GT-polygon composed of chains

*Point\_and\_Vector\_Object\_Count:* 73

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:* Area point

*Point\_and\_Vector\_Object\_Count:* 72

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:* Complete chain

*Point\_and\_Vector\_Object\_Count:* 101

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:* Link

*Point\_and\_Vector\_Object\_Count:* 23357

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:* Node, planar graph

*Point\_and\_Vector\_Object\_Count:* 97

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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 1927

*Ellipsoid\_Name:* Clark 1866

*Semi-major\_Axis:* 6378206.400000

*Denominator\_of\_Flattening\_Ratio:* 294.978698

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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, 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 Northern California atlas, the number is 207), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the

geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN\_SPEC, S, F, NHP, DATE\_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G\_SOURCE, S\_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED\_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed\_Description of the BREED data table. The link to the BIOFILE may be made through the BIO\_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED\_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED\_DT is the BREED item.

A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G\_SOURCE and S\_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* T\_MAMMAL.PAT

*Entity\_Type\_Definition:*

The T\_MAMMAL.PAT table contains attribute information for the vector polygons in this data set representing terrestrial mammal distribution. Note that all attribute information is stored in a series of relational files, described below. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (207), 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:* 2070900002

*Range\_Domain\_Maximum:* 2070900070

*Attribute:*

*Attribute\_Label:* RARNUM

*Attribute\_Definition:*

An identifier that links directly to the BIORES table or the flat format BIOFILE table.

RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:* NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 207001105

*Range\_Domain\_Maximum:* 207001115

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* BIO\_LUT

*Entity\_Type\_Definition:*

The data table BIO\_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* RARNUM

*Attribute\_Definition:*

An identifier that links records in the BIO\_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:* NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 207000001

*Range\_Domain\_Maximum:* 207001115

*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 (207), 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:* 2070100002

*Range\_Domain\_Maximum:* 2072200500

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* BIORES

*Entity\_Type\_Definition:*

The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO\_LUT data table to other associated data tables. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* RARNUM

*Attribute\_Definition:*

An identifier that links records in the BIORES data table to records in the BIO\_LUT data table or the flat format BIOFILE data table.

*Attribute\_Definition\_Source:* NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 207000001

*Range\_Domain\_Maximum:* 207001115

*Attribute:*

*Attribute\_Label:* SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* CONC

*Attribute\_Definition:*

The field CONC refers to "concentration," abundance, or density values. No concentration data were available for terrestrial mammals, so the CONC field is populated with "-".

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* G\_SOURCE

*Attribute\_Definition:*

Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* S\_SOURCE

*Attribute\_Definition:*

Seasonality source identifier that links records in the BIORES data table to records in

the SOURCES data table.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: ELEMENT

*Attribute\_Definition*: Major categories of biological data.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: BIRD

*Enumerated\_Domain\_Value\_Definition*: Birds

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: FISH

*Enumerated\_Domain\_Value\_Definition*: Fish

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: HABITAT

*Enumerated\_Domain\_Value\_Definition*: Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: INVERT

*Enumerated\_Domain\_Value\_Definition*: Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition*: Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: REPTILE

*Enumerated\_Domain\_Value\_Definition*: Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition*: Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: EL\_SPE

*Attribute\_Definition*:

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* E#####*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* EL\_SPE\_SEA*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* E#####*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Detailed\_Description:**Entity\_Type:**Entity\_Type\_Label:* SPECIES*Entity\_Type\_Definition:*

The data table SPECIES identifies all species in the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness\_Report for a list of layer-specific species.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* SPECIES\_ID*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* NAME*Attribute\_Definition:* Species common name for the entire ESI data set.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* GEN\_SPEC*Attribute\_Definition:* Species scientific name for the entire ESI data set.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* ELEMENT

*Attribute\_Definition:* Major categories of biological data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* BIRD

*Enumerated\_Domain\_Value\_Definition:* Birds

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* FISH

*Enumerated\_Domain\_Value\_Definition:* Fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* HABITAT

*Enumerated\_Domain\_Value\_Definition:* Habitats and plants

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* INVERT

*Enumerated\_Domain\_Value\_Definition:* Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* REPTILE

*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* SUBELEMENT

*Attribute\_Definition:* Element subgroup delineating a logical grouping of species.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* alcid

*Enumerated\_Domain\_Value\_Definition:* Alcid

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* amphibian

*Enumerated\_Domain\_Value\_Definition:* Amphibian

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* bivalve

*Enumerated\_Domain\_Value\_Definition:* Bivalve

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* cephalopod

*Enumerated\_Domain\_Value\_Definition:* Cephalopod

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* crab

*Enumerated\_Domain\_Value\_Definition:* Crab

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* diadromous

*Enumerated\_Domain\_Value\_Definition:* Diadromous fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* diving

*Enumerated\_Domain\_Value\_Definition:* Diving bird

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* dolphin

*Enumerated\_Domain\_Value\_Definition:* Dolphin

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* echinoderm

*Enumerated\_Domain\_Value\_Definition:* Echinoderm

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* e\_nursery

*Enumerated\_Domain\_Value\_Definition:* Estuarine nursery fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* e\_resident

*Enumerated\_Domain\_Value\_Definition:* Estuarine resident

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* freshwater

*Enumerated\_Domain\_Value\_Definition:* Freshwater fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.



*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* gastropod

*Enumerated\_Domain\_Value\_Definition:* Gastropod

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* gull\_tern

*Enumerated\_Domain\_Value\_Definition:* Gull or tern

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* insect

*Enumerated\_Domain\_Value\_Definition:* Insect

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* kelp

*Enumerated\_Domain\_Value\_Definition:* Kelp

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* m\_benthic

*Enumerated\_Domain\_Value\_Definition:* Marine benthic fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* m\_pelagic

*Enumerated\_Domain\_Value\_Definition:* Marine pelagic fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* passerine

*Enumerated\_Domain\_Value\_Definition:* Passerine bird

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* pelagic

*Enumerated\_Domain\_Value\_Definition:* Pelagic bird

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* pinniped

*Enumerated\_Domain\_Value\_Definition:* Pinniped

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* plant

*Enumerated\_Domain\_Value\_Definition:* Plant

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* raptor

*Enumerated\_Domain\_Value\_Definition:* Raptor

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sav

*Enumerated\_Domain\_Value\_Definition:* Submerged aquatic vegetation

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sea otter

*Enumerated\_Domain\_Value\_Definition:* Sea otter

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* shorebird

*Enumerated\_Domain\_Value\_Definition:* Shorebird

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* shrimp

*Enumerated\_Domain\_Value\_Definition:* Shrimps

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sm\_mammal

*Enumerated\_Domain\_Value\_Definition:* Small mammal

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* turtle

*Enumerated\_Domain\_Value\_Definition:* Turtle

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* ungulate

*Enumerated\_Domain\_Value\_Definition:* Ungulate

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* wading

*Enumerated\_Domain\_Value\_Definition:* Wading bird

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* waterfowl

*Enumerated\_Domain\_Value\_Definition:* Waterfowl

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* whale

*Enumerated\_Domain\_Value\_Definition:* Whale

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute:*

*Attribute\_Label*: NHP

*Attribute\_Definition*: Natural Heritage Program global ranking.

*Attribute\_Definition\_Source*: Network of Natural Heritage Program

*Attribute\_Domain\_Values*:

*Codeset\_Domain*:

*Codeset\_Name*: NHP Global Conservation Status Rank

*Codeset\_Source*: Natural Heritage Program

*Attribute:*

*Attribute\_Label*: DATE\_PUB

*Attribute\_Definition*: Date of NHP listing.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: YYYYMM

*Enumerated\_Domain\_Value\_Definition*: YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: 0

*Enumerated\_Domain\_Value\_Definition*: Date unspecified

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute:*

*Attribute\_Label*: EL\_SPE

*Attribute\_Definition*:

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: E#####

*Enumerated\_Domain\_Value\_Definition*:

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label*: SEASONAL

*Entity\_Type\_Definition*:

The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute:*

*Attribute\_Label*: ELEMENT

*Attribute\_Definition*: Major categories of biological data.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* BIRD*Enumerated\_Domain\_Value\_Definition:* Birds*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* FISH*Enumerated\_Domain\_Value\_Definition:* Fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* HABITAT*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* INVERT*Enumerated\_Domain\_Value\_Definition:* Invertebrates*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* M\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Marine Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* REPTILE*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* T\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* SPECIES\_ID*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* SEASON\_ID*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* JAN

*Attribute\_Definition:* January

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in January

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* FEB

*Attribute\_Definition:* February

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in February

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* MAR

*Attribute\_Definition:* March

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in March

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* APR

*Attribute\_Definition:* April

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in April

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* MAY

*Attribute\_Definition:* May

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in May

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* JUN

*Attribute\_Definition:* June

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* X*Enumerated\_Domain\_Value\_Definition:* Present in June*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* JUL*Attribute\_Definition:* July*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* X*Enumerated\_Domain\_Value\_Definition:* Present in July*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* AUG*Attribute\_Definition:* August*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* X*Enumerated\_Domain\_Value\_Definition:* Present in August*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* SEP*Attribute\_Definition:* September*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* X*Enumerated\_Domain\_Value\_Definition:* Present in September*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* OCT*Attribute\_Definition:* October*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* X*Enumerated\_Domain\_Value\_Definition:* Present in October*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* NOV*Attribute\_Definition:* November*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* X*Enumerated\_Domain\_Value\_Definition:* Present in November*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* DEC*Attribute\_Definition:* December

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: X

*Enumerated\_Domain\_Value\_Definition*: Present in December

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: EL\_SPE\_SEA

*Attribute\_Definition*:

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: E#####

*Enumerated\_Domain\_Value\_Definition*:

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Detailed\_Description*:

*Entity\_Type*:

*Entity\_Type\_Label*: BREED

*Entity\_Type\_Definition*:

The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: EL\_SPE\_SEA

*Attribute\_Definition*:

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: E#####

*Enumerated\_Domain\_Value\_Definition*:

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: MONTH

*Attribute\_Definition*:

Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum: 12*

*Attribute:*

*Attribute\_Label: BREED1*

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M\_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source: Research Planning, Inc.*

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: Y*

*Enumerated\_Domain\_Value\_Definition: Life-history stage or activity present*

*Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.*

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: N*

*Enumerated\_Domain\_Value\_Definition: Life-history stage or activity not present or not reported*

*Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.*

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: -*

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.*

*Attribute:*

*Attribute\_Label: BREED2*

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M\_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source: Research Planning, Inc.*

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: Y*

*Enumerated\_Domain\_Value\_Definition: Life-history stage or activity present*

*Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.*

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: N*

*Enumerated\_Domain\_Value\_Definition: Life-history stage or activity not present or not reported*

*Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.*

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value: -*

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question



*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: BREED3

*Attribute\_Definition*:

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = internesting; if ELEMENT is "M\_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: Y

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: N

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: -

*Enumerated\_Domain\_Value\_Definition*:

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: BREED4

*Attribute\_Definition*:

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M\_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: Y

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: N

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: -

*Enumerated\_Domain\_Value\_Definition*:

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute:*

*Attribute\_Label*: BREED5

*Attribute\_Definition*:

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M\_MAMMAL, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: Y

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: N

*Enumerated\_Domain\_Value\_Definition*: Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: -

*Enumerated\_Domain\_Value\_Definition*:

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Detailed\_Description*:

*Entity\_Type*:

*Entity\_Type\_Label*: SOURCES

*Entity\_Type\_Definition*:

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: SOURCE\_ID

*Attribute\_Definition*:

Source identifier that links records in the SOURCES data table to the items G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID in the ESI and HYDRO data layers.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 1

*Range\_Domain\_Maximum*: N

*Attribute*:

*Attribute\_Label*: ORIGINATOR

*Attribute\_Definition*: Author or developer of source material or data set.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Unrepresentable\_Domain*: Acceptable values change from atlas to atlas.

*Attribute*:

*Attribute\_Label:* DATE\_PUB

*Attribute\_Definition:*

Date of source material, publication, or date of personal communication with expert source.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* TITLE

*Attribute\_Definition:* Title of source material or data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* DATA\_FORMAT

*Attribute\_Definition:* The format of the source material.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* PUBLICATION

*Attribute\_Definition:* Additional citation information.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* SCALE

*Attribute\_Definition:* Description of the source scale.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* TIME\_PERIOD

*Attribute\_Definition:*

Date(s) of data collection that the source material is based upon.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* STATUS

*Entity\_Type\_Definition:*

The data table STATUS identifies the species that are listed as 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:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* ELEMENT

*Attribute\_Definition:* Major categories of biological data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* BIRD

*Enumerated\_Domain\_Value\_Definition:* Birds

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* FISH

*Enumerated\_Domain\_Value\_Definition:* Fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* HABITAT

*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* INVERT

*Enumerated\_Domain\_Value\_Definition:* Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* REPTILE

*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* STATE

*Attribute\_Definition:* Two-letter state abbreviation.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* COUNTRY

*Attribute\_Definition:* Three-letter country abbreviation.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* S

*Attribute\_Definition:* State threatened or endangered status.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E

*Enumerated\_Domain\_Value\_Definition:* Endangered on state list

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T

*Enumerated\_Domain\_Value\_Definition:* Threatened on state list

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* C

*Enumerated\_Domain\_Value\_Definition:* Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:* F

*Attribute\_Definition:* Federal threatened or endangered status.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E

*Enumerated\_Domain\_Value\_Definition:* Endangered on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T

*Enumerated\_Domain\_Value\_Definition:* Threatened on federal list

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* C

*Enumerated\_Domain\_Value\_Definition:* Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:* I

*Attribute\_Definition:* International threatened or endangered status.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E

*Enumerated\_Domain\_Value\_Definition:* Endangered on international list

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T

*Enumerated\_Domain\_Value\_Definition:* Threatened on international list

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* C

*Enumerated\_Domain\_Value\_Definition:* Species of Special Concern

*Enumerated\_Domain\_Value\_Definition\_Source:* NOAA ESI Guidelines

*Attribute:*

*Attribute\_Label:* S\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign state status values for each species, if used.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* F\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign federal status values for each species, if used.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* I\_DATE

*Attribute\_Definition:*

Publication date of source material used to assign international status values for each species, if used.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links the STATUS data table to the BIORRES and SPECIES data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Distribution\_Information:*

*Distributor:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:* John Kaperick

*Contact\_Organization:* NOAA, Office of Response and Restoration

*Contact\_Address:*

*Address\_Type:* Physical Address

*Address:* 7600 Sand Point Way N.E.

*City:* Seattle

*State\_or\_Province:* Washington

*Postal\_Code:* 98115-6349

*Contact\_Voice\_Telephone:* (206) 526-6400

*Contact\_Facsimile\_Telephone:* (206) 526-6329

*Resource\_Description:* ESI Atlas for Northern California

*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration (NOAA), no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Access Personal Geodatabase, ARC export files, Shape files, and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

*Metadata\_Reference\_Information:*

*Metadata\_Date:* 200902

*Metadata\_Review\_Date:* 200902

*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](mailto:Jill.Petersen@noaa.gov)

*Metadata\_Standard\_Name:* Content Standards for Digital Geospatial Metadata

*Metadata\_Standard\_Version:* FGDC-STD-001-1998

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# Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: HABITATS (Habitat 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:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Publication\_Date:* 200812

##### *Title:*

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Northern California: HABITATS (Habitat Polygons)

*Edition:* Second

*Geospatial\_Data\_Presentation\_Form:* Vector digital data

##### *Series\_Information:*

*Series\_Name:* None

*Issue\_Identification:* Northern California

##### *Publication\_Information:*

*Publication\_Place:* Seattle, Washington

##### *Publisher:*

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington.

##### *Other\_Citation\_Details:*

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous

Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Description:*

*Abstract:*

This data set contains sensitive biological resource data for kelp, eelgrass, and terrestrial plants in Northern California. Vector polygons in this data set represent eelgrass, kelp, and plant distribution. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Northern California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources.

*Purpose:*

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

*Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Range\_of\_Dates/Times:*

*Beginning\_Date:* 1994

*Ending\_Date:* 2007

*Currentness\_Reference:*

The biological data were compiled during 2007. The currentness dates for the data range from 1994 to 2007 and are documented in the Lineage section.

*Status:*

*Progress:* Complete

*Maintenance\_and\_Update\_Frequency:* None Scheduled

*Spatial\_Domain:*

*Bounding\_Coordinates:*

*West\_Bounding\_Coordinate:* -124.45800

*East\_Bounding\_Coordinate:* -122.75000

*North\_Bounding\_Coordinate:* 37.97900

*South\_Bounding\_Coordinate:* 42.00000

*Keywords:*

*Theme:*

*Theme\_Keyword\_Thesaurus:* None

*Theme\_Keyword:* ESI

*Theme\_Keyword:* Sensitivity maps

*Theme\_Keyword:* Coastal resources

*Theme\_Keyword:* Oil spill planning

*Theme\_Keyword:* Coastal Zone Management

*Theme\_Keyword:* Wildlife

*Theme\_Keyword:* Habitats

*Theme\_Keyword:* Plants

*Place:*

*Place\_Keyword\_Thesaurus:* None

*Place\_Keyword:* Northern California

*Access\_Constraints:* None

*Use\_Constraints:*

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

*Browse\_Graphic:*

*Browse\_Graphic\_File\_Name:* [datafig.jpg](#)

*Browse\_Graphic\_File\_Description:*

Depicts the relationships between spatial data layers and attribute data tables for the Northern California ESI data.

*Browse\_Graphic\_File\_Type:* JPEG

*Data\_Set\_Credit:*

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Emergency Response Division (formerly Hazardous Materials Response Division), Seattle, Washington and Assessment and Restoration Division, Silver Spring, Maryland; Department of Homeland Security, U.S. Coast Guard, Office of Incident Management and Preparedness, Washington, D.C.; and Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

*Native\_Data\_Set\_Environment:*

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO® (version 9.2) and SQL SERVER® (version 2000). The hardware configuration is PCs with Windows Operating System (2000/XP/2003).

The Spatial\_Data\_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: birds.e00esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m\_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t\_mammal.e00. Associated relational and desktop data tables provided in ARC export and text format are bio\_lut, biofile, biores, breed, breed\_dt, seasonal, soc\_dat, soc\_lut, sources, species, and status.

*Data\_Quality\_Information:*

*Attribute\_Accuracy:*

*Attribute\_Accuracy\_Report:*

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

*Logical\_Consistency\_Report:*

A multi-stage error checking process, described in the above *Attribute\_Accuracy\_Report*, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER® to ARC/INFO® consistencies. A final review is made by the GIS manager, where the data are written to CD or DVD, and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new IDs and RARNUMs or HUNUMs are also generated. The new IDs 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 RARNUMs are also modified to include the atlas number, so multiple atlases can be combined and RARNUMs remain unique. RARNUMs are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUMs are also modified to include the atlas number.

*Completeness\_Report:*

These data represent a synthesis of expert knowledge, maps, and digital data on eelgrass, kelp, and plant distribution. These data do not necessarily represent all habitats occurrences in Northern California. The following species are included in this data set: (Species\_ID, Common Name, Scientific Name [n/a if not applicable]): 1, Eelgrass, *Zostera marina*; 9, Giant kelp, *Macrocystis pyrifera*; 774, Marsh pea, *Lathyrus palustris*; 860, Oregon Coast Indian paintbrush, *Castilleja affinis* ssp. *litoralis*; 861, Mendocino Coast Indian paintbrush, *Castilleja mendocinensis*; 862, Pink sand verbena, *Abronia umbellata* ssp. *breviflora*; 863, Beach pea, *Lathyrus japonicus*; 864, Sanddune phacelia, *Phacelia argentea*; 865, Dark-eyed gilia, *Gilia millefoliata*; 866, Pacific gilia, *Gilia capitata* ssp. *pacifica*; 867, Marsh violet, *Viola palustris*; 868, Langsdorf's violet, *Viola langsdorffii*; 1056, Kelp, 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. See the *Lineage* and *Process\_Description* sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy," and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* ALLEN, S. (NATIONAL PARK SERVICE, POINT REYES)

*Publication\_Date:* 2005

*Title:*

DISTRIBUTION AND SEASONALITY OF SPECIES AND SOC\_ECON  
FEATURES ON NPS LANDS

*Geospatial\_Data\_Presentation\_Form*: EXPERT KNOWLEDGE

*Other\_Citation\_Details*: UNPUBLISHED

*Type\_of\_Source\_Media*: PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content*:

*Time\_Period\_Information*:

*Single\_Date/Time*:

*Calendar\_Date*: 2005

*Source\_Currentness\_Reference*: DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation*: NONE

*Source\_Contribution*: HABITATS INFORMATION

*Source\_Information*:

*Source\_Citation*:

*Citation\_Information*:

*Originator*: BROWN, D. (PRNS, POINT REYES STATION)

*Publication\_Date*: 2007

*Title*: EELGRASS\_TOMALES\_2005

*Geospatial\_Data\_Presentation\_Form*: VECTOR DIGITAL DATA

*Other\_Citation\_Details*: POINT REYES STATION, CA

*Type\_of\_Source\_Media*: EMAIL

*Source\_Time\_Period\_of\_Content*:

*Time\_Period\_Information*:

*Single\_Date/Time*:

*Calendar\_Date*: 2005

*Source\_Currentness\_Reference*: DATE OF SURVEY

*Source\_Citation\_Abbreviation*: NONE

*Source\_Contribution*: HABITATS INFORMATION

*Source\_Information*:

*Source\_Citation*:

*Citation\_Information*:

*Originator*:

CALIFORNIA STATE PARKS (CSP) NORTH COAST REDWOODS  
DISTRICT (NCRD)

*Publication\_Date*: 2005

*Title*:

MAPS OF SPECIAL STATUS SPECIES, REC ACTIVITIES, AND MGT  
ISSUES AT CSP NCRD STATE PARKS

*Geospatial\_Data\_Presentation\_Form*: HARDCOPY MAP

*Other\_Citation\_Details*: CSP NORTH COAST REDWOOD DISTRICT

*Source\_Scale\_Denominator*: 10,000-20,000

*Type\_of\_Source\_Media*: PAPER

*Source\_Time\_Period\_of\_Content*:

*Time\_Period\_Information*:

*Single\_Date/Time*:

*Calendar\_Date*: 2005

*Source\_Currentness\_Reference*: DATE OF PUBLICATION

*Source\_Citation\_Abbreviation*: NONE

*Source\_Contribution*: HABITATS INFORMATION

*Source\_Information*:

*Source\_Citation*:

*Citation\_Information*:

*Originator*: CALIFORNIA DEPT. OF FISH AND GAME (CDF&G)

*Publication\_Date*: 2004

*Title:* NORTH BAY BEDS  
*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA  
*Other\_Citation\_Details:* CDF&G, EUREKA, CA  
*Type\_of\_Source\_Media:* EMAIL  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2000  
*Source\_Currentness\_Reference:* DATE OF SURVEY  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* HABITATS INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* CDF&G  
*Publication\_Date:* 2007  
*Title:* MID CHANNEL BEDS  
*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA  
*Other\_Citation\_Details:* CDF&G, EUREKA  
*Type\_of\_Source\_Media:* EMAIL  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2000  
*Source\_Currentness\_Reference:* DATE OF SURVEY  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* HABITATS INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* CDF&G  
*Publication\_Date:* 2007  
*Title:* SOUTH BAY EELGRASS POLYGONS  
*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA  
*Other\_Citation\_Details:* CDF&G, EUREKA  
*Type\_of\_Source\_Media:* EMAIL  
*Source\_Time\_Period\_of\_Content:*  
*Time\_Period\_Information:*  
*Single\_Date/Time:*  
*Calendar\_Date:* 2000  
*Source\_Currentness\_Reference:* DATE OF SURVEY  
*Source\_Citation\_Abbreviation:* NONE  
*Source\_Contribution:* HABITATS INFORMATION  
*Source\_Information:*  
*Source\_Citation:*  
*Citation\_Information:*  
*Originator:* CDF&G  
*Publication\_Date:* 2006  
*Title:*  
 KELP 2005, 2004-KELP-ALL, 2003 TOTAL KELP SURVEY, 2002  
 TOTAL KELP SURVEY  
*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA

*Other\_Citation\_Details*: CDF&G, LOS ALAMITOS, CA  
*Type\_of\_Source\_Media*: ONLINE  
*Source\_Time\_Period\_of\_Content*:  
*Time\_Period\_Information*:  
*Range\_of\_Dates/Times*:  
*Beginning\_Date*: 2002  
*Ending\_Date*: 2005  
*Source\_Currentness\_Reference*: DATE OF SURVEY  
*Source\_Citation\_Abbreviation*: NONE  
*Source\_Contribution*: HABITATS INFORMATION  
*Source\_Information*:  
*Source\_Citation*:  
*Citation\_Information*:  
*Originator*: COX, B. (CDF&G)  
*Publication\_Date*: 2007  
*Title*:  
 FISH, INVERTS, AND HABITATS IN SONOMA/MARIN COUNTY  
 STREAMS AND ESTUARIES  
*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*: 2007  
*Source\_Currentness\_Reference*: DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation*: NONE  
*Source\_Contribution*: HABITATS INFORMATION  
*Source\_Information*:  
*Source\_Citation*:  
*Citation\_Information*:  
*Originator*: DAYTON, J. (CDF&G)  
*Publication\_Date*: 2007  
*Title*: FISH, WILDLIFE, AND HABITAT DISTRIBUTION IN NORTHERN  
 CALIFORNIA  
*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*: 2007  
*Source\_Currentness\_Reference*: DATE OF COMMUNICATION  
*Source\_Citation\_Abbreviation*: NONE  
*Source\_Contribution*: HABITATS INFORMATION  
*Source\_Information*:  
*Source\_Citation*:  
*Citation\_Information*:  
*Originator*: FREY, V. (CDF&G, EUREKA)  
*Publication\_Date*: 2007  
*Title*:  
 MARINE RESOURCE DISTRIBUTION AND SEASONALITY IN

## NORTHERN CALIFORNIA

*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*: 2007*Source\_Currentness\_Reference*: DATE OF COMMUNICATION*Source\_Citation\_Abbreviation*: NONE*Source\_Contribution*: HABITATS INFORMATION*Source\_Information*:*Source\_Citation*:*Citation\_Information*:*Originator*: MELLO, J. (CDF&G, EUREKA)*Publication\_Date*: 2007*Title*:MARINE RESOURCE DISTRIBUTION AND SEASONALITY IN  
NORTHERN CALIFORNIA*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*: 2007*Source\_Currentness\_Reference*: DATE OF COMMUNICATION*Source\_Citation\_Abbreviation*: NONE*Source\_Contribution*: HABITATS INFORMATION*Source\_Information*:*Source\_Citation*:*Citation\_Information*:*Originator*: RESEARCH PLANNING, INC.*Publication\_Date*: 1994*Title*:SENSITIVITY OF COASTAL ENVIRONMENTS AND WILDLIFE TO  
SPILLED OIL: CENTRAL CA*Geospatial\_Data\_Presentation\_Form*: ATLAS*Other\_Citation\_Details*: CDF&G OSPR AND NOAA, 41 MAPS*Source\_Scale\_Denominator*: 46,500*Type\_of\_Source\_Media*: PAPER*Source\_Time\_Period\_of\_Content*:*Time\_Period\_Information*:*Single\_Date/Time*:*Calendar\_Date*: 1994*Source\_Currentness\_Reference*: DATE OF PUBLICATION*Source\_Citation\_Abbreviation*: NONE*Source\_Contribution*: HABITATS INFORMATION*Source\_Information*:*Source\_Citation*:*Citation\_Information*:*Originator*:



ROLETTO, J. (NOAA, Gulf of the Farallones National Marine Sanctuary)

*Publication\_Date:* 2005

*Title:*

DISTRIBUTION AND SEASONALITY OF GFNMS SPECIES AND  
SOC\_ECON FEATURES

*Geospatial\_Data\_Presentation\_Form:* EXPERT KNOWLEDGE

*Other\_Citation\_Details:* UNPUBLISHED

*Type\_of\_Source\_Media:* PERSONAL COMMUNICATION

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF COMMUNICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* HABITATS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* TERRALOGIC GIS, INC.

*Publication\_Date:* 2005

*Title:*

ALTERNATIVE B.3 OF THE PACIFIC COAST GROUND FISH  
ESSENTIAL FISH HABITAT (EFH) DRAFT EIS (CANOPY KELP  
HAPC)

*Geospatial\_Data\_Presentation\_Form:* VECTOR DIGITAL DATA

*Other\_Citation\_Details:* NORTHWEST MARINE FISHERIES SERVICE,  
NORTHWEST REGION

*Type\_of\_Source\_Media:* ONLINE

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2005

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* HABITATS INFORMATION

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:* THE GOLD RIDGE RESOURCE CONSERVATION DISTRICT

*Publication\_Date:* 2007

*Title:* THE ESTERO AMERICANO WATERSHED MANAGEMENT PLAN

*Geospatial\_Data\_Presentation\_Form:* HARDCOPY TEXT

*Other\_Citation\_Details:* SWRCB CONTRACT NO. 03-138-250-1

*Type\_of\_Source\_Media:* ONLINE

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:* 2007

*Source\_Currentness\_Reference:* DATE OF PUBLICATION

*Source\_Citation\_Abbreviation:* NONE

*Source\_Contribution:* HABITATS INFORMATION

*Process\_Step:*

*Process\_Description:*

Three main sources of data were used to depict habitat distribution and seasonality for this data layer: 1) personal interviews with resource experts from California Department of Fish & Game (CDF&G), National Park Service (NPS), and NOAA; 2) maps and reports provided by California State Parks (CSP) and other agencies; and 3) digital data sets provided by CDF&G, National Marine Fisheries Service (NMFS), and NPS.

The above digital and/or hardcopy sources were compiled by the project biologist to create the HABITATS data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: 1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; 2) hardcopy maps are digitized at their source scale; and/or 3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the HABITATS data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

*Process\_Date:* 200812

*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](mailto: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:* 8370

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:* Area point

*Point\_and\_Vector\_Object\_Count:* 8369

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:* Complete chain

*Point\_and\_Vector\_Object\_Count:* 9322

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type*: Link

*Point\_and\_Vector\_Object\_Count*: 1004281

*SDTS\_Terms\_Description*:

*SDTS\_Point\_and\_Vector\_Object\_Type*: Node, planar graph

*Point\_and\_Vector\_Object\_Count*: 9303

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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 1927

*Ellipsoid\_Name*: Clark 1866

*Semi-major\_Axis*: 6378206.400000

*Denominator\_of\_Flattening\_Ratio*: 294.978698

---

*Entity\_and\_Attribute\_Information*:

*Overview\_Description*:

*Entity\_and\_Attribute\_Overview*:

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, HABITATS) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO\_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Northern California atlas, the number is 207), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN\_SPEC, S, F, NHP, DATE\_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G\_SOURCE, S\_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED\_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed\_Description of the BREED data table. The link to the BIOFILE may be made through the BIO\_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned,

BREED\_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED\_DT is the BREED item.

A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G\_SOURCE and S\_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* HABITATS.PAT

*Entity\_Type\_Definition:*

The HABITATS.PAT table contains attribute information for the vector polygons in this data set representing eelgrass, kelp, and plant distribution. Note that all attribute information is stored in a series of relational files, described below. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* ID

*Attribute\_Definition:*

An identifier that links vector objects in the biology data layers to records in the BIO\_LUT data table. ID is a concatenation of atlas number (207), element number (3), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:* NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 2070300002

*Range\_Domain\_Maximum:* 2070308370

*Attribute:*

*Attribute\_Label:* RARNUM

*Attribute\_Definition:*

An identifier that links directly to the BIORES table or the flat format BIOFILE table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source:* NOAA

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 207000718

*Range\_Domain\_Maximum:* 207000739

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* BIO\_LUT

*Entity\_Type\_Definition:*

The data table BIO\_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes

the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: RARNUM

*Attribute\_Definition*:

An identifier that links records in the BIO\_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source*: NOAA

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 207000001

*Range\_Domain\_Maximum*: 207001115

*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 (207), element number (3), and record number. ID values of 9999 are holes in polygons and do not contain information.

*Attribute\_Definition\_Source*: NOAA

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 2070100002

*Range\_Domain\_Maximum*: 2072200500

*Detailed\_Description*:

*Entity\_Type*:

*Entity\_Type\_Label*: BIORES

*Entity\_Type\_Definition*:

The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO\_LUT data table to other associated data tables. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: RARNUM

*Attribute\_Definition*:

An identifier that links records in the BIORES data table to records in the BIO\_LUT data table or the flat format BIOFILE data table.

*Attribute\_Definition\_Source*: NOAA

*Attribute\_Domain\_Values*:

*Range\_Domain*:

*Range\_Domain\_Minimum*: 207000001

*Range\_Domain\_Maximum*: 207001115

*Attribute*:

*Attribute\_Label*: SPECIES\_ID

*Attribute\_Definition*:

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* CONC*Attribute\_Definition:*

The field CONC refers to "concentration," abundance, or density value of a habitat at a particular location. No quantitative or qualitative information on concentrations of eelgrass, kelp, or terrestrial plants were available, so this field is populated with "-".

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute\_Label:* SEASON\_ID*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* G\_SOURCE*Attribute\_Definition:*

Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* S\_SOURCE*Attribute\_Definition:*

Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Range\_Domain:**Range\_Domain\_Minimum:* 1*Range\_Domain\_Maximum:* N*Attribute:**Attribute\_Label:* ELEMENT*Attribute\_Definition:* Major categories of biological data.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* BIRD*Enumerated\_Domain\_Value\_Definition:* Birds*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* FISH*Enumerated\_Domain\_Value\_Definition:* Fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* HABITAT*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* INVERT*Enumerated\_Domain\_Value\_Definition:* Invertebrates*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* M\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Marine Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* REPTILE*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* T\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* EL\_SPE*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* E#####*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* EL\_SPE\_SEA*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Detailed\_Description:**Entity\_Type:*

*Entity\_Type\_Label:* SPECIES

*Entity\_Type\_Definition:*

The data table SPECIES identifies all species in the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness\_Report for a list of layer-specific species.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:**Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* NAME

*Attribute\_Definition:* Species common name for the entire ESI data set.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* GEN\_SPEC

*Attribute\_Definition:* Species scientific name for the entire ESI data set.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* ELEMENT

*Attribute\_Definition:* Major categories of biological data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* BIRD

*Enumerated\_Domain\_Value\_Definition:* Birds

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* FISH

*Enumerated\_Domain\_Value\_Definition:* Fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*



*Enumerated\_Domain:**Enumerated\_Domain\_Value:* HABITAT*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* INVERT*Enumerated\_Domain\_Value\_Definition:* Invertebrates*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* M\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Marine Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* REPTILE*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* T\_MAMMAL*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* SUBELEMENT*Attribute\_Definition:* Element subgroup delineating a logical grouping of species.*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* alcid*Enumerated\_Domain\_Value\_Definition:* Alcid*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* amphibian*Enumerated\_Domain\_Value\_Definition:* Amphibian*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* bivalve*Enumerated\_Domain\_Value\_Definition:* Bivalve*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* cephalopod*Enumerated\_Domain\_Value\_Definition:* Cephalopod*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* crab*Enumerated\_Domain\_Value\_Definition:* Crab

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: diadromous

*Enumerated\_Domain\_Value\_Definition*: Diadromous fish

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: diving

*Enumerated\_Domain\_Value\_Definition*: Diving bird

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: dolphin

*Enumerated\_Domain\_Value\_Definition*: Dolphin

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: echinoderm

*Enumerated\_Domain\_Value\_Definition*: Echinoderm

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: e\_nursery

*Enumerated\_Domain\_Value\_Definition*: Estuarine nursery fish

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: e\_resident

*Enumerated\_Domain\_Value\_Definition*: Estuarine resident

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: freshwater

*Enumerated\_Domain\_Value\_Definition*: Freshwater fish

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: gastropod

*Enumerated\_Domain\_Value\_Definition*: Gastropod

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: gull\_tern

*Enumerated\_Domain\_Value\_Definition*: Gull or tern

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: insect

*Enumerated\_Domain\_Value\_Definition*: Insect

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* kelp*Enumerated\_Domain\_Value\_Definition:* Kelp*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* m\_benthic*Enumerated\_Domain\_Value\_Definition:* Marine benthic fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* m\_pelagic*Enumerated\_Domain\_Value\_Definition:* Marine pelagic fish*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* passerine*Enumerated\_Domain\_Value\_Definition:* Passerine bird*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* pelagic*Enumerated\_Domain\_Value\_Definition:* Pelagic bird*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* pinniped*Enumerated\_Domain\_Value\_Definition:* Pinniped*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* plant*Enumerated\_Domain\_Value\_Definition:* Plant*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* raptor*Enumerated\_Domain\_Value\_Definition:* Raptor*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* sav*Enumerated\_Domain\_Value\_Definition:* Submerged aquatic vegetation*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* sea otter*Enumerated\_Domain\_Value\_Definition:* Sea otter*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* shorebird

*Enumerated\_Domain\_Value\_Definition:* Shorebird

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* shrimp

*Enumerated\_Domain\_Value\_Definition:* Shrimps

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* sm\_mammal

*Enumerated\_Domain\_Value\_Definition:* Small mammal

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* turtle

*Enumerated\_Domain\_Value\_Definition:* Turtle

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* ungulate

*Enumerated\_Domain\_Value\_Definition:* Ungulate

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* wading

*Enumerated\_Domain\_Value\_Definition:* Wading bird

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* waterfowl

*Enumerated\_Domain\_Value\_Definition:* Waterfowl

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* whale

*Enumerated\_Domain\_Value\_Definition:* Whale

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* NHP

*Attribute\_Definition:* Natural Heritage Program global ranking.

*Attribute\_Definition\_Source:* Network of Natural Heritage Program

*Attribute\_Domain\_Values:*

*Codeset\_Domain:*

*Codeset\_Name:* NHP Global Conservation Status Rank

*Codeset\_Source:* Natural Heritage Program

*Attribute:*

*Attribute\_Label:* DATE\_PUB

*Attribute\_Definition:* Date of NHP listing.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* 0

*Enumerated\_Domain\_Value\_Definition:* Date unspecified

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* EL\_SPE

*Attribute\_Definition:*

Concatenation of ELEMENT and SPECIES\_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* SEASONAL

*Entity\_Type\_Definition:*

The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* ELEMENT

*Attribute\_Definition:* Major categories of biological data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* BIRD

*Enumerated\_Domain\_Value\_Definition:* Birds

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* FISH

*Enumerated\_Domain\_Value\_Definition:* Fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* HABITAT

*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* INVERT

*Enumerated\_Domain\_Value\_Definition:* Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* REPTILE

*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* SEASON\_ID

*Attribute\_Definition:*

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* JAN

*Attribute\_Definition:* January

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* X

*Enumerated\_Domain\_Value\_Definition:* Present in January

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* FEB

*Attribute\_Definition:* February

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value: X**Enumerated\_Domain\_Value\_Definition: Present in February**Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.**Attribute:**Attribute\_Label: MAR**Attribute\_Definition: March**Attribute\_Definition\_Source: Research Planning, Inc.**Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value: X**Enumerated\_Domain\_Value\_Definition: Present in March**Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.**Attribute:**Attribute\_Label: APR**Attribute\_Definition: April**Attribute\_Definition\_Source: Research Planning, Inc.**Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value: X**Enumerated\_Domain\_Value\_Definition: Present in April**Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.**Attribute:**Attribute\_Label: MAY**Attribute\_Definition: May**Attribute\_Definition\_Source: Research Planning, Inc.**Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value: X**Enumerated\_Domain\_Value\_Definition: Present in May**Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.**Attribute:**Attribute\_Label: JUN**Attribute\_Definition: June**Attribute\_Definition\_Source: Research Planning, Inc.**Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value: X**Enumerated\_Domain\_Value\_Definition: Present in June**Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.**Attribute:**Attribute\_Label: JUL**Attribute\_Definition: July**Attribute\_Definition\_Source: Research Planning, Inc.**Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value: X**Enumerated\_Domain\_Value\_Definition: Present in July**Enumerated\_Domain\_Value\_Definition\_Source: Research Planning, Inc.**Attribute:**Attribute\_Label: AUG**Attribute\_Definition: August*

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: X

*Enumerated\_Domain\_Value\_Definition*: Present in August

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: SEP

*Attribute\_Definition*: September

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: X

*Enumerated\_Domain\_Value\_Definition*: Present in September

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: OCT

*Attribute\_Definition*: October

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: X

*Enumerated\_Domain\_Value\_Definition*: Present in October

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: NOV

*Attribute\_Definition*: November

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: X

*Enumerated\_Domain\_Value\_Definition*: Present in November

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: DEC

*Attribute\_Definition*: December

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: X

*Enumerated\_Domain\_Value\_Definition*: Present in December

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: EL\_SPE\_SEA

*Attribute\_Definition*:

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the SEASONAL data table to records in the BIORRES and BREED data tables.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: E#####

*Enumerated\_Domain\_Value\_Definition*:



Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* BREED

*Entity\_Type\_Definition:*

The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* EL\_SPE\_SEA

*Attribute\_Definition:*

Concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E#####

*Enumerated\_Domain\_Value\_Definition:*

Where E is the first character of ELEMENT, the next five characters are SPECIES\_ID, and the last two characters are SEASON\_ID (e.g. ELEMENT = 'BIRD', SPECIES\_ID = 1 and SEASON\_ID = 1; EL\_SPE\_SEA = 'B0000101').

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* MONTH

*Attribute\_Definition:*

Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* 12

*Attribute:*

*Attribute\_Label:* BREED1

*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M\_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* Y

*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* BREED2*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M\_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* BREED3*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = internesting; if ELEMENT is "M\_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:*

*Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* BREED4*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M\_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* N*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* -*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute:**Attribute\_Label:* BREED5*Attribute\_Definition:*

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M\_MAMMAL, HABITAT, or T\_MAMMAL elements.

*Attribute\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:**Enumerated\_Domain\_Value:* Y*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity present*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.*Attribute\_Domain\_Values:**Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* N

*Enumerated\_Domain\_Value\_Definition:* Life-history stage or activity not present or not reported

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* -

*Enumerated\_Domain\_Value\_Definition:*

Breed category not used or not appropriate for record(s) in question

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* SOURCES

*Entity\_Type\_Definition:*

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse\_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

*Entity\_Type\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* SOURCE\_ID

*Attribute\_Definition:*

Source identifier that links records in the SOURCES data table to the items G\_SOURCE and A\_SOURCE in the SOC\_DAT table; G\_SOURCE and S\_SOURCE in the BIORES table; and SOURCE\_ID in the ESI and HYDRO data layers.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* ORIGINATOR

*Attribute\_Definition:* Author or developer of source material or data set.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* DATE\_PUB

*Attribute\_Definition:*

Date of source material, publication, or date of personal communication with expert source.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* YYYYMM

*Enumerated\_Domain\_Value\_Definition:* YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* TITLE

*Attribute\_Definition:* Title of source material or data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* DATA\_FORMAT

*Attribute\_Definition:* The format of the source material.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* PUBLICATION

*Attribute\_Definition:* Additional citation information.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* SCALE

*Attribute\_Definition:* Description of the source scale.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* TIME\_PERIOD

*Attribute\_Definition:*

Date(s) of data collection that the source material is based upon.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:* STATUS

*Entity\_Type\_Definition:*

The data table STATUS identifies the species that are listed as 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:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* ELEMENT

*Attribute\_Definition:* Major categories of biological data.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* BIRD

*Enumerated\_Domain\_Value\_Definition:* Birds

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* FISH

*Enumerated\_Domain\_Value\_Definition:* Fish

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* HABITAT

*Enumerated\_Domain\_Value\_Definition:* Habitats and Plants

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* INVERT

*Enumerated\_Domain\_Value\_Definition:* Invertebrates

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* M\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Marine Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* REPTILE

*Enumerated\_Domain\_Value\_Definition:* Reptiles and Amphibians

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* T\_MAMMAL

*Enumerated\_Domain\_Value\_Definition:* Terrestrial Mammals

*Enumerated\_Domain\_Value\_Definition\_Source:* Research Planning, Inc.

*Attribute:*

*Attribute\_Label:* SPECIES\_ID

*Attribute\_Definition:*

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Range\_Domain:*

*Range\_Domain\_Minimum:* 1

*Range\_Domain\_Maximum:* N

*Attribute:*

*Attribute\_Label:* STATE

*Attribute\_Definition:* Two-letter state abbreviation.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* COUNTRY

*Attribute\_Definition:* Three-letter country abbreviation.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:* Acceptable values change from atlas to atlas.

*Attribute:*

*Attribute\_Label:* S

*Attribute\_Definition:* State threatened or endangered status.

*Attribute\_Definition\_Source:* Research Planning, Inc.

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:* E

*Enumerated\_Domain\_Value\_Definition:* Endangered on state list

*Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines  
*Attribute\_Domain\_Values*:  
     *Enumerated\_Domain*:  
         *Enumerated\_Domain\_Value*: T  
         *Enumerated\_Domain\_Value\_Definition*: Threatened on state list  
         *Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines  
*Attribute\_Domain\_Values*:  
     *Enumerated\_Domain*:  
         *Enumerated\_Domain\_Value*: C  
         *Enumerated\_Domain\_Value\_Definition*: Species of Special Concern  
         *Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines  
*Attribute*:  
     *Attribute\_Label*: F  
     *Attribute\_Definition*: Federal threatened or endangered status.  
     *Attribute\_Definition\_Source*: Research Planning, Inc.  
*Attribute\_Domain\_Values*:  
     *Enumerated\_Domain*:  
         *Enumerated\_Domain\_Value*: E  
         *Enumerated\_Domain\_Value\_Definition*: Endangered on federal list  
         *Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines  
*Attribute\_Domain\_Values*:  
     *Enumerated\_Domain*:  
         *Enumerated\_Domain\_Value*: T  
         *Enumerated\_Domain\_Value\_Definition*: Threatened on federal list  
         *Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines  
*Attribute\_Domain\_Values*:  
     *Enumerated\_Domain*:  
         *Enumerated\_Domain\_Value*: C  
         *Enumerated\_Domain\_Value\_Definition*: Species of Special Concern  
         *Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines  
*Attribute*:  
     *Attribute\_Label*: I  
     *Attribute\_Definition*: International threatened or endangered status.  
     *Attribute\_Definition\_Source*: Research Planning, Inc.  
*Attribute\_Domain\_Values*:  
     *Enumerated\_Domain*:  
         *Enumerated\_Domain\_Value*: E  
         *Enumerated\_Domain\_Value\_Definition*: Endangered on international list  
         *Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines  
*Attribute\_Domain\_Values*:  
     *Enumerated\_Domain*:  
         *Enumerated\_Domain\_Value*: T  
         *Enumerated\_Domain\_Value\_Definition*: Threatened on international list  
         *Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines  
*Attribute\_Domain\_Values*:  
     *Enumerated\_Domain*:  
         *Enumerated\_Domain\_Value*: C  
         *Enumerated\_Domain\_Value\_Definition*: Species of Special Concern  
         *Enumerated\_Domain\_Value\_Definition\_Source*: NOAA ESI Guidelines  
*Attribute*:  
     *Attribute\_Label*: S\_DATE  
     *Attribute\_Definition*:

Publication date of source material used to assign state status values for each species, if used.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: YYYYMM

*Enumerated\_Domain\_Value\_Definition*: YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: F\_DATE

*Attribute\_Definition*:

Publication date of source material used to assign federal status values for each species, if used.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: YYYYMM

*Enumerated\_Domain\_Value\_Definition*: YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: I\_DATE

*Attribute\_Definition*:

Publication date of source material used to assign international status values for each species, if used.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: YYYYMM

*Enumerated\_Domain\_Value\_Definition*: YYYY for year and optionally MM for month

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Attribute*:

*Attribute\_Label*: EL\_SPE

*Attribute\_Definition*:

Concatenation of ELEMENT and SPECIES\_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.

*Attribute\_Definition\_Source*: Research Planning, Inc.

*Attribute\_Domain\_Values*:

*Enumerated\_Domain*:

*Enumerated\_Domain\_Value*: E#####

*Enumerated\_Domain\_Value\_Definition*:

Where E is the first character of ELEMENT and the next five characters are SPECIES\_ID (e.g. ELEMENT = 'BIRD' and SPECIES\_ID = 1; EL\_SPE = 'B00001').

*Enumerated\_Domain\_Value\_Definition\_Source*: Research Planning, Inc.

*Distribution\_Information*:

*Distributor*:

*Contact\_Information*:



*Contact\_Person\_Primary:**Contact\_Person:* John Kaperick*Contact\_Organization:* NOAA, Office of Response and Restoration*Contact\_Address:**Address\_Type:* Physical Address*Address:* 7600 Sand Point Way N.E.*City:* Seattle*State\_or\_Province:* Washington*Postal\_Code:* 98115-6349*Contact\_Voice\_Telephone:* (206) 526-6400*Contact\_Facsimile\_Telephone:* (206) 526-6329*Resource\_Description:* ESI Atlas for Northern California*Distribution\_Liability:*

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration (NOAA), no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.

*Custom\_Order\_Process:*

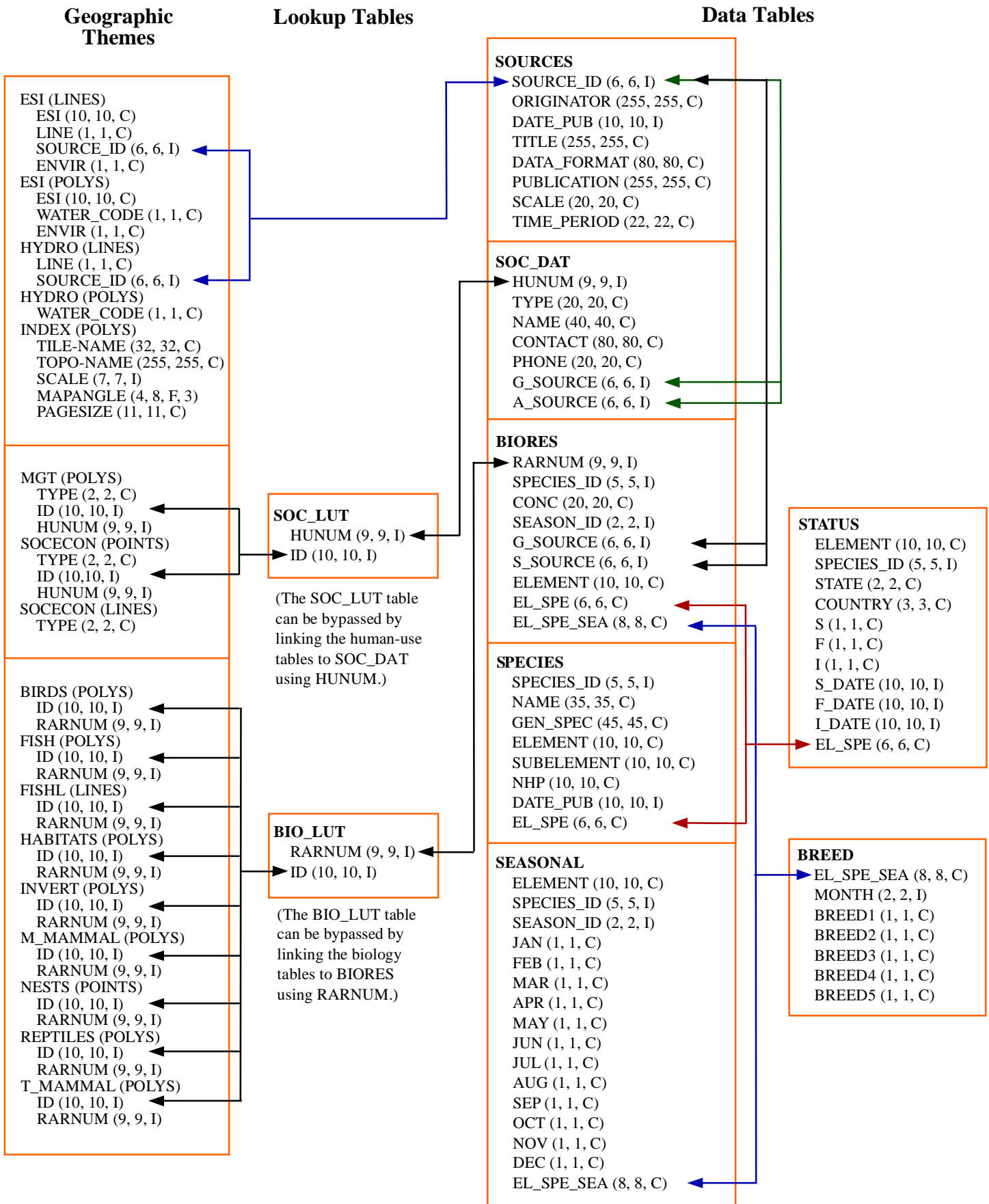
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to the widest community of GIS/mapping users. Distribution formats include Access Personal Geodatabase, ARC export files, Shape files, and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI\_Viewer product for use with the MARPLOT data are also included on the distribution CDs/DVDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

*Metadata\_Reference\_Information:**Metadata\_Date:* 200902*Metadata\_Review\_Date:* 200902*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](mailto:Jill.Petersen@noaa.gov)*Metadata\_Standard\_Name:* Content Standards for Digital Geospatial Metadata*Metadata\_Standard\_Version:* FGDC-STD-001-1998

# Northern California ESI

## Entity Relationship Diagram for the Relational Data Tables

Relationships between spatial data layers and relational data tables



# Northern California ESI

## Entity Relationship Diagram for the Desktop/Flat File Approach

Relationships between spatial data layers and desktop data tables

