American Samoa ESI: HYDRO (Hydrography Lines and Polygons)

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

Metadata:

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

Identification_Information:
Citation:
  Originator:
  Publication_Date: 200402
  Title: American Samoa ESI: HYDRO (Hydrography Lines and Polygons)
  Edition: First
  Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:
  Series_Name: None
  Issue_Identification: American Samoa

Publication_Information:
  Publication_Place: Seattle, Washington
  Publisher:

Other_Citation_Details:

Description:
  Abstract:
  This data set contains vector lines and polygons representing coastal hydrography used in the creation of the Environmental Sensitivity Index (ESI) for American Samoa. 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 or geographic features, SOC or socioeconomic features, and HYDRO or water features. This data set comprises a portion of the ESI for American Samoa. 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
American Samoa ESI: HYDRO (Hydrography Lines and Polygons)

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:** 2002
- **Ending_Date:** 2004

**Currentness_Reference:**

These data were compiled during 2002-2003. The currentness dates for these data range from 2001 to 2002 and are documented in the Source_Information section.

**Status:**

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

**Spatial_Domain:**

**Bounding_Coordinates:**

- **West_BoundingCoordinate:** -171.266
- **East_BoundingCoordinate:** -167.964
- **North_BoundingCoordinate:** -10.873
- **South_BoundingCoordinate:** -14.723

**Keywords:**

- **Theme:**
  - Theme_Keyword_Thesaurus: None
  - Theme_Keyword: ESI
  - Theme_Keyword: Sensitivity maps
  - Theme_Keyword: Hydrography
  - 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: American Samoa

**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:** Relationships between spatial data layers and attribute data tables for American Samoa ESI data.
- **Browse_Graphic_File_Type:** JPEG

**Data_Set_Credit:**

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington, and NOAA's Coral Reef Conservation Program.

**Native_Data_Set_Environment:**

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 8.3) and SQL SERVER(r) (version 7.0). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).
The Spatial_Data_Organization_Information section refers only to the source files in the ARC export format. The following files are included in that data set: benthic.e00, birds.e00, casspt.e00, esi.e00, fish.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t_mampt.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

**Data_Quality_Information:**

**Attribute_Accuracy:**

**Attribute_Accuracy_Report:**

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

**Logical_Consistency_Report:**

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

**Completeness_Report:**

These data represent linear and polygonal hydrography for American Samoa.

**Positional_Accuracy:**

**Horizontal_Positional_Accuracy:**

**Horizontal_Positional_Accuracy_Report:**

The HYDRO data set was developed from pre-existing digital sources and reflects the positional accuracy of these original data. The horizontal positional accuracy of the 1:24,000 U.S. Geological Survey (USGS) topographic quads should conform to National Map Accuracy Standards at scales of 1:24,000. 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:**

American Samoa Government (ASG) Dept. of Commerce and U.S. Geological Survey (USGS)

**Publication_Date:** 2001

**Title:** Hydrography map of Tutuila Island

**Geospatial_Data_Presentation_Form:** Digital vector data

**Publication_Information:**

**Publication_Place:** Unknown

**Publisher:** Unpublished

**Source_Scale_Denominator:** 24000

**Type_of_Source_Media:** CD

**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: Shorelines

Source_Information:

Citation_Information:

Originator: ASG Dept. of Commerce
Publication_Date: 2002
Title: Wetland and hydrography data
Geospatial_Data_Presentation_Form: Digital vector data
Publication_Information:
  Publication_Date: 2002
  Publisher: Unpublished

Source_Scale_Denominator: Unknown
Type_of_Source_Media: CD
Source_Time_Period_of_Content:
  Time_Period_Information:
    Calendar_Date: 2002
Source_Currentness_Reference: Date of publication
Source_Citation_Abbreviation: None
Source_Contribution: Shorelines

Process_Step:

Process_Description:
The American Samoa shoreline was derived primarily from a digital vector shoreline manually digitized by the National Ocean Service (NOS) in 2002 from one-meter panchromatic IKONOS imagery. Those areas of the coastline that were obscured by cloud cover were derived from U.S. Geological Survey (USGS) Digital Raster Graphics (DRGs). In some cases, gross shoreline changes or additional hydrography polygons were sketched during overflights conducted during August of 2002. Overflight changes were digitized from the scanned and registered hardcopy field maps. After the initial shoreline classification, these data were edgematched and checked for logical consistency errors. Review maps were plotted at 1:24,000 scale for verification of polygonal and linear attributes.

Process_Date: 200311

Process_Contact:

Contact_Information:
  Contact_Organization_Primary:
    Contact_Organization: NOAA, Office of Response and Restoration
    Contact_Person: Jill Petersen
  Contact_Address:
    Address_Type: Physical address
    Address: 7600 Sand Point Way, N.E.
    City: Seattle
    State_orProvince: Washington
    Postal_Code: 98115-6349
    Contact_Voice_Telephone: (206) 526-6944
    Contact_Facsimile_Telephone: (206) 526-6329
    Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
  Direct_Spatial_Reference_Method: Vector
  Point_and_Vector_Object_Information:
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: GT-polygon composed of rings
      Point_and_Vector_Object_Count: 271
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Area point
      Point_and_Vector_Object_Count: 271
**SDTS_Terms_Description:**
**SDTS_Point_and_Vector_Object_Type:** Complete chain  
**Point_and_Vector_Object_Count:** 1019

**SDTS_Terms_Description:**
**SDTS_Point_and_Vector_Object_Type:** Link  
**Point_and_Vector_Object_Count:** 32315

**SDTS_Terms_Description:**
**SDTS_Point_and_Vector_Object_Type:** Label Point  
**Point_and_Vector_Object_Count:** 58

**SDTS_Terms_Description:**
**SDTS_Point_and_Vector_Object_Type:** Node, planar graph  
**Point_and_Vector_Object_Count:** 1019

**Spatial_Reference_Information:**
**Horizontal_Coordinate_System_Definition:**
**Geographic:**
  - **Latitude_Resolution:** 0.00005  
  - **Longitude_Resolution:** 0.00005  
**Geographic_Coordinate_Units:** Decimal degrees

**Geodetic_Model:**
**Horizontal_Datum_Name:** North American Datum of 1983 (HARN)  
**Ellipsoid_Name:** Geodetic Reference System 80  
**Semi-major_Axis:** 6378137  
**Denominator_of_Flattening_Ratio:** 298.257222

**Entity_and_Attribute_Information:**
**Detailed_Description:**
**Entity_Type:**
  - **Entity_Type_Label:** HYDRO.AAT  
  - **Entity_Type_Definition:** The HYDRO.AAT table contains attribute information for the vector lines comprising the shoreline polygons in the HYDRO data layer.  
  - **Entity_Type_Definition_Source:** Research Planning, Inc.

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

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

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

**Enumerated_Domain:**
  - **Enumerated_Domain_Value:** I  
  - **Enumerated_Domain_Value_Definition:** Index  
  - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

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

**Attribute:**
**Attribute_Label:** SOURCE_ID
**Attribute Definition:** Data source of the ESI lines
**Attribute Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**

- **Enumerated Domain:**
  - **Enumerated Domain Value:** 1
    - **Enumerated Domain Value Definition:** Original digital data (USGS DLG)
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.
  - **Enumerated Domain Value:** 2
    - **Enumerated Domain Value Definition:** Overflights by Research Planning, Inc.
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.
  - **Enumerated Domain Value:** 3
    - **Enumerated Domain Value Definition:** Aerial Photography
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.
  - **Enumerated Domain Value:** 5
    - **Enumerated Domain Value Definition:** Digitized from 1:24,000-USGS Digital Raster Graphics
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.
  - **Enumerated Domain Value:** 7
    - **Enumerated Domain Value Definition:** Digital USGS Index
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Detailed Description:**

**Entity Type:**

- **Entity Type Label:** HYDRO.PAT
  - **Entity Type Definition:** The HYDRO.PAT table contains attribute information for the vector polygons representing polygonal hydrography features in the HYDRO data layer.
  - **Entity Type Definition Source:** Research Planning, Inc.

**Attribute:**

- **Attribute Label:** WATER_CODE
  - **Attribute Definition:** Specifies a polygon as either water or land
  - **Attribute Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**

- **Enumerated Domain:**
  - **Enumerated Domain Value:** L
    - **Enumerated Domain Value Definition:** Land
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.
  - **Enumerated Domain 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.

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 American Samoa
  Distribution_Liability:
    Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.
  Custom_Order_Process:
    Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata_Reference_Information:
  Metadata_Date: 200402
  Metadata_Review_Date: 200402
  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
American Samoa ESI: ESI (Environmental Sensitivity Index Shoreline Types - Polygons and Lines)

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

Metadata:

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

Identification_Information:

Citation:

Originator:

Publication_Date: 200402

Title: American Samoa ESI: ESI (Environmental Sensitivity Index Shoreline Types - Polygons and Lines)

Edition: First

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:
Series_Name: None
Issue_Identification: American Samoa

Publication_Information:
Publication_Place: Seattle, Washington

Other_Citation_Details:

Description:

Abstract:
This data set contains vector lines and polygons representing the shoreline and coastal habitats of American Samoa classified according to the Environmental Sensitivity Index (ESI) classification system. This data set comprises a portion of the ESI for American Samoa. 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: 2002
Ending_Date: 2004

Currentness_Reference:
These data were compiled during 2002-2003. The currentness date for this data is 2003 and is documented in the Source_Information section.

Status:
Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -171.266
East_Bounding_Coordinate: -167.964
North_Bounding_Coordinate: -10.873
South_Bounding_Coordinate: -14.723

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: American Samoa

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:

Relationships between spatial data layers and attribute data tables for American Samoa ESI data.
Browse_Graphic_File_Type: JPEG

Data_Set_Credit:

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington, and NOAA's Coral Reef Conservation Program.

Native_Data_Set_Environment:

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 8.3) and SQL SERVER(r) (version 7.0). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

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

**Data_Quality_Information:**

**Attribute_Accuracy:**

*Attribute_Accuracy_Report:*

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

**Logical_Consistency_Report:**

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

**Completeness_Report:**

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

**Positional_Accuracy:**

**Horizontal_Positional_Accuracy:**

*Horizontal_Positional_Accuracy_Report:*

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

**Lineage:**

**Source_Information:**

**Source_Citation:**

*Citation_Information:*

*Originator:* AS Department of Commerce
*Publication_Date:* 2002
*Title:* Wetland and hydro data
*Geospatial_Data_Presentation_Form:* Digital vector data
*Publication_Information:*

*Publication_PLACE:* Unknown
*Publisher:* Unpublished

*Source_Scale_Denominator:* Unknown
*Type_of_Source_Media:* CD
*Source_Time_Period_of_Content:*

*Time_Period_Information:*

*Single_Date/Time:*

*Calendar_Date:* 2002
*Source_Currentness_Reference:* Date of publication
*Source_Citation_Abbreviation:* None
The intertidal shoreline habitats of the islands of Tutuila, Aunu'u, Ofu, Olosega, and Ta'u were mapped during overflights and ground surveys conducted by an experienced coastal geologist in August 2002. The overflights of the island chain were conducted using privately operated fixed-wing aircraft, flying at elevations of
400-600 feet and slow air speed. During this work, the ESI ranking of observed
intertidal shoreline habitats was denoted directly onto the shoreline depicted on
1:24,000-scale U.S. Geological Survey (USGS) topographic maps. Where
appropriate, revisions to the existing shoreline were made and where necessary,
multiple habitats were described for each shoreline segment. In addition to the ESI
shoreline habitats, wetland data for Tutuila, Aunu'u, and the Manu'a islands are also
depicted on the maps. The American Samoa Community College Land Grant
Program (ASCC) delineated mangroves on the islands of Tutuila and Aunu'u in
2002-2003, and the data were provided as digital coverages for use in this atlas. The
American Samoa Department of Commerce (DOC) provided digital coverages of
additional wetland data that had been collected by various sources in the early 1990s.

Process_Date: 200311
Process_Contact:
  Contact_Information:
    Contact_Organization_Primary:
      Contact_Organization: NOAA, Office of Response and
        Restoration
      Contact_Person: Jill Petersen
    Contact_Address:
      Address_Type: Physical address
      Address: 7600 Sand Point Way, N.E.
      City: Seattle
      State_or_Province: Washington
      Postal_Code: 98115-6349
    Contact_Voice_Telephone: (206) 526-6944
    Contact_Facsimile_Telephone: (206) 526-6329
    Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
  Direct_Spatial_Reference_Method: Vector
  Point_and_Vector_Object_Information:
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: GT-polygon composed of rings
      Point_and_Vector_Object_Count: 252
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Area point
      Point_and_Vector_Object_Count: 252
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Complete chain
      Point_and_Vector_Object_Count: 1041
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Link
      Point_and_Vector_Object_Count: 36021
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Node, planar graph
      Point_and_Vector_Object_Count: 1001

Spatial_Reference_Information:
  Horizontal_Coordinate_System_Definition:
    Geographic:
      Latitude_Resolution: 0.00005
      Longitude_Resolution: 0.00005
      Geographic_Coordinate_Units: Decimal degrees
    Geodetic_Model:
      Horizontal_Datum_Name: North American Datum of 1983 (HARN)
      Ellipsoid_Name: Geodetic Reference System 80
Semi-major Axis: 6378137
Denominator of Flattening Ratio: 298.257222

Entity and Attribute Information:
Detailed Description:
Entity Type:
  Entity Type Label: ESI.AAT
  Entity Type Definition: The ESI.AAT table contains attribute information for the vector lines representing linear shoreline features with ESI classification.
  Entity Type Definition Source: 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.
  Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
  Enumerated Domain:
    Enumerated Domain Value: 1A
    Enumerated Domain Value Definition: Exposed Rocky Cliffs
    Enumerated Domain Value Definition Source: Research Planning, Inc.
  Enumerated Domain:
    Enumerated Domain Value: 1B
    Enumerated Domain Value Definition: Exposed, Solid Man-made Structures
    Enumerated Domain Value Definition Source: Research Planning, Inc.
  Enumerated Domain:
    Enumerated Domain Value: 2A
    Enumerated Domain Value Definition: Exposed, Wave-cut Platforms in Bedrock
    Enumerated Domain Value Definition Source: Research Planning, Inc.
  Enumerated Domain:
    Enumerated Domain Value: 3A
    Enumerated Domain Value Definition: Fine- to Medium-grained Sand Beaches
    Enumerated Domain Value Definition Source: Research Planning, Inc.
  Enumerated Domain:
Enumerated_Domain_Value: 4
Enumerated_Domain_Value_Definition: Coarse-Grained Sand Beaches
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain_Value: 5
Enumerated_Domain_Value_Definition: Mixed Sand and Gravel Beaches
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain_Value: 6A
Enumerated_Domain_Value_Definition: Gravel Beaches
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain_Value: 6B
Enumerated_Domain_Value_Definition: Riprap
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

Enumerated_Domain_Value: 8A
Enumerated_Domain_Value_Definition: Sheltered Rocky Shores
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain_Value: 8B
Enumerated_Domain_Value_Definition: Sheltered, Solid Man-made Structures
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain_Value: 8C
Enumerated_Domain_Value_Definition: Sheltered Riprap
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

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

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

Enumerated_Domain_Value: 10C
Enumerated_Domain_Value_Definition: Freshwater Swamps
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain_Value: 10D
Enumerated_Domain_Value_Definition: Mangroves
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

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

Enumerated Domain:
- Enumerated Domain Value: B
  Enumerated Domain Value Definition: Breakwater
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:
- Enumerated Domain Value: F
  Enumerated Domain Value Definition: Flat
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:
- Enumerated Domain Value: H
  Enumerated Domain Value Definition: Hydrography
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:
- Enumerated Domain Value: M
  Enumerated Domain Value Definition: Marsh
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:
- Enumerated Domain Value: S
  Enumerated Domain Value Definition: Shoreline
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
Attribute Label: SOURCE_ID
Attribute Definition:
Data source of the ESI lines. 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.
Attribute Definition Source: Research Planning, Inc.

Enumerated Domain:
- Enumerated Domain Value: 1
  Enumerated Domain Value Definition: NOAA Coastal Service Center Shoreline developed from Ikonos Imagery
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:
- Enumerated Domain Value: 2
  Enumerated Domain Value Definition: Overflights by Research Planning, Inc.
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:
- Enumerated Domain Value: 3
  Enumerated Domain Value Definition: Aerial Photography
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:
- Enumerated Domain Value: 5
  Enumerated Domain Value Definition: Digitized from 1:24,000-USGS Topographic Maps
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
Attribute Label: ENVIR
Attribute Definition: Type of regional environment
Attribute Definition Source: Research Planning, Inc.

Enumerated Domain:
- Enumerated Domain Value: E
  Enumerated Domain Value Definition: Estuarine
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Enumerated Domain:
- Enumerated Domain Value: U
Enumerated_Domain_Value_Definition: Unranked
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:
Entity_Type_Label: ESI.PAT
Entity_Type_Definition: The ESI.PAT table contains attribute information for the vector polygons representing polygonal features with ESI classification.
Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: ESI
Attribute_Definition: The item ESI contains values representing the ESI polygon type. The ESI rankings progress from low to high susceptibility to oil spills. The ESI rankings of polygons are similar to the ESI rankings of shorelines (see the ESI attribute in the ESI.AAT section).
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: 7
Enumerated_Domain_Value_Definition: Exposed Tidal Flats
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: 9A
Enumerated_Domain_Value_Definition: Sheltered Tidal Flats
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: 10B
Enumerated_Domain_Value_Definition: Freshwater Marshes
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: 10C
Enumerated_Domain_Value_Definition: Freshwater Swamps
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: 10D
Enumerated_Domain_Value_Definition: Mangroves
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: U
Enumerated_Domain_Value_Definition: Unranked
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: L
Enumerated_Domain_Value_Definition: Land
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: W
Enumerated_Domain_Value_Definition: Water
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: ENVIR
Attribute_Definition: Type of regional environment
Attribute_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
  Enumerated_Domain_Value: E
  Enumerated_Domain_Value_Definition: Estuarine
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

Distribution_Information:
  Distributor:
  Contact_Information:
    Contact_Person_Primary: John Kaperick
    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 American Samoa

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

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

Metadata_Reference_Information:
  Metadata_Date: 200402
  Metadata_Review_Date: 200402
  Metadata_Contact:
    Contact_Information:
      Contact_Person_Primary: Jill Petersen
      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
American Samoa ESI: INDEX (Index Polygons)

Metadata:

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

Identification_Information:
Citation:

Originator:

Publication_Date: 200402
Title: American Samoa ESI: INDEX (Index Polygons)
Edition: First
Geospatial_Data_Presentation_Form: Vector digital data
Series_Information:

Series_Name: None
Issue_Identification: American Samoa

Publication_Information:
Publication Place: Seattle, Washington
Publisher:

Other_Citation_Details:

Description:
Abstract:
This data set contains vector polygons representing the boundaries of all the hardcopy cartographic products produced as part of the Environmental Sensitivity Index (ESI) for American Samoa, as well as digital data extents. This data set comprises a portion of the ESI for American Samoa. 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: 2002
Ending Date: 2004

Currentness Reference:
The data were compiled during 2002-2003. The currentness dates for these data range from 1999 to 2002 and are documented in the Source Information section.

Status:
Progress: Complete
Maintenance and Update Frequency: None Scheduled

Spatial Domain:
Bounding Coordinates:
West Bounding Coordinate: -171.266
East Bounding Coordinate: -167.964
North Bounding Coordinate: -10.873
South Bounding Coordinate: -14.723

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: Index

Place:
Place_Keyword_Thesaurus: None
Place_Keyword: American Samoa

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:
Relationships between spatial data layers and attribute data tables for American Samoa ESI data.
Browse Graphic File Type: JPEG

Data Set Credit:
This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington, and NOAA's Coral Reef Conservation Program.

Native Data Set Environment:
The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 8.3) and SQL SERVER(r) (version 7.0). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

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

Attribute_Accuracy:

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

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

Completeness_Report:
These data represent the boundaries of all the hardcopy cartographic products produced as part of the Environmental Sensitivity Index (ESI) for American Samoa, as well as digital data extents. Primarily, 1:24,000 U.S. Geological Survey (USGS) topographic maps and two National Ocean Service Nautical Charts, 1:40,000 and 1:80,000, were used to provide boundaries for cartographic products. In most cases, the polygons represent USGS topographic maps or nautical charts that were re-tiled, moved, or extended to provide better cartographic coverage of the study area.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:
The index polygons in this data layer were mainly generated in ArcInfo from the coordinates of the USGS 1:24,000 topographic map or the 1:40,000 and 1:80,000 nautical chart 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. 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: U.S. Geological Survey (USGS)
Publication_Date: Unknown
Title: Topographic Quadrangles
Geospatial_Data_Presentation_Form: vector digital data
Publication_Information:
Publication_Date: Varies
Publication_Place: Denver, CO or Reston, VA
Publisher: U.S. Geological Survey
Source_Scale_Denominator: 24,000
Type_of_Source_Media: Online
Source_Time_Period_of_Content:

Single_Date/Time:

Calendar_Date: Varies
Source_Currentness_Reference: Date of publication
Source_Citation_Abbreviation: None
Source_Contribution: Map index information
Source_Information:
Source_Citation:
Citation_Information:
Originator:
National Oceanic and Atmospheric Administration (NOAA),
National Ocean Service (NOS)
Publication_Date: Varies
Title: Navigational Charts
Geospatial_Data_Presentation_Form: Map
Publication_Information:
Publication_Place: Seattle, WA
Publisher:
National Oceanic and Atmospheric Administration
(NOAA), National Ocean Service (NOS)
Source_Scale_Denominator: Varies
Type_of_Source_Media: Paper
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: Varies
Source_Currentness_Reference: Date of publication
Source_Citation_Abbreviation: None
Source_Contribution: Map index information
Process_Step:
Process_Description:
The index polygons in this data layer were generated in ArcInfo from the
coordinates of the USGS map corners, or appropriate coordinates.
Process_Date: 200311
Process>Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: NOAA, Office of Response and
Restoration
Contact_Person: Jill Petersen
Contact_Address:
Address_Type: Physical address
Address: 7600 Sand Point Way, N.E.
City: Seattle
State_orProvince: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov
Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: GT-polygon composed of rings
Point_and_Vector_Object_Count: 12
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 12
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 40
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 1083
**SDTS_Terms_Description:**
- **SDTS_Point_and_Vector_Object_Type:** Node, planar graph
- **Point_and_Vector_Object_Count:** 37

**Spatial_Reference_Information:**
- **Horizontal_Coordinate_System_Definition:**
  - **Geographic:**
    - **Latitude_Resolution:** 0.00005
    - **Longitude_Resolution:** 0.00005
    - **Geographic_Coordinate_Units:** Decimal degrees
  - **Geodetic_Model:**
    - **Horizontal_Datum_Name:** North American Datum of 1983 (HARN)
    - **Ellipsoid_Name:** Geodetic Reference System 80
    - **Semi-major_Axis:** 6378137
    - **Denominator_of_Flattening_Ratio:** 298.257222

**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 map boundaries and digital data boundaries used in the creation of the Environmental Sensitivity Index (ESI) for American Samoa.
    - **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. The values for each polygon are unique and range from 1 through 8.
    - **Attribute_Definition_Source:** Research Planning, Inc.
    - **Attribute_Domain_Values:**
      - **Range_Domain:**
        - **Range_Domain_Minimum:** 1
        - **Range_Domain_Maximum:** 8
  - **Attribute:**
    - **Attribute_Label:** TOPO-NAME
    - **Attribute_Definition:** Map Names
    - **Attribute_Definition_Source:** Research Planning, Inc.
    - **Attribute_Domain_Values:**
      - **Enumerated_Domain:**
        - **Enumerated_Domain_Value:** Tutuila Island, American Samoa
        - **Enumerated_Domain_Value_Definition:** USGS 1:24,000 Topographic map name
        - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.
      - **Enumerated_Domain:**
        - **Enumerated_Domain_Value:** Ofu & Olosega Islands, American Samoa
        - **Enumerated_Domain_Value_Definition:** USGS 1:24,000 Topographic map name
        - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.
      - **Enumerated_Domain:**
        - **Enumerated_Domain_Value:** Tau Island, American Samoa
        - **Enumerated_Domain_Value_Definition:** USGS 1:24,000 Topographic map name
        - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.
Enumerated_Domain_Value: Rose Atoll, American Samoa
Enumerated_Domain_Value_DEFINITION: National Ocean Service Nautical Chart 83484 (1:80,000)
Enumerated_Domain_Value_DEFINITION_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: Swains Island, American Samoa
Enumerated_Domain_Value_DEFINITION: National Ocean Service Nautical Chart 83484 (1:40,000)
Enumerated_Domain_Value_DEFINITION_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: blank
Enumerated_Domain_Value_DEFINITION: International waters boundary (12 nautical mile extent)
Enumerated_Domain_Value_DEFINITION_Source: Research Planning, Inc.

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:
Enumerated_Domain:
Enumerated_Domain_Value: 56,000
Enumerated_Domain_Value_DEFINITION: Scale = 1:56,000
Enumerated_Domain_Value_DEFINITION_Source: Research Planning, Inc.

Attribute:
Attribute_Label: MAPANGLE
Attribute_DEFINITION:
MAPANGLE contains a value to rotate the final map product so that it is situated straight up and down
Attribute_DEFINITION_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: -0.017
Range_Domain_Maximum: 0.714
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 American Samoa

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

Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.
American Samoa ESI: BENTHIC (Benthic Marine Habitat Polygons)

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

Metadata:

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

Identification_Information:

Citation:

Originator:

Publication_Date: 200402
Title: American Samoa ESI: BENTHIC (Benthic Marine Habitat Polygons)
Edition: First
Geospatial_Data_Presentation_Form: Vector digital data
Series_Information:
Series_Name: None
Issue_Identification: American Samoa
Publication_Information:
Publication_Place: Seattle, Washington
Publisher:

Other_Citation_Details:

Description:

Abstract:
This data set contains sensitive biological resource data for benthic habitats in American Samoa. Vector polygons in this data set represent the distribution of macroalgae, coral reef and colonized hardbottom, uncolonized hardbottom, and encrusting/coralline algae habitats. This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for American Samoa. 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 CASSPT (Coral Areas of Special Significance - Points) data layer, part of the larger American Samoa ESI database, for additional coral 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: 2002
   Ending_Date: 2004
Currentness_Reference:
The biological data were compiled during 2002 to 2003. The currentness date for these data is 2003 and is documented in the Source_Information section.

Status:
Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:
Bounding_Coordinates:
   West_BoundingCoordinate: -171.266
   East_BoundingCoordinate: -167.964
   North_BoundingCoordinate: -10.873
   South_BoundingCoordinate: -14.723

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: Benthic
   Theme_Keyword: Algae
   Theme_Keyword: Coral
   Theme_Keyword: Hardbottom
   Theme_Keyword: Macroalgae

Place:
   Place_Keyword_Thesaurus: None
   Place_Keyword: American Samoa

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: Relationships between spatial data layers and attribute data tables for the American Samoa ESI data.
   Browse_Graphic_File_Type: JPEG

Data_Set_Credit:
   This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington, and NOAA's Coral Reef Conservation Program.

Native_Data_Set_Environment:
The software packages used to develop the atlas are Environmental Systems Research Institute's
ARC/INFO(r) (version 8.3) and SQL SERVER(r) (version 7.0). The hardware configuration is PC’s with Windows Operating System (NT4.0/2000).

The Spatial_Data_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: benthic.e00, birds.e00, casspt.e00, esi.e00, fish.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptiles.e00, soccon.e00, t_mampt.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biore, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

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

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

Completeness_Report:
The source data used for this data set were provided in digital format by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Center for Coastal Ocean Science, Center for Coastal Monitoring and Assessment, Biogeography Program. See also the CASSPT (Coral Areas of Special Significance - Points) data layer, part of the larger American Samoa ESI database, for additional coral information. The following benthic groups are included in this data set: macroalgae, coral reef and colonized hardbottom, uncolonized hardbottom, and encrusting/coralline algae habitats.

Positional_Accuracy:
Horizontal_Positional_Accuracy:
Horizontal_Positional_Accuracy_Report:
Some of the spatial components of the biological data sets are developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy basemaps with a scale of 1:24,000. The rest of the spatial components of the biological data sets are developed from pre-existing digital 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:
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Center for Coastal
The main source used to depict habitat distribution for this data layer was a 2003 vector polygon benthic habitat data set provided by the NOAA NOS Biogeography Program. The data were posted on an ftp site as shapefiles and contained a three-tiered hierarchical classification structure, therefore making it possible to display the benthic habitat types as general or as detailed as deemed appropriate. In order to keep the hardcopy ESI maps readable and to maintain a level of detail commensurate with oil spill response and planning, we chose to display the "second tier" of the classification structure that included the following benthic habitat categories: macroalgae, coral reef and colonized hardbottom, uncolonized hardbottom, and encrusting and coralline algae. No seasonality or concentration information was used. These data were not yet publicly available when they were provided for this project. Please see the following website: <http://biogeo.nos.noaa.gov/projects/mapping/pacific/territories/as/> or contact Tim Battista (Phone: 301/713-3028 x 171; Email: Tim.Battista@noaa.gov) for more information.

Process_Date: 200311
Process_Contact:
  Contact_Organization_Primary:
    Contact_Organization: NOAA, Office of Response and Restoration
    Contact_Person: Jill Petersen
  Contact_Address:
    Address_Type: Physical address
    Address: 7600 Sand Point Way, N.E.
    City: Seattle
    State_or_Province: Washington
    Postal_Code: 98115-6349
  Contact_Voice_Telephone: (206) 526-6944
  Contact_Facsimile_Telephone: (206) 526-6329
  Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

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 rings
      Point_and_Vector_Object_Count: 592
      SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 592

SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 1348

SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 76091

SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 973

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.00005
Longitude_Resolution: 0.00005
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1983 (HARN)
Ellipsoid_Name: Geodetic Reference System 80
Semi-major_Axis: 6378137
Denominator_of_Flattening_Ratio: 298.257222

Entity_and_Attribute_Information:
Detailed_Description:
Entity_Type:
Entity_Type_Label: BENTHIC.PAT
Entity_Type_Definition:
The BENTHIC.PAT table contains attribute information for the vector polygons representing macroalgae, coral reef and colonized hardbottom, uncolonized hardbottom, and encrusting and coralline algae concentration areas. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: TYPE
Attribute_Definition: Type of benthic habitat
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Macroalgae
Enumerated_Domain_Value_Definition: Macroalgae
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Coral Reef and Colonized Hardbottom
Enumerated_Domain_Value_Definition: Coral Reef and Colonized Hardbottom
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Uncolonized Hardbottom
Enumerated_Domain_Value_Definition: Uncolonized Hardbottom
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
**Enumerated_Domain:**

- **Enumerated_Domain_Value:** Encrusting and Coralline Algae
- **Enumerated_Domain_Value_Definition:** Encrusting and Coralline Algae
- **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**Distribution_Information:**

**Distributor:**
- **Contact_Person_Primary:** 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 American Samoa

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

**Custom_Order_Process:**
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

**Metadata_Reference_Information:**

- **Metadata_Date:** 200402
- **Metadata_Review_Date:** 200402

**Metadata_Contact:**
- **Contact_Person_Primary:** Jill Petersen
- **Contact_Organization:** NOAA, Office of Response and Restoration
- **ContactgetPosition:** GIS Manager

**Contact_Address:**
- **Address_Type:** Physical Address
- **Address:** 7600 Sand Point Way, N.E.
- **City:** Seattle
- **State_or_Province:** Washington
- **Postal_Code:** 98115-6349
- **Contact_Voice_Telephone:** (206) 526-6944
- **Contact_Facsimile_Telephone:** (206) 526-6329
- **Contact_Electronic_Mail_Address:** Jill.Petersen@noaa.gov

**Metadata_Standard_Name:** Content Standards for Digital Geospatial Metadata

**Metadata_Standard_Version:** FGDC-STD-001-1998
American Samoa ESI: CASSPT (Coral Areas of Special Significance - Points)

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

Metadata:

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

Identification_Information:

Citation:

Originator:

Publication_Date: 200402

Title: American Samoa ESI: CASSPT (Coral Areas of Special Significance - Points)

Edition: First

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:
Series_Name: None
Issue_Identification: American Samoa

Publication_Information:
Publication_Place: Seattle, Washington
Publisher:

Other_Citation_Details:

Description:

Abstract:

This data set contains sensitive biological resource data for "Coral Areas of Special Significance" in American Samoa. Coral Areas of Special Significance were designated by resource experts as those areas that should be highly prioritized for protection following spills, due to various reasons (e.g., species diversity, rare coral, endangered/threatened marine animal species, high fish/invertebrate concentrations, sensitive habitat, etc.). In this data set, they are represented by vector points. This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for American Samoa. 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 BENTHIC (Benthic Marine Habitat Polygons) data layer, part of the larger American Samoa ESI database, for additional coral 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: 2002
  Ending_Date: 2004

Currentness_Reference:
These data were compiled during 2002-2003. The currentness dates for these data range from 1996 to 2003 and are documented in the Source_Information section.

Status:
  Progress: Complete
  Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:
  Bounding_Coordinates:
    West_Bounding_Coordinate: -171.266
    East_Bounding_Coordinate: -167.964
    North_Bounding_Coordinate: -10.873
    South_Bounding_Coordinate: -14.723

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: Coral
    Theme_Keyword: Wildlife

Place:
  Place_Keyword_Thesaurus: None
  Place_Keyword: American Samoa

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: Relationships between spatial data layers and attribute data tables for the American Samoa ESI data.
Browse_Graphic_File_Type: JPEG

Data_Set_Credit:
This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington, and NOAA's Coral Reef Conservation Program.

Native_Data_Set_Environment:
The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 8.3) and SQL SERVER(r) (version 7.0). The hardware configuration is PC's
with Windows Operating System (NT4.0/2000).

The Spatial_Data_Organization_Information section refers only to the source files in the ARC export format. The following files are included in that data set: benthic.e00, birds.e00, casspt.e00, esi.e00, fish.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t_mampt.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, bioreis, 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.). A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks.

**Completeness_Report:**

"Coral Areas of Special Significance" were designated by resource experts as those areas that should be highly prioritized for protection following spills, due to various reasons (e.g. species diversity, unique habitat, endangered/threatened marine animal species, high fish/invertebrate concentrations, subsistence use, etc.). See also the BENTHIC (Benthic Marine Habitat Polygons) data layer, part of the larger American Samoa ESI database, for additional coral information. Also refer to other biology layers for additional information on associated species. These data do not necessarily represent all Coral Areas of Special Significance in American Samoa.

**Positional_Accuracy:**

**Horizontal_Positional_Accuracy:**

**Horizontal_Positional_Accuracy_Report:**

These data were developed by regional experts who manually delineated areas of special significance. It is difficult to estimate the positional accuracy of such data, except to state that they were compiled on 1:24,000 U.S. Geological Survey (USGS) topographic maps. 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:** Alison Green (AS DMWR)  
**Publication_Date:** 1996  
**Title:** The Status of the Coral Reefs of the Samoan Archipelago  
**Geospatial_Data_Presentation_Form:** Hardcopy text  
**Publication_Information:**  
**Publication_Place:** Unknown  
**Publisher:** AS Department of Marine and Wildlife Resources (DMWR)  
**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: Coral Areas of Special Significance information

Source_Information:
Source_Citation:
  Citation_Information:
    Originator: Coral Reef Advisory Group
    Publication_Date: 2003
    Title: Special Management Areas on Tutuila
    Geospatial_Data_Presentation_Form: Hardcopy text
    Publication_Information:
      Publication_PLACE: Unknown
      Publisher: Unpublished
  Source_Scale_Denominator: 24000
  Type_of_Source_Media: Paper
Source_Time_Period_of_Content:
  Time_Period_Information:
    Single_Date/Time:
      Calendar_Date: 2003
Source_Currentness_Reference: Date of publication
Source_Citation_Abbreviation: None
Source_Contribution: Coral Areas of Special Significance information

Source_Information:
Source_Citation:
  Citation_Information:
    Originator: National Park Service
    Publication_Date: 2003
    Title:
    Distribution of Reef and Pelagic Fish, Sea Turtles, and Invertebrates
    Geospatial_Data_Presentation_Form: Expert Knowledge
    Publication_Information:
      Publication_PLACE: Unknown
      Publisher: Unpublished
  Type_of_Source_Media: Personal communication
Source_Time_Period_of_Content:
  Time_Period_Information:
    Single_Date/Time:
      Calendar_Date: 2003
Source_Currentness_Reference: Date of communication
Source_Citation_Abbreviation: None
Source_Contribution: Coral Areas of Special Significance information

Process_Step:
Process_Description: The main source of data used to depict Coral Areas of Special Significance was personal interviews with resource experts from the National Park of American Samoa (NPS). Resource experts designated these areas for high priority protection following spills.
Process_Date: 200311
Process_Contact:
  Contact_Information:
    Contact_Organization_Primary:
      Contact_Organization: NOAA, Office of Response and Restoration
      Contact_Person: Jill Petersen
    Contact_Address:
Address_Type: Physical address
Address: 7600 Sand Point Way, N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
  SDTS_Terms_Description:
    SDTS_Point_and_Vector_Object_Type: Entity Point
    Point_and_Vector_Object_Count: 1

Spatial_Reference_Information:
  Horizontal_Coordinate_System_Definition:
    Geographic:
      Latitude_Resolution: 0.00005
      Longitude_Resolution: 0.00005
      Geographic_Coordinate_Units: Decimal degrees
    Geodetic_Model:
      Horizontal_Datum_Name: North American Datum of 1983 (HARN)
      Ellipsoid_Name: Geodetic Reference System 80
      Semi-major_Axis: 6378137
      Denominator_of_Flattening_Ratio: 298.257222

Entity_and_Attribute_Information:
Detailed_Description:
  Entity_Type:
    Entity_Type_Label: CASSPT.PAT
    Entity_Type_Definition:
      The data layer CASSPT contains vector points representing Coral Areas of Special Significance.
    Entity_Type_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_orProvince: Washington
      Postal_Code: 98115-6349
    Contact_Voice_Telephone: (206) 526-6400
    Contact_Facsimile_Telephone: (206) 526-6329
  Resource_Description: ESI Atlas for American Samoa
Distribution Liability:
Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.

Custom Order Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata Reference Information:
Metadata Date: 200402
Metadata Review Date: 200402
Metadata Contact:
Contact Information:
Contact Person Primary:
Contact Person: Jill Petersen
Contact Organization: NOAA, Office of Response and Restoration
Contact Position: GIS Manager
Contact Address:
Address Type: Physical Address
Address: 7600 Sand Point Way, N.E.
City: Seattle
State_or_Province: Washington
Postal Code: 98115-6349
Contact Voice Telephone: (206) 526-6944
Contact Facsimile Telephone: (206) 526-6329
Contact Electronic Mail Address: Jill.Petersen@noaa.gov
Metadata Standard Name: Content Standards for Digital Geospatial Metadata

Generated by mp version 2.8.2 on Wed Feb 25 18:26:10 2004
American Samoa ESI: BIRDS (Bird Polygons)

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

Metadata:

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

Identification_Information:

Citation:

Originator:

Publication_Date: 200402
Title: American Samoa ESI: BIRDS (Bird Polygons)
Edition: First
Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:

Series_Name: None
Issue_Identifier: American Samoa

Publication_Information:

Publication_PLACE: Seattle, Washington
Publisher:

Other_Citation_Details:

Description:

Abstract:
This data set contains sensitive biological resource data for seabirds, wading birds, shorebirds, waterfowl, and gulls and terns in American Samoa. Vector polygons in this data set represent locations of bird nesting, migratory staging, and feeding 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 American Samoa. 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 American Samoa 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:** 2002
- **Ending_Date:** 2004

**Currentness_Reference:**

The biological data were compiled during 2002-2003. The currentness dates for these data range from 1982 to 2003 and are documented in the Source_Information section.

**Status:**

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

**Spatial_Domain:**

- **Bounding_Coordinates:**
  - **West_Bounding_Coordinate:** -171.266
  - **East_Bounding_Coordinate:** -167.964
  - **North_Bounding_Coordinate:** -10.873
  - **South_Bounding_Coordinate:** -14.723

**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:** American Samoa

**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:** Relationships between spatial data layers and attribute data tables for the American Samoa ESI data.
- **Browse_Graphic_File_Type:** JPEG

**Data_Set_Credit:**

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington, and NOAA's Coral Reef Conservation Program.

**Native_Data_Set_Environment:**

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 8.3) and SQL SERVER(r) (version 7.0). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).
Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

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

Logical_Consistency_Report:

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

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness_Report:

These data represent a synthesis of expert knowledge and available hardcopy reports on bird nesting, migratory staging, and feeding concentration areas. See also the NESTS (Nest Points) data layer, part of the larger American Samoa ESI database, for additional bird information. These data do not necessarily represent all bird occurrences in American Samoa. The following species are included in this data set: (Species_ID, Common Name, Scientific Name, if applicable): 57, Wandering tattler, Heteroscelus incanus; 67, Sanderling, Calidris alba; 73, Ruddy turnstone, Arenaria interpres; 126, Brown noddy, Anous stolidus; 127, Sooty tern, Sterna fuscata; 128, Masked (blue-faced) booby, Sula dactylatra; 249, Black noddy, Anous minutus; 250, Red-tailed tropicbird, Phaethon rubricauda; 251, Great frigatebird, Fregata minor; 260, Red-footed booby, Sula sula; 261, Brown booby, Sula leucogaster; 262, Gray-backed tern, Sterna lunata; 263, Blue-gray noddy, Procelsterna cerulea; 264, White tern, Gygis alba; 283, Bridled tern, Sterna anaethetus; 287, Audubon's shearwater, Puffinus lherminieri; 413, Bristle-thighed curlew, Numenius tahitiensis; 543, Pacific golden-plover, Pluvialis fulva; 557, Western reef heron, Egretta gularis; 725, Australian gray duck, Anas superciliosa; 729, Lesser frigatebird, Fregata ariel; 1022, Seabirds; 1030, Frigatebirds, Fregata spp.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Most of the spatial components of the biological data sets are developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy
base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital 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:** U.S. Fish and Wildlife Service
- **Publication Date:** 1982
- **Title:** Wildlife and Wildlife Habitat of American Samoa II
- **Geospatial Data Presentation Form:** Hardcopy text
- **Publication Information:**
  - **Publication Place:** Unknown
  - **Publisher:** U.S. DOI, Fish and Wildlife Service, Washington, DC.

- **Type of Source Media:** Paper
- **Source Time Period of Content:**
  - **Time Period Information:**
    - **Calendar Date:** 1982
  - **Source Currentness Reference:** Date of publication
  - **Source Citation Abbreviation:** None
  - **Source Contribution:** Bird information

**Source Information:**

**Source Citation:**

**Citation Information:**

- **Originator:** National Park of American Samoa (NPS); American Samoa Department of Marine and Wildlife Resources (DMWR)
- **Publication Date:** 2002
- **Title:** Natural History Guide to American Samoa
- **Geospatial Data Presentation Form:** Hardcopy text
- **Publication Information:**
  - **Publication Place:** Unknown
  - **Publisher:** National Park of American Samoa; DMWR.

- **Type of Source Media:** Paper
- **Source Time Period of Content:**
  - **Time Period Information:**
    - **Calendar Date:** 2002
  - **Source Currentness Reference:** Date of publication
  - **Source Citation Abbreviation:** None
  - **Source Contribution:** Bird information

**Source Information:**

**Source Citation:**

**Citation Information:**

- **Originator:** Beth Flint, U.S. Fish & Wildlife Service (USFWS) Honolulu
- **Publication Date:** 2003
- **Title:** Seabird Populations at Rose Island - Number of active nests (egg or chick)
- **Geospatial Data Presentation Form:** Hardcopy text
- **Publication Information:**
  - **Publication Place:** Unknown
  - **Publisher:** Unpublished

- **Type of Source Media:** Paper
Process_Description:
Two main sources of data were used to depict bird distribution and seasonality for this data layer: (1) personal interviews with resource experts from American Samoa Department of Marine and Wildlife Resources (DMWR) and National Park of American Samoa (NPS), and (2) reports and survey data provided by NPS and
DMWR, the U.S. Fish and Wildlife Service (USFWS), and the University of Hawaii. Concentration and seasonality information was provided by resource experts or was extracted from published and unpublished reports and survey data.

**Process_Date:** 200311

**Process_Contact:**

**Contact_Information:**

**Contact_Organization_Primary:**

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

**Contact_Address:**

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

**Contact_Voice_Telephone:** (206) 526-6944

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

**Contact_Electronic_Mail_Address:** Jill.Petersen@noaa.gov

**Spatial_Data_Organization_Information:**

- **Direct_Spatial_Reference_Method:** Vector

**Point_and_Vector_Object_Information:**

**SDTS_Terms_Description:**

- **SDTS_Point_and_Vector_Object_Type:** GT-polygon composed of rings
  - **Point_and_Vector_Object_Count:** 542

- **SDTS_Point_and_Vector_Object_Type:** Area point
  - **Point_and_Vector_Object_Count:** 542

- **SDTS_Point_and_Vector_Object_Type:** Complete chain
  - **Point_and_Vector_Object_Count:** 972

- **SDTS_Point_and_Vector_Object_Type:** Link
  - **Point_and_Vector_Object_Count:** 71236

- **SDTS_Point_and_Vector_Object_Type:** Node, planar graph
  - **Point_and_Vector_Object_Count:** 672

**Spatial_Reference_Information:**

- **Horizontal_Coordinate_System_Definition:** Geographic
  - **Latitude_Resolution:** 0.00005
  - **Longitude_Resolution:** 0.00005
  - **Geographic_Coordinate_Units:** Decimal degrees

- **Geodetic_Model:**
  - **Horizontal_Datum_Name:** North American Datum of 1983 (HARN)
  - **Ellipsoid_Name:** Geodetic Reference System 80
  - **Semi-major_Axis:** 6378137
  - **Denominator_of_Flattening_Ratio:** 298.257222

**Entity_and_Attribute_Information:**

- **Overview_Description:**
  - **Entity_and_Attribute_Overview:**
In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREEED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, BIRDS) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (the American Samoa atlas number is 76), 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, T_E, NHP, DATE_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREEED1, BREEED2, BREEED3, BREEED4, BREEED5, RARNUM, G_SOURCE, S_SOURCE, and BREEED. All of these items are the same as their counterparts in the individual data tables described below, except the BREEED1-BREEED5 and BREEED items. BREEED is a newly generated variable used to link to the BREEED_DT data table, a modified, more compact version of the relational BREEED data table. BREEED1-BREEED5 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 BREEED 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, BREEED_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 BREEED_DT is the BREEED 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, which describes 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 representing bird nesting, migratory staging, and feeding site 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 (76), 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: 760100002
Range_Domain_Maximum: 760100566

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: 76000001
  Range_Domain_Maximum: 76000058

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: 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 (76), 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: 760100001
  Range_Domain_Maximum: 76000134

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
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. In this data layer, concentration is usually represented as the number of individuals (XX BIRDS). In cases where no concentration information was available from any source, the CONC field contains ".". Counts were derived primarily from 1990, 1998, and 2000 survey data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
    Enumerated_Domain:
        Enumerated_Domain_Value: Any character
        Enumerated_Domain_Value_Definition: Free text
        Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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 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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Species common name for the entire ESI data set

Enumerated_Domain_Value_Definition: Free text

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: GEN_SPEC

Attribute_Definition:
Species scientific name

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Species scientific name for the entire ESI data set.

Enumerated_Domain_Value_Definition: Free text

Enumerated_Domain_Value_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_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: bat
  Enumerated_Domain_Value_Definition: Bat
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: 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: dolphin
  Enumerated_Domain_Value_Definition: Dolphin
  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: echinoderm
    Enumerated_Domain_Value_Definition: Echinoderm
    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: lobster
    Enumerated_Domain_Value_Definition: Lobster
    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: pelagic
    Enumerated_Domain_Value_Definition: Pelagic bird
    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: turtle
    Enumerated_Domain_Value_Definition: Turtle
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

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

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: whale
    Enumerated_Domain_Value_Definition: Whale
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: worm
Enumerated_Domain_Value_Definition: Worm
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: 0
Enumerated_Domain_Value_Definition: Not ranked
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Numeric
Enumerated_Domain_Value_Definition: mmyyyy
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
### Attribute: SEP
- **Attribute Label:** SEP
- **Attribute Definition:** September
- **Attribute Definition Source:** Research Planning, Inc.
- **Enumerated Domain:**
  - **Enumerated Domain Value:** X
  - **Enumerated Domain Value Definition:** Present in September
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

### Attribute: OCT
- **Attribute Label:** OCT
- **Attribute Definition:** October
- **Attribute Definition Source:** Research Planning, Inc.
- **Enumerated Domain:**
  - **Enumerated Domain Value:** X
  - **Enumerated Domain Value Definition:** Present in October
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

### Attribute: NOV
- **Attribute Label:** NOV
- **Attribute Definition:** November
- **Attribute Definition Source:** Research Planning, Inc.
- **Enumerated Domain:**
  - **Enumerated Domain Value:** X
  - **Enumerated Domain Value Definition:** Present in November
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

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

### Attribute: EL_SPE_SEA
- **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.
- **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:** BREED
  - **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:

**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
  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
  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
  - **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.

**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
  - **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:** 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, and to G_SOURCE and S_SOURCE in the BIORES table.
Attribute_Definition_Source: Research Planning, Inc.

Attribute: ORIGINATOR
Attribute_Label: ORIGINATOR
Attribute_Definition: Author or developer of source material or data set
Attribute_Definition_Source: Research Planning, Inc.

Attribute: DATE_PUB
Attribute_Label: DATE_PUB
Attribute_Definition: Date of source material, publication, or date of personal communication with expert source
Attribute_Definition_Source: Research Planning, Inc.

Attribute: TITLE
Attribute_Label: TITLE
Attribute_Definition: Title of source material or data
Attribute_Definition_Source: Research Planning, Inc.

Attribute: DATA_FORMAT
Attribute_Label: DATA_FORMAT
Attribute_Definition: The format of the source material
Attribute_Definition_Source: Research Planning, Inc.

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

Attribute: SCALE
Attribute_Label: SCALE
Attribute_Definition: Scale denominator of the source
Attribute_Definition_Source: Research Planning, Inc.
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Enumerated_Domain:

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

Attribute:

Enumerated_Domain:

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

Attribute:

Enumerated_Domain:

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

Attribute:

Enumerated_Domain:

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

Attribute:

Enumerated_Domain:

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

Attribute:

Enumerated_Domain:

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

Attribute:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
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:
        Enumerated Domain:
            Enumerated Domain Value: Any character
            Enumerated Domain Value Definition: Two-letter state abbreviation
            Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
    Attribute Label: S_F
    Attribute Definition: State and Federal status
    Attribute Definition Source: Research Planning, Inc.
    Attribute Domain Values:
        Enumerated Domain:
            Enumerated Domain Value: F
            Enumerated Domain Value Definition: Federally listed
            Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
    Attribute Label: T_E
    Attribute Definition: Threatened and endangered status
    Attribute Definition Source: Research Planning, Inc.
    Attribute Domain Values:
        Enumerated Domain:
            Enumerated Domain Value: E
            Enumerated Domain Value Definition: Endangered on state or federal
            list
            Enumerated Domain Value Definition Source: U.S. Fish and Wildlife
            Service
        Enumerated Domain:
            Enumerated Domain Value: T
            Enumerated Domain Value Definition: Threatened on state or federal list
            Enumerated Domain Value Definition Source: U.S. Fish and Wildlife
            Service

Attribute:
    Attribute Label: DATE_PUB
    Attribute Definition:
        Publication date of source material used to assign state and federal status values for
        each species, if used.
    Attribute Definition Source: Research Planning, Inc.
    Attribute Domain Values:
        Enumerated Domain:
            Enumerated Domain Value: Numeric
            Enumerated Domain Value Definition: mmyyyy
            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 American Samoa

Distribution_Liability:

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

Custom_Order_Process:

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

Metadata_Reference_Information:

Metadata_Date: 200402
Metadata_Review_Date: 200402
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
American Samoa ESI: NESTS (Nest Points)

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

Metadata:

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

Identification_Information:

Citation:

Originator:


Publication_Date: 200402
Title: American Samoa ESI: NESTS (Nest Points)
Edition: First

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:

Series_Name: None
Issue_Identification: American Samoa

Publication_Information:

Publication_Place: Seattle, Washington
Publisher:


Other_Citation_Details:


Description:

Abstract:

This data set contains sensitive biological resource data for nesting birds in American Samoa. Vector points in this data set represent locations of nesting seabirds. 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 American Samoa. 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 American Samoa 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:** 2002

**Ending_Date:** 2004

**Currentness_Reference:**

The biological data were compiled during 2002-2003. The currentness dates for these data range from 1982 to 2003 and are documented in the Source_Information section.

**Status:**

**Progress:** Complete

**Maintenance_and_Update_Frequency:** None Scheduled

**Spatial_Domain:**

**Bounding_Coordinates:**

**West_BoundingCoordinate:** -171.266

**East_BoundingCoordinate:** -167.964

**North_BoundingCoordinate:** -10.873

**South_BoundingCoordinate:** -14.723

**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:** American Samoa

**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:** Relationships between spatial data layers and attribute data tables for the American Samoa ESI data.

**Browse_Graphic_File_Type:** JPEG

**Data_Set_Credit:**

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington, and NOAA's Coral Reef Conservation Program.

**Native_Data_Set_Environment:**

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 8.3) and SQL SERVER(r) (version 7.0). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).
The Spatial_Data_Organization_Information section refers only to the source files in the ARC export format. The following files are included in that data set: benthic.e00, birds.e00, casspt.e00, esi.e00, fish.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptiles.e00, soccon.e00, t_mampt.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biorec, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

**Data_Quality_Information:**

**Attribute_Accuracy:**

*Attribute_Accuracy_Report:*

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

**Logical_Consistency_Report:**

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

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

**Completeness_Report:**

These data represent a synthesis of hardcopy reports and maps on seabird nesting locations. These data do not necessarily represent all nesting sites present in American Samoa. See also the BIRDS (Bird Polygons) data layer, part of the larger American Samoa ESI database, for additional bird information. The following species are included in this data set: (Species_ID, Common Name, Scientific Name, if applicable): 126, Brown noddy, Anous stolidus; 249, Black noddy, Anous minutus; 251, Great frigatebird, Fregata minor; 261, Brown booby, Sula leucogaster; 263, Blue-gray noddy, Procelsterna cerulea; 557, Western reef heron, Egretta gularis; 731, Tahiti petrel, Pterodroma rostrata.

**Positional_Accuracy:**

**Horizontal_Positional_Accuracy:**

*Horizontal_Positional_Accuracy_Report:*

Most of the spatial components of the biological data sets are developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital 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:
Citation Information:
Originator: U.S. Fish and Wildlife Service
Publication Date: 1982
Title: Wildlife and Wildlife Habitat of American Samoa II
Geospatial Data Presentation Form: Hardcopy text
Publication Information:
Publication Place: Unknown
Publisher: U.S. DOI, Fish and Wildlife Service, Washington, DC.

Type of Source Media: Paper
Source Time Period of Content:
Time Period Information:
Single Date/Time:
Calendar Date: 1982
Source Currentness Reference: Date of publication
Source Citation Abbreviation: None
Source Contribution: Nest information

Source Information:
Citation Information:
Originator: O'Connor, P.J. and M.J. Rauzon
Publication Date: 2003
Title: Inventory and Monitoring of Seabirds in National Park American Samoa
Geospatial Data Presentation Form: Hardcopy map
Publication Information:
Publication Place: Unknown

Type of Source Media: Paper
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: Nest information

Source Information:
Citation Information:
Originator: National Park of American Samoa
Publication Date: 2000
Title: Preliminary Seabird Survey Tutuila, American Samoa
Geospatial Data Presentation Form: Hardcopy map
Publication Information:
Publication Place: Unknown
Publisher: National Park Service GIS Department

Type of Source Media: Paper
Source Time Period of Content:
Time Period Information:
Single Date/Time:
Calendar Date: 2000
Source Currentness Reference: Date of publication
The primary data source used to depict bird nesting locations for this data layer was maps and reports provided by the U.S. Fish and Wildlife Service (USFWS), the University of Hawaii, and the National Park of American Samoa (NPS). Concentration and seasonality information was extracted from published and unpublished reports.

Process_Date: 200311
Process_Contact: Jill Petersen
Contact_Address: 7600 Sand Point Way, N.E. Seattle, Washington 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

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 (the American Samoa
atlas number is 76), 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, T_E, 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, which describes 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 representing locations of nesting seabirds. 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 (76), element number (5), and record number.

**Attribute_Definition_Source:** NOAA

**Attribute_Domain_Values:**

**Range_Domain:**

- **Range_Domain_Minimum:** 760500001
- **Range_Domain_Maximum:** 760500061

**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: 76000001
        Range_Domain_Maximum: 76000040

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: 76000001
            Range_Domain_Maximum: 76000134

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 (76), 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: 760100001
            Range_Domain_Maximum: 763900060

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: 076000001
            Range_Domain_Maximum: 076000134

Attribute:
    Attribute_Label: SPECIES_ID
**Attribute**

**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 species at a particular location. In this data layer, the field may contain counts of individuals (XX BIRDS) or nests (XX NESTS). In cases where no quantitative count data was available, the field contains ".". Counts were derived primarily from 2000 survey data.

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

**Attribute Domain Values**:
- **Enumerated Domain**
  - **Enumerated Domain Value**: Any character
  - **Enumerated Domain Value Definition**: Free text
  - **Enumerated Domain Value Definition Source**: Research Planning, Inc.

**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
<table>
<thead>
<tr>
<th>Attribute Domain Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enumerated Domain Value</td>
<td>FISH</td>
</tr>
<tr>
<td>Enumerated Domain Value Definition</td>
<td>Fish</td>
</tr>
<tr>
<td>Enumerated Domain Value Definition Source</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>Enumerated Domain Value</td>
<td>HABITAT</td>
</tr>
<tr>
<td>Enumerated Domain Value Definition</td>
<td>Habitats and Plants</td>
</tr>
<tr>
<td>Enumerated Domain Value Definition Source</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>Enumerated Domain Value</td>
<td>INVERT</td>
</tr>
<tr>
<td>Enumerated Domain Value Definition</td>
<td>Invertebrates</td>
</tr>
<tr>
<td>Enumerated Domain Value Definition Source</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>Enumerated Domain Value</td>
<td>M_MAMMAL</td>
</tr>
<tr>
<td>Enumerated Domain Value Definition</td>
<td>Marine Mammals</td>
</tr>
<tr>
<td>Enumerated Domain Value Definition Source</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>Enumerated Domain Value</td>
<td>REPTILE</td>
</tr>
<tr>
<td>Enumerated Domain Value Definition</td>
<td>Reptiles and Amphibians</td>
</tr>
<tr>
<td>Enumerated Domain Value Definition Source</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>Enumerated Domain Value</td>
<td>T_MAMMAL</td>
</tr>
<tr>
<td>Enumerated Domain Value Definition</td>
<td>Terrestrial Mammals</td>
</tr>
<tr>
<td>Enumerated Domain Value Definition Source</td>
<td>Research Planning, Inc.</td>
</tr>
</tbody>
</table>

**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:**

<table>
<thead>
<tr>
<th>Enumerated Domain Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E#####</td>
<td>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’).</td>
</tr>
</tbody>
</table>

**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:**

<table>
<thead>
<tr>
<th>Enumerated Domain Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E############</td>
<td>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’).</td>
</tr>
</tbody>
</table>
**Entity_Type:**

**Entity_Type_Label:** SPECIES

**Entity_Type_Definition:**

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

**Attribute:**

**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

**Attribute_Definition_Source:** Research Planning, Inc.

**Attribute_Domain_Values:**

**Enumerated_Domain:**

- **Enumerated_Domain_Value:** Species common name for the entire ESI data set
- **Enumerated_Domain_Value_Definition:** Free text
- **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**Attribute:**

**Attribute_Label:** GEN_SPEC

**Attribute_Definition:** Species scientific name

**Attribute_Definition_Source:** Research Planning, Inc.

**Attribute_Domain_Values:**

**Enumerated_Domain:**

- **Enumerated_Domain_Value:** Species scientific name for the entire ESI data set
- **Enumerated_Domain_Value_Definition:** Free text
- **Enumerated_Domain_Value_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: 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: bat
    Enumerated_Domain_Value_Definition: Bat
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: 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: dolphin
    Enumerated_Domain_Value_Definition: Dolphin
    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: echinoderm
    Enumerated_Domain_Value_Definition: Echinoderm
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
  Enumerated_Domain:
<table>
<thead>
<tr>
<th>Enumerated_Domain_Value</th>
<th>Enumerated_Domain_Value_Definition</th>
<th>Enumerated_Domain_Value_Definition_Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>gastropod</td>
<td>Gastropod</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>gull_tern</td>
<td>Gull or tern</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>lobster</td>
<td>Lobster</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>m_benthic</td>
<td>Marine benthic fish</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>m_pelagic</td>
<td>Marine pelagic fish</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>pelagic</td>
<td>Pelagic bird</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>shorebird</td>
<td>Shorebird</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>turtle</td>
<td>Turtle</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>wading</td>
<td>Wading bird</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>waterfowl</td>
<td>Waterfowl</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>whale</td>
<td>Whale</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>worm</td>
<td>Worm</td>
<td>Research Planning, Inc.</td>
</tr>
</tbody>
</table>

**Attribute**: 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:** 0  
    - **Enumerated Domain Value Definition:** Not ranked  
    - **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:** SEASONAL  
**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:
Enumerate

Enumerated_Domain_Value: X
Enumerated_Domain_Value_Domain_Value_Definition: Present in September
Enumerated_Domain_Value_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_Domain_Value_Definition: Present in October
Enumerated_Domain_Value_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_Domain_Value_Definition: Present in November
Enumerated_Domain_Value_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_Domain_Value_Definition: Present in December
Enumerated_Domain_Value_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
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.
**American Samoa ESI: NESTS (Nest Points)**

**Attribute Domain Values:**
- **Enumerated Domain:**
  - **Enumerated Domain Value:** N
  - **Enumerated Domain Value Definition:** Life-history stage or activity not present
  - **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 = larva; 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
  - **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:**
Enumerate

**Enumerated_Domain_Value:** N
**Enumerated_Domain_Value_Definition:** Life-history stage or activity not present
**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

**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:** SOURCES

**Entity_Type_Label:** SOURCES

**Entity_Type_Definition:**

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

**Entity_Type_Definition_Source:** 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, and to G_SOURCE and S_SOURCE in the BIORES table.

**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.

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<tr>
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<td>Attribute Definition Source:</td>
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<tr>
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<tr>
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| Attribute Domain Values: | |
Enumerated_Domain:
  Enumerated_Domain_Value: Numeric
  Enumerated_Domain_Value_Definition: yyyy
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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 or federal 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:
  Enumerated_Domain:
    Enumerated_Domain_Value: Any character
    Enumerated_Domain_Value_Definition: Two-letter state abbreviation
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: S_F
Attribute_Definition: State and Federal status
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: F
    Enumerated_Domain_Value_Definition: Federally listed
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: T_E
Attribute_Definition: Threatened and endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: E
    Enumerated_Domain_Value_Definition: Endangered on state or federal list
    Enumerated_Domain_Value_Definition_Source: U.S. Fish and Wildlife Service
    Enumerated_Domain_Value: T
    Enumerated_Domain_Value_Definition: Threatened on state or federal list
    Enumerated_Domain_Value_Definition_Source: U.S. Fish and Wildlife Service

Attribute:
Attribute_Label: DATE_PUB
Attribute_Definition: Publication date of source material used to assign state and federal status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: Numeric
    Enumerated_Domain_Value_Definition: mmyyyy
    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 American Samoa

Distribution_Liability:

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

Custom_Order_Process:

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

Metadata_Reference_Information:

Metadata_Date: 200402
Metadata_Review_Date: 200402
Metadata_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way, N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata
American Samoa ESI: FISH (Fish Polygons)

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

Metadata:

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

Identification_Information:

Citation:

Originator:

Publication_Date: 200402
Title: American Samoa ESI: FISH (Fish Polygons)
Edition: First
Geospatial_Data_Presentation_Form: Vector digital data
Series_Information:
Series_Name: None
Issue_Identification: American Samoa

Publication_Information:
Publication_Place: Seattle, Washington
Publisher:

Other_Citation_Details:

Description:

Abstract:
This data set contains sensitive biological resource data for reef, pelagic, benthic, and estuarine fish species in American Samoa. Vector polygons in this data set represent fish 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 American Samoa. 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: 2002
  Ending_Date: 2004

Currentness_Reference:
The biological data were compiled during 2002-2003. The currentness dates for these data range from 1991 to 2003 and are documented in the Source_Information section.

Status:
  Progress: Complete
  Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:
  Bounding_Coordinates:
  West_Bounding_Coordinate: -171.266
  East_Bounding_Coordinate: -167.964
  North_Bounding_Coordinate: -10.873
  South_Bounding_Coordinate: -14.723

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: American Samoa

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: Relationships between spatial data layers and attribute data tables for the American Samoa ESI data.

Data_Set_Credit:
  This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington, and NOAA's Coral Reef Conservation Program.

Native_Data_Set_Environment:
The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 8.3) and SQL SERVER(r) (version 7.0). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

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

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

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

Logical_Consistency_Report:

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

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness_Report:

These data represent a synthesis of expert knowledge and available hardcopy reports on fish distribution. These data do not represent all fish occurrences in American Samoa. The following species are included in this data set (Species_ID, Common Name, Scientific Name, if applicable): 132, Groupers; 331, Sharks; 561, Angelfish; 562, Barracudas; 566, Tunas; 631, Bigeye scad, Selar crumenopthalmus; 635, Threadfin, Polydactylus sexfilis; 957, Rabbitfishes, Siganus spp.; 958, Unicornfishes, Naso spp.; 1007, Parrotfish; 1008, Jacks; 1010, Wrasses; 1019, Snappers; 1025, Butterflyfish; 1027, Filefish; 1028, Goatfish; 1033, Squirrelfish; 1034, Surgeonfish, 1035, Triggerfish; 1047, Marlins; 1058, Emperors; 1065, Mullets. 2.4.1.1 Horizontal Positional Accuracy Report Most of the spatial components of the biological data sets are developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1: 24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital 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:
National Park of American Samoa (NPS); American Samoa Department of Marine and Wildlife Resources (DMWR)

Publication Date: 2002
Title: Natural History Guide to American Samoa
Geospatial_Data_Presentation_Form: Hardcopy text
Publication Information:
  Publication Place: Unknown
  Publisher: National Park of American Samoa; DMWR.

Type_of_Source_Media: Paper
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: Fish information
Source_Information:
  Source_Citation:
    Citation_Information:
      Originator: Alison Green (AS DMWR)
      Publication_Date: 1996
      Title: The Status of the Coral Reefs of the Samoan Archipelago
      Geospatial_Data_Presentation_Form: Hardcopy text
      Publication Information:
        Publication Place: Unknown
        Publisher: AS Department of Marine and Wildlife Resources

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: Ponwith, B.J.
      Publication_Date: 1991
      Title: The Shoreline Fishery of American Samoa: A 12-Year Comparison
      Geospatial_Data_Presentation_Form: Hardcopy text
      Publication Information:
        Publication Place: Unknown
        Publisher: DMWR Biological Report Series, No. 23

Type_of_Source_Media: Paper
Source_Time_Period_of_Content:
  Time_Period_Information:
    Single_Date/Time:
      Calendar_Date: 1991
Source_Currentness_Reference: Date of publication
Source_Citation_Abbreviation: None
Source_Contribution: Fish information
Source_Information:
  Source_Citation:
    Citation_Information:
      Originator: Saucerman, S.
      Publication_Date: 1995
      Title: The Inshore Fishery of American Samoa, 1991-1994
      Geospatial_Data_Presentation_Form: Hardcopy text
      Publication Information:
The Commercial, Subsistence, and Recreational Fisheries of American Samoa

Fish, invertebrate, and socioeconomic resource distribution

2001 Pelagic Annual Report
Two main sources of data were used to depict fish distribution and seasonality for this data layer: (1) personal interviews with resource experts from American Samoa Department of Marine and Wildlife Resources (DMWR) and National Park of American Samoa (NPS), and (2) reports and survey data provided by DMWR, NPS, and the Western Pacific Fishery Management Council. Concentration and seasonality information was provided by resource experts or was extracted from published reports.
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 326

SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 568

SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 102357

SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 533

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.00005
Longitude_Resolution: 0.00005
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1983 (HARN)
Ellipsoid_Name: Geodetic Reference System 80
Semi-major_Axis: 6378137
Denominator_of_Flattening_Ratio: 298.257222

Entity_and_Attribute_Information:
Overview_Description:
In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, 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 (the American Samoa atlas number is 76) 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, T_E, 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, which describes 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 representing fish 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 (76), 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: 760200002
Range_Domain_Maximum: 760200330

Attribute:

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

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain: 76000059
Range_Domain_Maximum: 76000067

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
the polygons and do not contain information.

**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 (76), 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:** 76000001
    - **Range_Domain_Maximum:** 76000134

**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:** 076000001
    - **Range_Domain_Maximum:** 076000134

**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 species at a particular location. No quantitative concentration information was available for fish, so descriptive terms such as "HIGH" were used or, where no concentration information was available, this field contains "."
- **Attribute_Definition_Source:** Research Planning, Inc.
- **Attribute_Domain_Values:**
  - **Enumerated_Domain:**
    - **Enumerated_Domain_Value:** Any character
    - **Enumerated_Domain_Value_Definition:** Free text
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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.
  Enumerated_Domain:
    Enumerated_Domain_Value: FISH
    Enumerated_Domain_Value_Definition: Fish
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
  Enumerated_Domain:
    Enumerated_Domain_Value: HABITAT
    Enumerated_Domain_Value_Definition: Habitats and Plants
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
  Enumerated_Domain:
    Enumerated_Domain_Value: INVERT
    Enumerated_Domain_Value_Definition: Invertebrates
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
  Enumerated_Domain:
    Enumerated_Domain_Value: M_MAMMAL
    Enumerated_Domain_Value_Definition: Marine Mammals
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
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 Label: NAME
Attribute Definition: Species common name
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: Species common name for the entire ESI data set
Enumerated Domain Value Definition: Free text
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
Attribute Label: GEN_SPEC
Attribute Definition: Species scientific name
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: Species scientific name for the entire ESI data set.
Enumerated Domain Value Definition: Free text
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
Attribute Label: ELEMENT
Attribute Definition: Major categories of biological data
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: BIRD
Enumerated Domain Value Definition: Birds
Enumerated Domain Value Definition Source: Research Planning, Inc.
Enumerated Domain Value:
Enumerated Domain Value: FISH
Enumerated Domain Value Definition: Fish
Enumerated Domain Value Definition Source: Research Planning, Inc.
Enumerated Domain Value:
Enumerated Domain Value: HABITAT
Enumerated Domain Value Definition: Habitats and Plants
Enumerated Domain Value Definition Source: Research Planning, Inc.
Enumerated Domain Value:
Enumerated Domain Value: INVERT
Enumerated Domain Value Definition: Invertebrates
Enumerated Domain Value Definition Source: Research Planning, Inc.
Enumerated Domain Value:
Enumerated Domain Value: M_MAMMAL
Enumerated Domain Value Definition: Marine Mammals
Enumerated Domain Value Definition Source: Research Planning, Inc.
Enumerated Domain Value:
Enumerated Domain Value: REPTILE
Enumerated Domain Value Definition: Reptiles and Amphibians
Enumerated Domain Value Definition Source: Research Planning, Inc.
Enumerated Domain Value:
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: bat
    Enumerated_Domain_Value_Definition: Bat
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: 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: dolphin
    Enumerated_Domain_Value_Definition: Dolphin
    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: echinoderm
    Enumerated_Domain_Value_Definition: Echinoderm
    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: lobster
    Enumerated_Domain_Value_Definition: Lobster
    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: pelagic
Enumerated_Domain_Value_Definition: Pelagic bird
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: turtle
Enumerated_Domain_Value_Definition: Turtle
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

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

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: whale
Enumerated_Domain_Value_Definition: Whale
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: worm
Enumerated_Domain_Value_Definition: Worm
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: 0
Enumerated_Domain_Value_Definition: Not ranked
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Numeric
Enumerated_Domain_Value_Definition: mmyyyy
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
**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 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').

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

**Detailed Description:**

**Entity Type:**

- **Entity Type Label:** SEASONAL

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

**Entity Type Definition Source:** Research Planning, Inc.

**Attribute:**

- **Attribute Label:** ELEMENT

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

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

**Attribute Domain Values:**

- **Enumerated Domain:**
  - **Enumerated Domain Value:** BIRD

  **Enumerated Domain Value Definition:** Birds

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

- **Enumerated Domain:**
  - **Enumerated Domain Value:** FISH

  **Enumerated Domain Value Definition:** Fish

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

- **Enumerated Domain:**
  - **Enumerated Domain Value:** HABITAT

  **Enumerated Domain Value Definition:** Habitats and Plants

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

- **Enumerated Domain:**
  - **Enumerated Domain Value:** INVERT

  **Enumerated Domain Value Definition:** Invertebrates

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

- **Enumerated Domain:**
  - **Enumerated Domain Value:** M_MAMMAL

  **Enumerated Domain Value Definition:** Marine Mammals

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

- **Enumerated Domain:**
  - **Enumerated Domain Value:** REPTILE

  **Enumerated Domain Value Definition:** Reptiles and Amphibians

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

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

  **Enumerated Domain Value Definition:** Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
  Attribute_Label: SPECIES_ID
  Attribute_Definition:
  Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Range_Domain:
      Range_Domain_Minimum: 1
      Range_Domain_Maximum: N

Attribute:
  Attribute_Label: SEASON_ID
  Attribute_Definition:
  Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Range_Domain:
      Range_Domain_Minimum: 1
      Range_Domain_Maximum: N

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

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

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

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

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

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

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

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

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

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

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

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

Attribute:

Attribute Label: EL_SPE_SEA
Attribute Definition:
  Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
  Enumerated Domain:
  Enumerated Domain Value: E#####
  Enumerated Domain Value Definition:
  Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g., ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Detailed Description:
Entity Type:
  Entity Type Label: BREED
  Entity Type Definition:
  The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.
  Entity Type Definition Source: Research Planning, Inc.

Attribute:

Attribute Label: EL_SPE_SEA
Attribute Definition:
  Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
  Enumerated Domain:
  Enumerated Domain Value: E#####
  Enumerated Domain Value Definition:
  Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g., ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:

Attribute Label: MONTH
Attribute Definition:
  Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
  Range Domain:
  Range Domain Minimum: 1
  Range Domain Maximum: 12

Attribute:

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

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

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

**Attribute:**
**Attribute Label:** BREED2

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

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

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

**Attribute:**
**Attribute Label:** BREED3

**Attribute Definition:**
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = calving.

**Attribute Definition Source:** Research Planning, Inc.
internesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.

**Attribute_Definition_Source:** Research Planning, Inc.

**Attribute_Domain_Values:**

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

**Attribute:**

**Attribute_Label:** BREED4

**Attribute_Definition:**

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

**Attribute_Definition_Source:** Research Planning, Inc.

**Attribute_Domain_Values:**

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

**Attribute:**

**Attribute_Label:** BREED5

**Attribute_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
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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.

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, and to G_SOURCE and S_SOURCE in the BIORES table.
  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:
  Enumerated_Domain:
    Enumerated_Domain_Value: Any character
    Enumerated_Domain_Value_Definition: Free text
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Numeric
    Enumerated_Domain_Value_Definition: mmyyyy
    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:**

**Enumerated Domain:**
- **Enumerated Domain Value:** Any character
  - **Enumerated Domain Value Definition:** Free text
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute:**

**Attribute Label:** DATA_FORMAT

**Attribute Definition:** The format of the source material

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

**Attribute Domain Values:**

**Enumerated Domain:**
- **Enumerated Domain Value:** Any character
  - **Enumerated Domain Value Definition:** Free text
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute:**

**Attribute Label:** PUBLICATION

**Attribute Definition:** Additional citation information

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

**Attribute Domain Values:**

**Enumerated Domain:**
- **Enumerated Domain Value:** Any character
  - **Enumerated Domain Value Definition:** Free text
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute:**

**Attribute Label:** SCALE

**Attribute Definition:** Scale denominator of the source

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

**Attribute Domain Values:**

**Enumerated Domain:**
- **Enumerated Domain Value:** integer
  - **Enumerated Domain Value Definition:** Any integer
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**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:**

**Enumerated Domain:**
- **Enumerated Domain Value:** Numeric
  - **Enumerated Domain Value Definition:** yyyy
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**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 or federal 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 Values:

**Attribute:** \(\text{Enumerated\_Domain:\ Value: FISH}\)
- **Enumerated\_Domain:\ Value\_Definition:** Fish
- **Enumerated\_Domain:\ Value\_Definition\_Source:** Research Planning, Inc.

**Attribute:** \(\text{Enumerated\_Domain:\ Value: HABITAT}\)
- **Enumerated\_Domain:\ Value\_Definition:** Habitats and Plants
- **Enumerated\_Domain:\ Value\_Definition\_Source:** Research Planning, Inc.

**Attribute:** \(\text{Enumerated\_Domain:\ Value: INVERT}\)
- **Enumerated\_Domain:\ Value\_Definition:** Invertebrates
- **Enumerated\_Domain:\ Value\_Definition\_Source:** Research Planning, Inc.

**Attribute:** \(\text{Enumerated\_Domain:\ Value: M\_MAMMAL}\)
- **Enumerated\_Domain:\ Value\_Definition:** Marine Mammals
- **Enumerated\_Domain:\ Value\_Definition\_Source:** Research Planning, Inc.

**Attribute:** \(\text{Enumerated\_Domain:\ Value: REPTILE}\)
- **Enumerated\_Domain:\ Value\_Definition:** Reptiles and Amphibians
- **Enumerated\_Domain:\ Value\_Definition\_Source:** Research Planning, Inc.

**Attribute:** \(\text{Enumerated\_Domain:\ Value: T\_MAMMAL}\)
- **Enumerated\_Domain:\ Value\_Definition:** Terrestrial Mammals
- **Enumerated\_Domain:\ Value\_Definition\_Source:** Research Planning, Inc.

## Attribute:

**Attribute\_Label:** \(\text{SPECIES\_ID}\)
- **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:** \(\text{STATE}\)
- **Attribute\_Definition:** Two-letter state abbreviation
- **Attribute\_Definition\_Source:** Research Planning, Inc.

**Attribute\_Domain:\ Values:**
- **Enumerated\_Domain:**
  - **Enumerated\_Domain\_Value:** Any character
  - **Enumerated\_Domain\_Value\_Definition:** Two-letter state abbreviation
  - **Enumerated\_Domain\_Value\_Definition\_Source:** Research Planning, Inc.

**Attribute:** \(\text{S\_F}\)
- **Attribute\_Definition:** State and Federal status
- **Attribute\_Definition\_Source:** Research Planning, Inc.

**Attribute\_Domain:\ Values:**
- **Enumerated\_Domain:**
  - **Enumerated\_Domain\_Value:** F
  - **Enumerated\_Domain\_Value\_Definition:** Federally listed
  - **Enumerated\_Domain\_Value\_Definition\_Source:** Research Planning, Inc.
Attribute Label: T_E
Attribute Definition: Threatened and endangered status
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
  Enumerated Domain:
    Enumerated Domain Value: E
    Enumerated Domain Value Definition: Endangered on state or federal list
    Enumerated Domain Value Definition Source: U.S. Fish and Wildlife Service

Attribute Domain Values:
  Enumerated Domain:
    Enumerated Domain Value: T
    Enumerated Domain Value Definition: Threatened on state or federal list
    Enumerated Domain Value Definition Source: U.S. Fish and Wildlife Service

Attribute:
Attribute Label: DATE_PUB
Attribute Definition:
  Publication date of source material used to assign state and federal status values for each species, if used.
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
  Enumerated Domain:
    Enumerated Domain Value: Numeric
    Enumerated Domain Value Definition: mmyyyy
    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 American Samoa
  Distribution Liability:
Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.

**Custom_Order_Process:**
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

**Metadata_Reference_Information:**
- **Metadata_Date:** 200402
- **Metadata_Review_Date:** 200402
- **Metadata_Contact:**
  - **Contact_Person_Primary:**
  - **Contact_Person:** Jill Petersen
  - **Contact_Organization:** NOAA, Office of Response and Restoration
  - **Contact_Position:** GIS Manager
  - **Contact_Address:**
    - **Address_Type:** Physical Address
    - **Address:** 7600 Sand Point Way, N.E.
    - **City:** Seattle
    - **State_orProvince:** Washington
    - **Postal_Code:** 98115-6349
  - **Contact_Voice_Telephone:** (206) 526-6944
  - **Contact_Facsimile_Telephone:** (206) 526-6329
  - **Contact_Electronic_Mail_Address:** Jill.Petersen@noaa.gov
- **Metadata_Standard_Name:** Content Standards for Digital Geospatial Metadata
- **Metadata_Standard_Version:** FGDC-STD-001-1998

Generated by mp version 2.8.2 on Wed Feb 25 17:07:48 2004
American Samoa ESI: INVERT (Invertebrate Polygons)

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

Metadata:

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

Identification Information:

Citation:

Originator:


Publication Date: 200402
Title: American Samoa ESI: INVERT (Invertebrate Polygons)
Edition: First
Geospatial Data Presentation Form: Vector digital data
Series Information:

Series Name: None
Issue Identification: American Samoa

Publication Information:

Publication Place: Seattle, Washington
Publisher:


Other Citation Details:


Description:

Abstract:

This data set contains sensitive biological resource data for estuarine, reef-associated, and terrestrial invertebrate species in American Samoa. Vector polygons in this data set represent invertebrate 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 American Samoa. 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:** 2002
- **Ending_Date:** 2004

**Currentness_Reference:**

The biological data were compiled during 2002-2003. The currentness dates for these data range from 1991 to 2002 and are documented in the Source_Information section.

**Status:**

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

**Spatial_Domain:**

**Bounding_Coordinates:**

- **West_BoundingCoordinate:** -171.266
- **East_BoundingCoordinate:** -167.964
- **North_BoundingCoordinate:** -10.873
- **South_BoundingCoordinate:** -14.723

**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:** American Samoa

**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:**

Relationships between spatial data layers and attribute data tables for the American Samoa ESI data.

**Browse_Graphic_File_Type:** JPEG

**Data_Set_Credit:**

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington, and NOAA's Coral Reef Conservation Program.

**Native_Data_Set_Environment:**

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 8.3) and SQL Server (version 7.0). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).
The Spatial Data Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: benthic.e00, birds.e00, casspt.e00, esi.e00, fish.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t_mampt.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biore, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

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

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

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so “resource at risk” groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness_Report:
These data represent a synthesis of expert knowledge and available hardcopy reports on invertebrate distribution. These data do not represent all invertebrate occurrences in American Samoa. The following species are included in this data set (Species_ID, Common Name, Scientific Name, if applicable): 403, Pronghorn spiny lobster, Panulirus penicillatus; 498, Giant clam, Tridacna maxima; 500, Palolo worm, Eunice viridis; 502, Coconut crab, Birgus latro; 1009, Sea urchins; 1030, Octopus; 1037, Sea snails.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:
Some of the spatial components of the biological data sets are developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy basemaps with a scale of 1:24,000. The rest of the spatial components of the biological data sets are developed from pre-existing digital 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: Ponwith, B.J.
  Publication_Date: 1991
  Title: The Shoreline Fishery of American Samoa: A 12-Year Comparison
  Geospatial_Data_Presentation_Form: Hardcopy text
  Publication_Information:
    Publication_Date: 1991
    Publisher:
      Department of Marine and Wildlife Resources (DMWR)
      Biological Report Series, No. 23
Type_of_Source_Media: Paper
Source_Time_Period_of_Content:
  Time_Period_Information:
    Single_Date/Time:
      Calendar_Date: 1991
    Source_Currentness_Reference: Date of publication
    Source_Citation_Abbreviation: None
    Source_Contribution: Invertebrate information
Source_Information:
Source_Citation:
Citation_Information:
  Originator: Department of Marine and Wildlife Resources (DMWR)
  Publication_Date: 2002
  Title: Lobster distribution
  Geospatial_Data_Presentation_Form: Hardcopy text
  Publication_Information:
    Publication_Date: 2002
    Publisher: Unknown
    Type_of_Source_Media: Paper
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: Invertebrate information
Source_Information:
Source_Citation:
Citation_Information:
  Originator: Craig, Ponwith, Aitaoto, Hamm
  Publication_Date: 1993
  Title: The Commercial, Subsistence, and Recreational Fisheries of American Samoa
  Geospatial_Data_Presentation_Form: Hardcopy text
  Publication_Information:
    Publication_Date: 1993
    Publisher: Marine Fisheries Review 55(2): 109-116
  Type_of_Source_Media: Paper
Source_Time_Period_of_Content:
  Time_Period_Information:
    Single_Date/Time:
      Calendar_Date: 1993
    Source_Currentness_Reference: Date of publication
    Source_Citation_Abbreviation: None
    Source_Contribution: Invertebrate information
Source_Information:
Two main sources of data were used to depict invertebrate distribution and seasonality for this data layer: (1) personal interviews with resource experts from American Samoa Department of Marine and Wildlife Resources (DMWR) and
National Park of American Samoa (NPS), and (2) reports and published documents provided by DMWR and NPS. Concentration and seasonality information was provided by resource experts or was extracted from published reports.

**Process_Date:** 200311

**Process_CONTACT:**

**Contact Information:**

- **Contact_Organization_Primary:** NOAA, Office of Response and Restoration
- **Contact_Person:** Jill Petersen

**Contact Address:**

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

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

**Spatial_Data_Organization_Information:**

- **Direct_Spatial_Reference_Method:** Vector

**Point_and_Vector_Object_Information:**

- **SDTS_Terms_Description:**
  - **SDTS_Point_and_Vector_Object_Type:** GT-polygon composed of rings
  - **Point_and_Vector_Object_Count:** 379

- **SDTS_Terms_Description:**
  - **SDTS_Point_and_Vector_Object_Type:** Area point
  - **Point_and_Vector_Object_Count:** 379

- **SDTS_Terms_Description:**
  - **SDTS_Point_and_Vector_Object_Type:** Complete chain
  - **Point_and_Vector_Object_Count:** 628

- **SDTS_Terms_Description:**
  - **SDTS_Point_and_Vector_Object_Type:** Link
  - **Point_and_Vector_Object_Count:** 71507

- **SDTS_Terms_Description:**
  - **SDTS_Point_and_Vector_Object_Type:** Node, planar graph
  - **Point_and_Vector_Object_Count:** 537

**Spatial_Reference_Information:**

- **Horizontal_Coordinate_System_Definition:**
  - **Geographic:**
    - **Latitude_Resolution:** 0.00005
    - **Longitude_Resolution:** 0.00005
    - **Geographic_Coordinate_Units:** Decimal degrees

  - **Geodetic_Model:**
    - **Horizontal_Datum_Name:** North American Datum of 1983 (HARN)
    - **Ellipsoid_Name:** Geodetic Reference System 80
    - **Semi-major_Axis:** 6378137
    - **Denominator_of_Flattening_Ratio:** 298.257222

**Entity_and_Attribute_Information:**

- **Overview_Description:**

  **Entity_and_Attribute_Overview:**
In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREEF, 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 (the American Samoa atlas number is 76), 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, T_E, 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, which describes 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.
**Range_Domain_Minimum:** 760700002  
**Range_Domain_Maximum:** 760700386

**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:** 76000068  
**Range_Domain_Maximum:** 76000081

**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:** 76000001  
**Range_Domain_Maximum:** 76000134

**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 (76), 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:** 760100001  
**Range_Domain_Maximum:** 763900060

**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.
<table>
<thead>
<tr>
<th>Attribute Label</th>
<th>Attribute Definition</th>
<th>Attribute Definition Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIES_ID</td>
<td>Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>CONC</td>
<td>The field CONC refers to &quot;concentration,&quot; abundance, or density value of a species at a particular location. The field may contain counts of individuals per hectare (XX CLAMS/HA). In cases where no quantitative count data was available, a descriptive term such as &quot;HIGH&quot; may be used. In cases where no concentration information was available from any source, the CONC field contains &quot;,&quot;. Giant clam densities were derived from 1995 survey data published in a 1999 journal article.</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>SEASON_ID</td>
<td>Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>G_SOURCE</td>
<td>Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>S_SOURCE</td>
<td>Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.</td>
<td>Research Planning, Inc.</td>
</tr>
</tbody>
</table>
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
Attribute Definition Source: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: Species common name for the entire ESI data set
Enumerated Domain Value Definition: Free text
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:

Attribute Label: GEN_SPEC
Attribute Definition: Species scientific name
Attribute Definition Source: Research Planning, Inc.

Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: Species scientific name for the entire ESI data set.
Enumerated Domain Value Definition: Free text
Enumerated Domain Value 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: 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: bat
  Enumerated_Domain_Value_Definition: Bat
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: 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: dolphin
  Enumerated_Domain_Value_Definition: Dolphin
  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: echinoderm
    Enumerated_Domain_Value_Definition: Echinoderm
    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: lobster
    Enumerated_Domain_Value_Definition: Lobster
    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: pelagic
    Enumerated_Domain_Value_Definition: Pelagic bird
    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: turtle
    Enumerated_Domain_Value_Definition: Turtle
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

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

Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: whale
    Enumerated_Domain_Value_Definition: Whale
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute: NHP
Attribute_Definition: Natural Heritage Program global ranking
Attribute_Definition_Source: Network of Natural Heritage Program

Attribute: DATE_PUB
Attribute_Definition: Date of NHP listing
Attribute_Definition_Source: Research Planning, Inc.

Attribute: 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.

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

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_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 BORES and SEASONAL data tables.

**Attribute_Definition_Source:** Research Planning, Inc.

**Attribute_Domain_Values:**

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

**Attribute:**

**Attribute_Label:** MONTH

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

**Attribute_Definition_Source:** Research Planning, Inc.

**Attribute_Domain_Values:**

- **Range_Domain:**
  - **Range_Domain_Minimum:** 1
  - **Range_Domain_Maximum:** 12

**Attribute:**

**Attribute_Label:** BREED1

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

**Attribute_Definition_Source:** Research Planning, Inc.

**Attribute_Domain_Values:**

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

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

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

**Attribute:**

**Attribute_Label:** BREED2

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

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

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present
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
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**

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute: Originator
Attribute_Label: ORIGINATOR
Attribute_Definition: Author or developer of source material or data set
Attribute_Definition_Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated_Domain:
Enumerated_Domain_Value: Any character
Enumerated_Domain_Value_Definition: Free text
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute: Date of Publication
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: Numeric
Enumerated_Domain_Value_Definition: mmyyyy
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute: Title
Attribute_Label: TITLE
Attribute_Definition: Title of source material or data
Attribute_Definition_Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated_Domain:
Enumerated_Domain_Value: Any character
Enumerated_Domain_Value_Definition: Free text
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute: Data Format
Attribute_Label: DATA_FORMAT
Attribute_Definition: The format of the source material
Attribute_Definition_Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated_Domain:
Enumerated_Domain_Value: Any character
Enumerated_Domain_Value_Definition: Free text
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

Attribute Domain Values:
Enumerated_Domain:
Enumerated_Domain_Value: Any character
Enumerated_Domain_Value_Definition: Free text
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute: Scale
Attribute_Label: SCALE
Attribute_Definition: Scale denominator of the source
Attribute_Definition_Source: Research Planning, Inc.

Attribute Domain Values:
Enumerated_Domain:
Enumerated_Domain_Value: integer
**Enumerated_Domain_Value_Definition:** Any integer

**Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**Enumerated_Domain:**

**Enumerated_Domain_Value:** Numeric

**Enumerated_Domain_Value_Definition:** yyyy

**Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**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:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** Numeric

**Enumerated_Domain_Value_Definition:** yyyy

**Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**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 or federal authority. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

**Entity_Type_Definition_Source:** Research Planning, Inc.

**Attribute:**

**Attribute_Label:** ELEMENT

**Attribute_Definition:** Major categories of biological data

**Attribute_Definition_Source:** Research Planning, Inc.

**Attribute_Domain_Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** BIRD

**Enumerated_Domain_Value_Definition:** Birds

**Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**Enumerated_Domain:**

**Enumerated_Domain_Value:** FISH

**Enumerated_Domain_Value_Definition:** Fish

**Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**Enumerated_Domain:**

**Enumerated_Domain_Value:** HABITAT

**Enumerated_Domain_Value_Definition:** Habitats and Plants

**Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**Enumerated_Domain:**

**Enumerated_Domain_Value:** INVERT

**Enumerated_Domain_Value_Definition:** Invertebrates

**Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**Enumerated_Domain:**

**Enumerated_Domain_Value:** M_MAMMAL

**Enumerated_Domain_Value_Definition:** Marine Mammals

**Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**Enumerated_Domain:**

**Enumerated_Domain_Value:** REPTILE

**Enumerated_Domain_Value_Definition:** Reptiles and Amphibians

**Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

**Enumerated_Domain:**

**Enumerated_Domain_Value:** T_MAMMAL

**Enumerated_Domain_Value_Definition:** Terrestrial Mammals

**Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.
Attribute: 
  **Attribute Label:** SPECIES_ID  
  **Attribute Definition:** Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA  
  **Attribute Definition Source:** Research Planning, Inc.  
  **Attribute Domain Values:**  
  - **Range Domain:**  
    - **Range Domain Minimum:** 1  
    - **Range Domain Maximum:** N

Attribute:  
  **Attribute Label:** STATE  
  **Attribute Definition:** Two-letter state abbreviation  
  **Attribute Definition Source:** Research Planning, Inc.  
  **Attribute Domain Values:**  
  - **Enumerated Domain:**  
    - **Enumerated Domain Value:** Any character  
    - **Enumerated Domain Value Definition:** Two-letter state abbreviation  
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

Attribute:  
  **Attribute Label:** S_F  
  **Attribute Definition:** State and Federal status  
  **Attribute Definition Source:** Research Planning, Inc.  
  **Attribute Domain Values:**  
  - **Enumerated Domain:**  
    - **Enumerated Domain Value:** F  
    - **Enumerated Domain Value Definition:** Federally listed  
    - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

Attribute:  
  **Attribute Label:** T_E  
  **Attribute Definition:** Threatened and endangered status.  
  **Attribute Definition Source:** Research Planning, Inc.  
  **Attribute Domain Values:**  
  - **Enumerated Domain:**  
    - **Enumerated Domain Value:** E  
    - **Enumerated Domain Value Definition:** Endangered on state or federal list  
    - **Enumerated Domain Value Definition Source:** U.S. Fish and Wildlife Service  
    - **Enumerated Domain Value:** T  
    - **Enumerated Domain Value Definition:** Threatened on state or federal list  
    - **Enumerated Domain Value Definition Source:** U.S. Fish and Wildlife Service

Attribute:  
  **Attribute Label:** DATE_PUB  
  **Attribute Definition:** Publication date of source material used to assign state and federal status values for each species, if used.  
  **Attribute Definition Source:** Research Planning, Inc.  
  **Attribute Domain Values:**  
  - **Enumerated Domain:**  
    - **Enumerated Domain Value:** Numeric  
    - **Enumerated Domain Value Definition:** mmyyyy  
    - **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_orProvince: Washington
  Postal_Code: 98115-6349

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

Resource_Description: ESI Atlas for American Samoa

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

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

Metadata_Reference_Information:
Metadata_Date: 200402
Metadata_Review_Date: 200402
Metadata_Contact:

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

Contact_Address:
  Address_Type: Physical Address
  Address: 7600 Sand Point Way, N.E.
  City: Seattle
  State_orProvince: Washington
Postal Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact Electronic Mail Address: Jill.Petersen@noaa.gov

Metadata Standard Name: Content Standards for Digital Geospatial Metadata

Generated by mp version 2.8.2 on Wed Feb 25 17:10:01 2004
American Samoa ESI: M_MAMMAL (Marine Mammal Polygons)

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

Metadata:

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

Identification_Information:

Citation:

Originator:


Publication_Date: 200402
Title: American Samoa ESI: M_MAMMAL (Marine Mammal Polygons)
Edition: First
Geospatial_Data_Presentation_Form: Vector digital data
Series_Information:

Series_Name: None
Issue_Identification: American Samoa
Publication_Information:

Publication_Place: Seattle, Washington
Publisher:


Other_Citation_Details:


Description:

Abstract:

This data set contains sensitive biological resource data for whales and dolphins in American Samoa. Vector polygons in this data set represent marine 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 American Samoa. 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:** 2002
- **Ending_Date:** 2004

**Currentness_Reference:**

The biological data were compiled during 2002-2003. The currentness dates for these data range from 1994 to 2003 and are documented in the Source_Information section.

**Status:**

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

**Spatial_Domain:**

**Bounding_Coordinates:**

- **West_Bounding_Coordinate:** -171.266
- **East_Bounding_Coordinate:** -167.964
- **North_Bounding_Coordinate:** -10.873
- **South_Bounding_Coordinate:** -14.723

**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:** American Samoa

**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_Description:** Relationships between spatial data layers and attribute data tables for the American Samoa ESI data.
- **Browse_Graphic_File_Type:** JPEG

**Data_Set_Credit:**

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington, and NOAA's Coral Reef Conservation Program.

**Native_Data_Set_Environment:**

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 8.3) and SQL SERVER(r) (version 7.0). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).
The Spatial Data Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: benthic.e00, birds.e00, casspt.e00, esi.e00, fish.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptiles.e00, soccon.e00, t_mampt.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, bioreas, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data Quality Information:

Attribute Accuracy:

Attribute Accuracy Report:

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

Logical Consistency Report:

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

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness Report:

These data represent a synthesis of expert knowledge and published documents on marine mammal distribution. These data do not necessarily represent all marine mammal occurrences in American Samoa. The following species are included in this data set (Species_ID, Common Name, Scientific Name, if applicable): 5, Melon-headed whale, Peponocephala electra; 13, Humpback whale, Megaptera novaeangliae; 17, Bottlenose dolphin, Tursiops truncatus; 19, Shortfin pilot whale, Globicephala macrorhynchus; 48, Sperm whale, Physeter macrocephalus; 49, Spotted dolphin, Stenella attenuata; 50, Spinner dolphin, Stenella longirostris; 87, Rough-toothed dolphin, Steno bredanensis; 102, False killer whale, Pseudorca crassidens; 105, Pygmy killer whale, Feresa attenuata.

Positional Accuracy:

Horizontal Positional Accuracy:

Horizontal Positional Accuracy Report:

Most of the spatial components of the biological data sets are developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. 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: Department of Marine and Wildlife Resources (DMWR); R. UTZURRUM, J. SEAMON
Publication_Date: 2003
Title: Marine mammal concentration areas, bat surveys, and pelagic bird distribution
Geospatial_Data_Presentation_Form: Hardcopy text
Publication Information:
Publication Place: Unknown
Publisher: Unpublished

Type_of_Source_Media: Paper
Source_Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 2002
Ending_Date: 2003
Source_Currentness_Reference: Dates of surveys
Source_Citation_Abbreviation: None
Source_Contribution: Marine mammal information

Source Information:
Source_Citation:
Citation Information:
Originator: U.S. Coast Guard
Publication_Date: 1994
Title: Federal On-Scene Coordinator American Samoa Contingency Plan Annex
Geospatial_Data_Presentation_Form: Hardcopy text
Publication Information:
Publication Place: Unknown
Publisher: Unknown

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: Marine mammal information

Source Information:
Source_Citation:
Citation Information:
Originator: Fagatele Bay National Marine Sanctuary (NMS)
Publication_Date: 1994
Title: Watching Samoa's Humpback Whales
Geospatial_Data_Presentation_Form: Hardcopy text
Publication Information:
Publication Place: Unknown
Publisher: NOAA-Sanctuaries and Reserves Division

Type_of_Source_Media: Paper
Source_Time_Period_of_Content:
Time_Period_Information:
Calendar_Date: 1994
Source_Currentness_Reference: Date of publication
Source_Citation_Abbreviation: None
Source_Contribution: Marine mammal information
Two main sources of data were used to depict distributions of marine mammals for this data layer: (1) personal interviews with resource experts from the American Samoa Department of Marine and Wildlife Resources (DMWR), the National Park of American Samoa (NPS), and the National Oceanic and Atmospheric Administration (NOAA) Fagatele Bay National Marine Sanctuary; and (2)
published documents provided by the National Marine Sanctuary, U.S. Coast
Guard, the National Audubon Society. Concentration and seasonality information
was provided by resource experts or was extracted from published sources.

Process_Date: 200311
Process_Contact:
  Contact_Reported_Name: Jill Petersen
  Contact_Organization: NOAA, Office of Response and
  Restoration
  Contact_Address: 7600 Sand Point Way, N.E.
  City: Seattle
  State_or_Province: Washington
  Postal_Code: 98115-6349
  Contact_Voice_Telephone: (206) 526-6944
  Contact_Facsimile_Telephone: (206) 526-6329
  Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
  Direct_Spatial_Reference_Method: Vector
  Point_and_Vector_Object_Information:
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: GT-polygon composed of rings
      Point_and_Vector_Object_Count: 298
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Area point
      Point_and_Vector_Object_Count: 298
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Complete chain
      Point_and_Vector_Object_Count: 516
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Link
      Point_and_Vector_Object_Count: 94503
    SDTS_Terms_Description:
      SDTS_Point_and_Vector_Object_Type: Node, planar graph
      Point_and_Vector_Object_Count: 491

Spatial_Reference_Information:
  Horizontal_Coordinate_System_Definition:
    Geographic:
      Latitude_Resolution: 0.00005
      Longitude_Resolution: 0.00005
      Geographic_Coordinate_Units: Decimal degrees
    Geodetic_Model:
      Horizontal_Datum_Name: North American Datum of 1983 (HARN)
      Ellipsoid_Name: Geodetic Reference System 80
      Semi-major_Axis: 6378137
      Denominator_of_Flattening_Ratio: 298.257222

Entity_and_Attribute_Information:
  Overview_Description:
    Entity_and_Attribute_Overview:
In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, 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 (the American Samoa atlas number is 76), 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, T_E, 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, which describes 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 representing marine 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 (76), 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:**
**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:** 76000002  
  - **Range Domain Maximum:** 76000088

**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:** 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 (76), 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:** 760100001  
  - **Range Domain Maximum:** 763900060

**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: 076000001
    Range_Domain_Maximum: 076000134

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 species at a particular location. No quantitative concentration information was available for marine mammals, so descriptive terms such as "MODERATE" or "COMMON" were used. In cases where no concentration information was available from any source, the CONC field contains "."
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: Any character
      Enumerated_Domain_Value_Definition: Free text
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Species common name for the entire ESI data set
Enumerated_Domain_Value_Definition: Free text
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: GEN_SPEC
Attribute_Definition: Species scientific name
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Species scientific name for the entire ESI data set.
Enumerated_Domain_Value_Definition: Free text
Enumerated_Domain_Value_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_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: bat
Enumerated_Domain_Value_Definition: Bat
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: 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: dolphin
Enumerated_Domain_Value_Definition: Dolphin
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: echinoderm
  Enumerated_Domain_Value_Definition: Echinoderm
  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: lobster
  Enumerated_Domain_Value_Definition: Lobster
  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: pelagic
  Enumerated_Domain_Value_Definition: Pelagic bird
  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: turtle
  Enumerated_Domain_Value_Definition: Turtle
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

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

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: whale
  Enumerated_Domain_Value_Definition: Whale
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
**Attribute**: NHP
**Attribute Definition**: Natural Heritage Program global ranking
**Attribute Definition Source**: Network of Natural Heritage Program
**Attribute Domain Values**:  
- **Enumerated Domain**:  
  - **Enumerated Domain Value**: 0  
  - **Enumerated Domain Value Definition**: Not ranked  
  - **Enumerated Domain Value Definition Source**: Research Planning, Inc.

**Attribute**: DATE_PUB
**Attribute Definition**: Date of NHP listing
**Attribute Definition Source**: Research Planning, Inc.
**Attribute Domain Values**:  
- **Enumerated Domain**:  
  - **Enumerated Domain Value**: Numeric  
  - **Enumerated Domain Value Definition**: mmyyyy  
  - **Enumerated Domain Value Definition Source**: Research Planning, Inc.

**Attribute**: EL_SPE
**Attribute Definition**: Concatenation of ELEMENT and SPECIES_ID. This item links records in the 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**: 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**: ELEMENT
**Attribute Definition**: Major categories of biological data
**Attribute Definition Source**: Research Planning, Inc.
**Attribute Domain Values**:  
- **Enumerated Domain**:  
  - **Enumerated Domain Value**: BIRD  
  - **Enumerated Domain Value Definition**: Birds  
  - **Enumerated Domain Value Definition Source**: Research Planning, Inc.
Enumerated_Domain:
  Enumerated_Domain_Value: FISH
  Enumerated_Domain_Value_Definition: Fish
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

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

**Attribute_Definition_Source:** Research Planning, Inc.

**Attribute Domain Values:**

**Enumerated_Domain:**

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

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

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

**Attribute:**

**Attribute_Label:** BREED3

**Attribute_Definition:**

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

**Attribute_Definition_Source:** Research Planning, Inc.

**Attribute Domain Values:**

**Enumerated_Domain:**

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

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

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

**Attribute:**

**Attribute_Label:** BREED4

**Attribute_Definition:**

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

**Attribute_Definition_Source:** Research Planning, Inc.

**Attribute Domain Values:**
Enumerated_Domain:
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
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
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, and to G_SOURCE and S_SOURCE in the BIORES table.
**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:**

- **Enumerated Domain:**
  - **Enumerated Domain Value:** Any character
  - **Enumerated Domain Value Definition:** Free text
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**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:** Numeric
  - **Enumerated Domain Value Definition:** mmyyyy
  - **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:**

- **Enumerated Domain:**
  - **Enumerated Domain Value:** Any character
  - **Enumerated Domain Value Definition:** Free text
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute:**

- **Attribute Label:** DATA_FORMAT
- **Attribute Definition:** The format of the source material
- **Attribute Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**

- **Enumerated Domain:**
  - **Enumerated Domain Value:** Any character
  - **Enumerated Domain Value Definition:** Free text
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute:**

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

**Attribute Domain Values:**

- **Enumerated Domain:**
  - **Enumerated Domain Value:** Any character
  - **Enumerated Domain Value Definition:** Free text
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute:**

- **Attribute Label:** SCALE
- **Attribute Definition:** Scale denominator of the source
- **Attribute Definition Source:** Research Planning, Inc.

**Attribute Domain Values:**

- **Enumerated Domain:** integer
  - **Enumerated Domain Value Definition:** Any integer
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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:
  Enumerated_Domain:
    Enumerated_Domain_Value: Numeric
    Enumerated_Domain_Value_Definition: yyyy
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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 or federal authority. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: BIRD
    Enumerated_Domain_Value_Definition: Birds
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
  Enumerated_Domain:
    Enumerated_Domain_Value: FISH
    Enumerated_Domain_Value_Definition: Fish
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
  Enumerated_Domain:
    Enumerated_Domain_Value: HABITAT
    Enumerated_Domain_Value_Definition: Habitats and Plants
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
  Enumerated_Domain:
    Enumerated_Domain_Value: INVERT
    Enumerated_Domain_Value_Definition: Invertebrates
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
  Enumerated_Domain:
    Enumerated_Domain_Value: M_MAMMAL
    Enumerated_Domain_Value_Definition: Marine Mammals
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
  Enumerated_Domain:
    Enumerated_Domain_Value: REPTILE
    Enumerated_Domain_Value_Definition: Reptiles and Amphibians
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
  Enumerated_Domain:
    Enumerated_Domain_Value: T_MAMMAL
    Enumerated_Domain_Value_Definition: Terrestrial Mammals
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute 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:
  Enumerated Domain:
  Enumerated Domain Value: Any character
  Enumerated Domain Value Definition: Two-letter state abbreviation
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
Attribute Label: S_F
Attribute Definition: State and Federal status.
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
  Enumerated Domain:
  Enumerated Domain Value: F
  Enumerated Domain Value Definition: Federally listed
  Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
Attribute Label: T_E
Attribute Definition: Threatened and endangered status.
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
  Enumerated Domain:
  Enumerated Domain Value: E
  Enumerated Domain Value Definition: Endangered on state or federal list
  Enumerated Domain Value Definition Source: U.S. Fish and Wildlife Service

Attribute Domain Values:
  Enumerated Domain:
  Enumerated Domain Value: T
  Enumerated Domain Value Definition: Threatened on state or federal list
  Enumerated Domain Value Definition Source: U.S. Fish and Wildlife Service

Attribute:
Attribute Label: DATE_PUB
Attribute Definition: Publication date of source material used to assign state and federal status values for each species, if used.
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
  Enumerated Domain:
  Enumerated Domain Value: Numeric
  Enumerated Domain Value Definition: mmyyyy
  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 American Samoa

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

**Custom_Order_Process:**
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

---

**Metadata_Reference_Information:**

**Metadata_Date:** 200402  
**Metadata_Review_Date:** 200402  
**Metadata_Contact:**

**Contact Information:**

**Contact_Person_Primary:**

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

**Contact_Address:**

**Address_Type:** Physical Address  
**Address:** 7600 Sand Point Way, N.E.  
**City:** Seattle  
**State_or_Province:** Washington  
**Postal_Code:** 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata

Generated by mp version 2.8.2 on Wed Feb 25 17:12:39 2004
American Samoa ESI: T_MAMPT (Terrestrial Mammal Points)

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

Metadata:

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

**Identification Information:**

**Citation:**

**Originator:**

**Publication_Date:** 200402

**Title:** American Samoa ESI: T_MAMPT (Terrestrial Mammal Points)

**Edition:** First

**Geospatial_Data_Presentation_Form:** Vector digital data

**Series Information:**

- **Series_Name:** None
- **Issue_Identification:** American Samoa

**Publication Information:**

**Publication Place:** Seattle, Washington

**Publisher:**

**Other_Citation_Details:**

**Description:**

**Abstract:**
This data set contains sensitive biological resource data for bats in American Samoa. Vector points in this data set represent bat roosts and caves. 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 American Samoa. 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:** 2002
- **Ending_Date:** 2004

**Currentness_Reference:**

The biological data were compiled during 2002-2003. The currentness date for these data is 2003 and is documented in the Source_Information section.

**Status:**

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

**Spatial_Domain:**

**Bounding_Coordinates:**

- **West_BoundingCoordinate:** -171.266
- **East_BoundingCoordinate:** -167.964
- **North_BoundingCoordinate:** -10.873
- **South_BoundingCoordinate:** -14.723

**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:** American Samoa

**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:** Relationships between spatial data layers and attribute data tables for the American Samoa ESI data.
- **Browse_Graphic_File_Type:** JPEG

**Data_Set_Credit:**

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington, and NOAA's Coral Reef Conservation Program.

**Native_Data_Set_Environment:**

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 8.3) and SQL SERVER(r) (version 7.0). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).

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

**Data_Quality_Information:**

**Attribute_Accuracy:**

**Attribute_Accuracy_Report:**

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

**Logical_Consistency_Report:**

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

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resources at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

**Completeness_Report:**

These data represent a synthesis of information from hardcopy maps and survey data on bat roosts and caves. These data do not necessarily represent all bat roosts in American Samoa. The following species are included in this data set: (Species_ID, Common Name, Scientific Name, if applicable): 202, Insular flying fox, Pteropus tonganus; 231, Mariana sheath-tailed bat, Emballonura semicaudata.

**Positional_Accuracy:**

**Horizontal_Positional_Accuracy:**

**Horizontal_Positional_Accuracy_Report:**

Most of the spatial components of the biological data sets are developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources.
Two main sources of data were used to depict bat roosts for this data layer: (1) hardcopy maps provided by the Department of Marine and Wildlife Resources (DMWR), and (2) survey data provided by DMWR. Concentration and seasonality information was extracted from the survey data.
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
    SDTS_Point_and_Vector_Object_Count: 60

Spatial Reference Information:
  Horizontal Coordinate System Definition:
    Geographic:
      Latitude Resolution: 0.00005
      Longitude Resolution: 0.00005
    Geographic Coordinate Units: Decimal degrees
  Geodetic Model:
    Horizontal Datum Name: North American Datum of 1983 (HARN)
    Ellipsoid Name: Geodetic Reference System 80
    Semi-major Axis: 6378137
    Denominator of Flattening Ratio: 298.25722

Entity and Attribute Information:
  Overview Description:
  Entity and Attribute Overview:
In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREEF, 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_MAMPT) 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 (the American Samoa atlas number is 76), 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, T_E, NHP, DATE_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREEF1, BREEF2, BREEF3, BREEF4, BREEF5, RARNUM, G_SOURCE, S_SOURCE, and BREEF. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREEF items. BREEF is a newly generated variable used to link to the BREED DT data table, a modified, more compact version of the relational BREEF 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 BREEF 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, BREEF 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, which describes 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_MAMPT.PAT
- **Entity_Type_Definition:**
  The T_MAMPT.PAT table contains attribute information for the vector points representing bat roosts and caves. 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 (76), element number (39; 30 because it is a point feature, plus 9, the element value for T_MAMMAL), and record number.
- **Attribute_Definition_Source:** NOAA
- **Attribute_Domain_Values:**
  - **Range_Domain:**
    - **Range_Domain_Minimum:** 763900001
    - **Range_Domain_Maximum:** 763900060

- **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:** 76000103
    - **Range_Domain_Maximum:** 76000134

**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: 76000001
  Range_Domain_Maximum: 76000134

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 (76), element number
  (39; 30 because it is a point feature, plus 9, the element value for T_MAMMAL),
  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: 760100001
      Range_Domain_Maximum: 763900060

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: 076000001
      Range_Domain_Maximum: 076000134

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 species
  at a particular location. In this data layer, the field may contain average counts of
  individuals (XX BATS) or descriptive terms, such as "RARE" or "EPHEMERAL".
  In cases where no quantitative or qualitative count data were available, the field
  contains ".". Bat roost counts were derived from 1997-2001 unpublished survey
  data.
  Attribute_Definition_Source: Research Planning, Inc.
  Attribute_Domain_Values:
    Enumerated_Domain:
      Enumerated_Domain_Value: Any character
      Enumerated_Domain_Value_Definition: Free text
Enumerate

**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
**Attribute_Definition_Source:** Research Planning, Inc.
**Attribute_Domain_Values:**
- Enumerated_Domain:
  - Enumerated_Domain_Value: Species common name for the entire ESI data set
  - Enumerated_Domain_Value_Definition: Free text
  - Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

**Attribute:**

**Attribute_Label:** GEN_SPEC
**Attribute_Definition:** Species scientific name
**Attribute_Definition_Source:** Research Planning, Inc.
**Attribute_Domain_Values:**
- Enumerated_Domain:
  - Enumerated_Domain_Value: Species scientific name for the entire ESI data set.
  - Enumerated_Domain_Value_Definition: Free text
  - Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

**Attribute:**

**Attribute_Label:** ELEMENT
**Attribute_Definition:** Major categories of biological data
**Attribute_Definition_Source:** Research Planning, Inc.
**Attribute_Domain_Values:**
- Enumerated_Domain:
  - Enumerated_Domain_Value: BIRD
    - Enumerated_Domain_Value_Definition: Birds
    - Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
  - Enumerated_Domain_Value: FISH
    - Enumerated_Domain_Value_Definition: Fish
    - Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
  - Enumerated_Domain_Value: HABITAT
    - Enumerated_Domain_Value_Definition: Habitats and Plants
    - Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
  - Enumerated_Domain_Value: INVERT
    - Enumerated_Domain_Value_Definition: Invertebrates
    - Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
  - Enumerated_Domain_Value: M_MAMMAL
    - Enumerated_Domain_Value_Definition: Marine Mammals
    - Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
  - Enumerated_Domain_Value: REPTILE
    - Enumerated_Domain_Value_Definition: Reptiles and Amphibians
    - Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
  - Enumerated_Domain_Value: T_MAMMAL
    - Enumerated_Domain_Value_Definition: Terrestrial Mammals
    - Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

**Attribute:**

**Attribute_Label:** 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: bat
    Enumerated_Domain_Value_Definition: Bat
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: bivalve
    Enumerated_Domain_Value_Definition: Bivalve
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: 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: dolphin
    Enumerated_Domain_Value_Definition: Dolphin
    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: echinoderm
    Enumerated_Domain_Value_Definition: Echinoderm
    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: lobster
    Enumerated_Domain_Value_Definition: Lobster
    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
Enumerate

Enumerated_Domain_Value_Definition: Marine pelagic fish
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: shorebird
Enumerated_Domain_Value_Definition: Shorebird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

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

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

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: whale
Enumerated_Domain_Value_Definition: Whale
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: worm
Enumerated_Domain_Value_Definition: Worm
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: 0
Enumerated_Domain_Value_Definition: Not ranked
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Numeric
Enumerated_Domain_Value_Definition: mmyyyy
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
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
**Attribute:**

<table>
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<tr>
<th>Attribute_Label</th>
<th>Attribute_Definition</th>
<th>Attribute_Definition_Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIES_ID</td>
<td>Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.</td>
<td>Research Planning, Inc.</td>
</tr>
</tbody>
</table>

**Attribute Domain Values:**

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

**Attribute:**

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<th>Attribute_Definition</th>
<th>Attribute_Definition_Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEASON_ID</td>
<td>Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.</td>
<td>Research Planning, Inc.</td>
</tr>
</tbody>
</table>

**Attribute Domain Values:**

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

**Attribute:**

<table>
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<th>Attribute_Definition</th>
<th>Attribute_Definition_Source</th>
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</thead>
<tbody>
<tr>
<td>JAN</td>
<td>January</td>
<td>Research Planning, Inc.</td>
</tr>
</tbody>
</table>

**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:**

<table>
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<tr>
<td>FEB</td>
<td>February</td>
<td>Research Planning, Inc.</td>
</tr>
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**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:**

<table>
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<th>Attribute_Definition_Source</th>
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</thead>
<tbody>
<tr>
<td>MAR</td>
<td>March</td>
<td>Research Planning, Inc.</td>
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</tbody>
</table>

**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:**

<table>
<thead>
<tr>
<th>Attribute_Label</th>
<th>Attribute_Definition</th>
<th>Attribute_Definition_Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>APR</td>
<td>April</td>
<td>Research Planning, Inc.</td>
</tr>
</tbody>
</table>

**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:**

<table>
<thead>
<tr>
<th>Attribute_Label</th>
<th>Attribute_Definition</th>
<th>Attribute_Definition_Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAY</td>
<td>May</td>
<td></td>
</tr>
</tbody>
</table>

**Attribute Domain Values:**

- **Enumerated Domain:**
  - **Enumerated Domain Value:** X
  - **Enumerated Domain Value Definition:** Present in May
<table>
<thead>
<tr>
<th>Attribute Label</th>
<th>Attribute Definition</th>
<th>Attribute Domain Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUN</td>
<td>June</td>
<td>X</td>
</tr>
<tr>
<td>JUL</td>
<td>July</td>
<td>X</td>
</tr>
<tr>
<td>AUG</td>
<td>August</td>
<td>X</td>
</tr>
<tr>
<td>SEP</td>
<td>September</td>
<td>X</td>
</tr>
<tr>
<td>OCT</td>
<td>October</td>
<td>X</td>
</tr>
<tr>
<td>NOV</td>
<td>November</td>
<td>X</td>
</tr>
</tbody>
</table>

*Attribute 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
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
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:**
- **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 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:**
- **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 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
  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, and to G_SOURCE and S_SOURCE in the BIORES table.
  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:
    Enumerated_Domain:
      Enumerated_Domain_Value: Any character
      Enumerated_Domain_Value_Definition: Free text
      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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: Numeric
      Enumerated_Domain_Value_Definition: mmyyyy
      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:

Enumerated Domain:

Enumerated Domain Value: Any character
Enumerated Domain Value Definition: Free text
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
Attribute Label: DATA_FORMAT
Attribute Definition: The format of the source material
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: Any character
Enumerated Domain Value Definition: Free text
Enumerated Domain Value Definition Source: Research Planning, Inc.

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

Enumerated Domain:

Enumerated Domain Value: Any character
Enumerated Domain Value Definition: Free text
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
Attribute Label: SCALE
Attribute Definition: Scale denominator of the source
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:

Enumerated Domain:

Enumerated Domain Value: integer
Enumerated Domain Value Definition: Any integer
Enumerated Domain Value Definition Source: Research Planning, Inc.

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:

Enumerated Domain:

Enumerated Domain Value: Numeric
Enumerated Domain Value Definition: yyyy
Enumerated Domain Value Definition Source: Research Planning, Inc.

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 or federal 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.

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

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

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

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

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

AttributeDomainValues:
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.

AttributeDomainValues:
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.

AttributeDomainValues:
Enumerated_Domain:
Enumerated_Domain_Value: Any character
Enumerated_Domain_Value_Definition: Two-letter state abbreviation
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: S_F
Attribute_Definition: State and Federal status.
Attribute_Definition_Source: Research Planning, Inc.

AttributeDomainValues:
Enumerated_Domain:
Enumerated_Domain_Value: F
Enumerated_Domain_Value_Definition: Federally listed
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
AttributeLabel: T_E
AttributeDefinition: Threatened and endangered status.
AttributeDefinitionSource: Research Planning, Inc.
AttributeDomainValues:
  EnumeratedDomain:
    EnumeratedDomainValue: E
    EnumeratedDomainValueDefinition: Endangered on state or federal list
    EnumeratedDomainValueDefinitionSource: U.S. Fish and Wildlife Service

AttributeDomainValues:
  EnumeratedDomain:
    EnumeratedDomainValue: T
    EnumeratedDomainValueDefinition: Threatened on state or federal list
    EnumeratedDomainValueDefinitionSource: U.S. Fish and Wildlife Service

Attribute:
  AttributeLabel: DATE_PUB
  AttributeDefinition:
    Publication date of source material used to assign state and federal status values for each species, if used.
  AttributeDefinitionSource: Research Planning, Inc.
  AttributeDomainValues:
    EnumeratedDomain:
      EnumeratedDomainValue: Numeric
      EnumeratedDomainValueDefinition: mmyyyy
      EnumeratedDomainValueDefinitionSource: Research Planning, Inc.

Attribute:
  AttributeLabel: EL_SPE
  AttributeDefinition:
    Concatenation of ELEMENT and SPECIES_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.
  AttributeDefinitionSource: Research Planning, Inc.
  AttributeDomainValues:
    EnumeratedDomain:
      EnumeratedDomainValue: E#####
      EnumeratedDomainValueDefinition:
        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’).
      EnumeratedDomainValueDefinitionSource: Research Planning, Inc.

DistributionInformation:
  Distributor:
    ContactInformation:
      ContactPersonPrimary:
        ContactPerson: John Kaperick
        ContactOrganization: NOAA, Office of Response and Restoration
      ContactAddress:
        AddressType: Physical Address
        Address: 7600 Sand Point Way, N.E.
        City: Seattle
        StateOrProvince: Washington
        PostalCode: 98115-6349
        ContactVoiceTelephone: (206) 526-6400
        ContactFacsimileTelephone: (206) 526-6329
  ResourceDescription: ESI Atlas for American Samoa
  DistributionLiability:
Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.

**Custom_Order_Process:**
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

---

**Metadata_Reference_Information:**

*Metadata_Date:* 200402  
*Metadata_Review_Date:* 200402  
*Metadata_Contact:*  
  **Contact_Person_Policy:** Jill Petersen  
  **Contact_Organization:** NOAA, Office of Response and Restoration  
  **Contact_Position:** GIS Manager  
  **Contact_Address:**  
    **Address_Type:** Physical Address  
    **Address:** 7600 Sand Point Way, N.E.  
    **City:** Seattle  
    **State_or_Province:** Washington  
    **Postal_Code:** 98115-6349  
  **Contact_Voice_Telephone:** (206) 526-6944  
  **Contact_Facsimile_Telephone:** (206) 526-6329  
  **Contact_Electronic_Mail_Address:** Jill.Petersen@noaa.gov  

*Metadata_Standard_Name:* Content Standards for Digital Geospatial Metadata  

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Generated by mp version 2.8.2 on Wed Feb 25 17:32:27 2004
American Samoa ESI: REPTILES (Reptile and Amphibian Polygons)

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

Metadata:

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

Identification_Information:
Citation:

Originator:

Publication_Date: 200402
Title: American Samoa ESI: REPTILES (Reptile and Amphibian Polygons)
Edition: First
Geospatial_Data_Presentation_Form: Vector digital data
Series_Information:
Series_Name: None
Issue_Identification: American Samoa
Publication_Information:
Publication_Place: Seattle, Washington
Publisher:

Other_Citation_Details:

Description:
Abstract:
This data set contains sensitive biological resource data for sea turtles in American Samoa. Vector polygons in this data set represent sea turtle nesting and nearshore 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 American Samoa. 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:** 2002
- **Ending_Date:** 2004

**Currentness_Reference:**
The biological data were compiled during 2001-2003. The currentness dates for these data range from 1992 to 2003 and are documented in the Source_Information section.

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

**Spatial_Domain:**
**Bounding_Coordinates:**
- **West_Bounding_Coordinate:** -171.266
- **East_Bounding_Coordinate:** -167.964
- **North_Bounding_Coordinate:** -10.873
- **South_Bounding_Coordinate:** -14.723

**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:** Reptile
- **Theme_Keyword:** Amphibian

**Place:**
- **Place_Keyword_Thesaurus:** None
- **Place_Keyword:** American Samoa

**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:** Relationships between spatial data layers and attribute data tables for the American Samoa ESI data.
**Browse_Graphic_File_Type:** JPEG

**Data_Set_Credit:**
This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington, and NOAA's Coral Reef Conservation Program.

**Native_Data_Set_Environment:**
The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 8.3) and SQL SERVER(r) (version 7.0). The hardware configuration is PC's with Windows Operating System (NT4.0/2000).
The Spatial_Data_Organization_Information section refers only to the source files in the ARC export format. The following files are included in that data set: benthic.e00, birds.e00, casspt.e00, esi.e00, fish.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptiles.e00, socecon.e00, t_mampt.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

**Data_Quality_Information:**

**Attribute_Accuracy:**

**Attribute_Accuracy_Report:**

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

**Logical_Consistency_Report:**

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

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

**Completeness_Report:**

These data represent a synthesis of expert knowledge and published reports and maps on sea turtle distribution. These data do not necessarily represent all sea turtle occurrences in American Samoa. The following species are included in this data set (Species_ID, Common Name, Scientific Name, if applicable): 2, Green sea turtle, Chelonia mydas; 9, Hawksbill sea turtle, Eretmochelys imbricata.

2.4.1.1 Horizontal Positional Accuracy Report Some of the spatial components of the biological data sets are developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Most of the spatial components of the biological data sets are developed from pre-existing digital 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:** Volk, Knudsen, Kluge, and Herdich

**Publication_Date:** 1992
Title: Towards a Territorial Conservation Strategy
Geospatial_Data_Presentation_Form: Hardcopy map
Publication_Information:
  Publication_Date: 1998
  Publisher: Le Vaomatua, Inc., MacArthur Foundation, East-West Center, Honolulu, HI

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: Reptile information
Source_Information:
  Source_Citation:
    Citation_Information:
      Originator: National Marine Fisheries Service (NMFS) & U.S. Fish & Wildlife Service (USFWS)
Publication_Date: 1998
Title: Recovery Plan for U.S. Pacific Populations of the Hawksbill Turtle
Geospatial_Data_Presentation_Form: Hardcopy text
Publication_Information:
  Publication_Date: 1998
  Publisher: National Marine Fisheries Service, Silver Spring, MD

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: Reptile information
Source_Information:
  Source_Citation:
    Citation_Information:
      Originator: Utzurrum, R.
Publication_Date: 2002
Title: Sea turtle conservation in American Samoa
Geospatial_Data_Presentation_Form: Hardcopy text
Publication_Information:
  Publication_Date: 2002

Type_of_Source_Media: Paper
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: Reptile information
Source_Information:
  Source_Citation:
    Citation_Information:
      Originator: National Park of American Samoa
Two main sources of data were used to depict distributions of sea turtles for this data layer: (1) personal interviews with resource experts from the American Samoa Department of Marine and Wildlife Resources (DMWR), the National Park of American Samoa (NPS), and the National Oceanic and Atmospheric Administration...
American Samoa ESI: REPTILES (Reptile and Amphibian Polygons)

(NOAA) Fagatele Bay National Marine Sanctuary; and (2) published documents provided by NOAA National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), DMWR, and Le Vaomatua, Inc. Concentration and seasonality information was provided by resource experts or was extracted from published sources.

Process_Date: 200311
Process_Contact:

Contact_Information:

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

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

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

Spatial_Data_Organization_Information:

Direct_Spatial_Reference_Method: Vector

Point_and_Vector_Object_Information:

SDTS_Terms_Description:
  SDTS_Point_and_Vector_Object_Type: GT-polygon composed of rings
  Point_and_Vector_Object_Count: 437

SDTS_Terms_Description:
  SDTS_Point_and_Vector_Object_Type: Area point
  Point_and_Vector_Object_Count: 437

SDTS_Terms_Description:
  SDTS_Point_and_Vector_Object_Type: Complete chain
  Point_and_Vector_Object_Count: 716

SDTS_Terms_Description:
  SDTS_Point_and_Vector_Object_Type: Link
  Point_and_Vector_Object_Count: 78513

SDTS_Terms_Description:
  SDTS_Point_and_Vector_Object_Type: Node, planar graph
  Point_and_Vector_Object_Count: 554

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:
  Geographic:
    Latitude_Resolution: 0.00005
    Longitude_Resolution: 0.00005
    Geographic_Coordinate_Units: Decimal degrees

Geodetic_Model:
  Horizontal_Datum_Name: North American Datum of 1983 (HARN)
  Ellipsoid_Name: Geodetic Reference System 80
  Semi-major_Axis: 6378137
  Denominator_of_Flatening_Ratio: 298.257222

Entity_and_Attribute_Information:
Overview_Description:

Entity_and_Attribute_Overview:

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, 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 (the American Samoa atlas number is 76) 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, T_E, 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, which describes 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 representing sea turtle nesting and nearshore 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 (76), 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: 760600002
  Range_Domain_Maximum: 760600441

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: 76000089
  Range_Domain_Maximum: 76000102

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: 76000001
  Range_Domain_Maximum: 76000134

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 (76), 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: 760100001
  Range_Domain_Maximum: 763900060

Detailed_Description:

Entity_Type:

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

Attribute:

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

**Attribute Definition Source:** NOAA

**Attribute Domain Values:**

<table>
<thead>
<tr>
<th>Range Domain</th>
<th>Range Domain Minimum</th>
<th>Range Domain Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0760000001</td>
<td>076000134</td>
</tr>
</tbody>
</table>

**Attribute:**

**Attribute Label:** SPECIES_ID

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

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

**Attribute Domain Values:**

<table>
<thead>
<tr>
<th>Range Domain</th>
<th>Range Domain Minimum</th>
<th>Range Domain Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>N</td>
</tr>
</tbody>
</table>

**Attribute:**

**Attribute Label:** CONC

**Attribute Definition:**
The field CONC refers to "concentration," abundance, or density value of a species at a particular location. Quantitative concentration information was available for Rose Atoll, so the field may contain counts indicating a range of nesting females (XX-XX FEMALES). When quantitative information was not available, descriptive terms such as "POTENTIAL", "LOW", "MODERATE", or "CONFIRMED" were used. In cases where no concentration information was available from any source, the CONC field contains "."

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

**Attribute Domain Values:**

<table>
<thead>
<tr>
<th>Enumerated Domain</th>
<th>Enumerated Domain Value</th>
<th>Enumerated Domain Value Definition</th>
<th>Enumerated Domain Value Definition Source</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Any character</td>
<td>Free text</td>
<td>Research Planning, Inc.</td>
</tr>
</tbody>
</table>

**Attribute:**

**Attribute Label:** SEASON_ID

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

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

**Attribute Domain Values:**

<table>
<thead>
<tr>
<th>Range Domain</th>
<th>Range Domain Minimum</th>
<th>Range Domain Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>N</td>
</tr>
</tbody>
</table>

**Attribute:**

**Attribute Label:** 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:**

<table>
<thead>
<tr>
<th>Range Domain</th>
<th>Range Domain Minimum</th>
<th>Range Domain Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>N</td>
</tr>
</tbody>
</table>

**Attribute:**

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

**Attribute_Domain_Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** E#####

**Enumerated_Domain_Value_Description:**

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_Description_Source:** Research Planning, Inc.

**Detailed_Description:**

**Entity_Type:**

**Entity_Type_Description:**

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_Description_Source:** Research Planning, Inc.

**Attribute:**

**Attribute_Description:**

**Attribute_Description_Source:** Research Planning, Inc.

**Attribute_Domain_Values:**

**Range_Domain:**

**Range_Domain_Minimum:** 1

**Range_Domain_Maximum:** N

**Attribute:**

**Attribute_Description:** Species common name

**Attribute_Description_Source:** Research Planning, Inc.

**Attribute_Domain_Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** Species common name for the entire ESI data set

**Enumerated_Domain_Value_Description:** Free text

**Enumerated_Domain_Value_Description_Source:** Research Planning, Inc.

**Attribute:**

**Attribute_Description:** Species scientific name

**Attribute_Description_Source:** Research Planning, Inc.

**Attribute_Domain_Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** Species scientific name for the entire ESI data set

**Enumerated_Domain_Value_Description:** Free text

**Enumerated_Domain_Value_Description_Source:** Research Planning, Inc.

**Attribute:**

**Attribute_Description:** Major categories of biological data

**Attribute_Description_Source:** Research Planning, Inc.

**Attribute_Domain_Values:**

**Enumerated_Domain:**

**Enumerated_Domain_Value:** BIRD

**Enumerated_Domain_Value_Description:** Birds

**Enumerated_Domain_Value_Description_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: bat
  Enumerated_Domain_Value_Definition: Bat
  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

Attribute_Domain_Values:
Enumerated_Domain:
  Enumerated_Domain_Value: 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: dolphin
  Enumerated_Domain_Value_Definition: Dolphin
  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: echinoderm
    Enumerated_Domain_Value_Definition: Echinoderm
    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: lobster
    Enumerated_Domain_Value_Definition: Lobster
    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: pelagic
    Enumerated_Domain_Value_Definition: Pelagic bird
    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: turtle
    Enumerated_Domain_Value_Definition: Turtle
    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_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: worm
Enumerated_Domain_Value_Definition: Worm
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: 0
Enumerated_Domain_Value_Definition: Not ranked
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.
  - **Enumerated_Domain_Value:** N
    - **Enumerated_Domain_Value_Definition:** Life-history stage or activity not present
      - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.
  - **Enumerated_Domain_Value:** -
    - **Enumerated_Domain_Value_Definition:** Breed category not used or not appropriate for record(s) in question
      - **Enumerated_Domain_Value_Definition_Source:** Research Planning, Inc.

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

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

**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, and to G_SOURCE and S_SOURCE in the BIORES table.

**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:**

- **Enumerated Domain**:
  - **Enumerated Domain Value:** Any character
  - **Enumerated Domain Value Definition:** Free text
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**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:** Numeric
  - **Enumerated Domain Value Definition:** mmyyyy
  - **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:**

- **Enumerated Domain**:
  - **Enumerated Domain Value:** Any character
  - **Enumerated Domain Value Definition:** Free text
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute**

**Attribute Label:** DATA_FORMAT

**Attribute Definition:** The format of the source material

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

**Attribute Domain Values:**

- **Enumerated Domain**:
  - **Enumerated Domain Value:** Any character
  - **Enumerated Domain Value Definition:** Free text
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute**

**Attribute Label:** PUBLICATION

**Attribute Definition:** Additional citation information

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

**Attribute Domain Values:**

- **Enumerated Domain**:
  - **Enumerated Domain Value:** Any character
  - **Enumerated Domain Value Definition:** Free text
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute**

**Attribute Label:** SCALE

**Attribute Definition:** Scale denominator of the source

**Attribute Definition Source:** Research Planning, Inc.
<table>
<thead>
<tr>
<th>Attribute Domain Values:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enumerated Domain:</td>
</tr>
<tr>
<td>Enumerated Domain Value: integer</td>
</tr>
<tr>
<td>Enumerated Domain Value Definition: Any integer</td>
</tr>
<tr>
<td>Enumerated Domain Value Definition Source: Research Planning, Inc.</td>
</tr>
</tbody>
</table>

**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.

**Enumerated Domain Values:**

- **Enumerated Domain Value:** Numeric
- **Enumerated Domain Value Definition:** yyyy
- **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**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 or federal 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.

**Enumerated Domain Values:**

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

**Enumerated Domain Values:**

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

**Enumerated Domain Values:**

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

**Enumerated Domain Values:**

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

**Enumerated Domain Values:**

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

**Enumerated Domain Values:**

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

**Enumerated Domain Values:**

- **Enumerated Domain:**
American Samoa ESI: REPTILES (Reptile and Amphibian Polygons)

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:
Enumerated Domain:
Enumerated Domain Value: Any character
Enumerated Domain Value Definition: Two-letter state abbreviation
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
Attribute Label: S_F
Attribute Definition: State and Federal status.
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: F
Enumerated Domain Value Definition: Federally listed
Enumerated Domain Value Definition Source: Research Planning, Inc.

Attribute:
Attribute Label: T_E
Attribute Definition: Threatened and endangered status.
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: E
Enumerated Domain Value Definition: Endangered on state or federal list
Enumerated Domain Value Definition Source: U.S. Fish and Wildlife Service
Enumerated Domain Value: T
Enumerated Domain Value Definition: Threatened on state or federal list
Enumerated Domain Value Definition Source: U.S. Fish and Wildlife Service

Attribute:
Attribute Label: DATE_PUB
Attribute Definition: Publication date of source material used to assign state and federal status values for each species, if used.
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
Enumerated Domain:
Enumerated Domain Value: Numeric
Enumerated Domain Value Definition: mmyyyy
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 American Samoa
Distribution Liability:
Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.
Custom Order Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and ESI Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata Reference Information:
Metadata Date: 200402
Metadata Review Date: 200402
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
American Samoa ESI: MGT (Management Area Polygons)

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

Metadata:

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

Identification_Information:

Citation:


Publication_Date: 200402

Title: American Samoa ESI: MGT (Management Area Polygons)

Edition: First

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:

- Series_Name: None
- Issue_Identification: American Samoa

Publication_Information:

- Publication_Place: Seattle, Washington

Other_Citation_Details:


Description:

Abstract:

This data set contains management area data for special management areas, marine parks, marine sanctuaries, national parks, and wildlife refuges in American Samoa. Vector polygons in this data set represent management areas. Location-specific type and source information is stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for American Samoa. 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) data layer, part of the larger American Samoa 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: 2002
  Ending_Date: 2004

Currentness_Reference:
These data were compiled during 2002-2003. The currentness dates for the data range from 2001 to 2003 and are documented in the Source_Information section.

Status:
Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:
Bounding_Coordinates:
  West_BoundingCoordinate: -171.266
  East_BoundingCoordinate: -167.964
  North_BoundingCoordinate: -10.873
  South_BoundingCoordinate: -14.723

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 area
  Place:
  Place_Keyword_Thesaurus: None
  Place_Keyword: American Samoa

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: Relationships between spatial data layers and attribute data tables for the American Samoa ESI data.
Browse_Graphic_File_Type: JPEG

Data_Set_Credit:
This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington, and NOAA's Coral Reef Conservation Program.

Native_Data_Set_Environment:
The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 8.3) and SQL SERVER(r) (version 7.0). The hardware configuration is PC's
with Windows Operating System (NT4.0/2000).

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

Data_Quality_Information:

Attribute_Accuracy:

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

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

Completeness_Report:
These data represent a synthesis of digital data sets that included management area boundaries. See also the SOCECON (Socioeconomic Resource Points) data layer, part of the larger American Samoa ESI database, for additional human-use information. These data do not necessarily represent all management areas in American Samoa.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

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

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: National Park of American Samoa
Publication_Date: 2003
Title: National Park of American Samoa: Tutuila Unit
Geospatial_Data_Presentation_Form: Digital vector data
Publication_Information:

Publication_Date: 2003
Publication_Place: Unknown
Publisher: Unpublished

Source_Scale_Denominator: Unknown
Type_of_Source_Media: E-mail
Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2003
Source_Currentness_Reference: Date of publication
The main sources of data used to depict management areas for this data layer were digital coverages of management area boundaries provided by the National Park of...
American Samoa (NPSA), American Samoa Department of Commerce (DOC), American Samoa Department of Marine and Wildlife Resources (DMWR), and the Coral Reef Advisory Group (CRAG).

Process_Date: 200311

Process_Contact:
    Contact_Information:
        Contact_Organization_Primary:
            Contact_Organization: NOAA, Office of Response and Restoration
            Contact_Person: Jill Petersen
        Contact_Address:
            Address_Type: Physical address
            Address: 7600 Sand Point Way, N.E.
            City: Seattle
            State_orProvince: Washington
            Postal_Code: 98115-6349
            Contact_Voice_Telephone: (206) 526-6944
            Contact_Facsimile_Telephone: (206) 526-6329
            Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
    Direct_Spatial_Reference_Method: Vector

Point_and_Vector_Object_Information:
    SDTS_Terms_Description:
        SDTS_Point_and_Vector_Object_Type: GT-polygon composed of rings
        Point_and_Vector_Object_Count: 317
    SDTS_Terms_Description:
        SDTS_Point_and_Vector_Object_Type: Area point
        Point_and_Vector_Object_Count: 317
    SDTS_Terms_Description:
        SDTS_Point_and_Vector_Object_Type: Complete chain
        Point_and_Vector_Object_Count: 449
    SDTS_Terms_Description:
        SDTS_Point_and_Vector_Object_Type: Link
        Point_and_Vector_Object_Count: 38974
    SDTS_Terms_Description:
        SDTS_Point_and_Vector_Object_Type: Node, planar graph
        Point_and_Vector_Object_Count: 394

Spatial_Reference_Information:
    Horizontal Coordinate_System_Definition:
        Geographic:
            Latitude_Resolution: 0.00005
            Longitude_Resolution: 0.00005
            Geographic_Coordinate_Units: Decimal degrees
        Geodetic_Model:
            Horizontal_Datum_Name: North American Datum of 1983 (HARN)
            Ellipsoid_Name: Geodetic Reference System 80
            Semi-major_Axis: 6378137
            Denominator_of_Flattening_Ratio: 298.257222

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 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 the American Samoa atlas, the number is 76). ID is a unique combination of the atlas number (76), 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 management areas. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: TYPE

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: MA
Enumerated_Domain_Value_Definition: Management Areas
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: MS
Enumerated_Domain_Value_Definition: Marine Sanctuary
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: NP
Enumerated_Domain_Value_Definition: National Park
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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 (76), 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: 761100002
Range_Domain_Maximum: 761100318

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**

**Attribute**

**Attribute**

**Attribute**

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**Attribute**

**Attribute**

**Attribute**

**Attribute**

**Attribute**
**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.

#### Enumerated Domain:
- **Enumerated Domain Value:** AQUACULTURE
  - **Enumerated Domain Value Definition:** Aquaculture Site
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

#### Enumerated Domain:
- **Enumerated Domain Value:** ARCHAEOLOGICAL SITE
  - **Enumerated Domain Value Definition:** Archaeological Site
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

#### Enumerated Domain:
- **Enumerated Domain Value:** BEACH
  - **Enumerated Domain Value Definition:** Beach
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

#### Enumerated Domain:
- **Enumerated Domain Value:** HISTORICAL SITE
  - **Enumerated Domain Value Definition:** Historical Site
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

#### Enumerated Domain:
- **Enumerated Domain Value:** MANAGEMENT AREA
  - **Enumerated Domain Value Definition:** Management Area
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

#### Enumerated Domain:
- **Enumerated Domain Value:** MARINE SANCTUARY
  - **Enumerated Domain Value Definition:** Marine Sanctuary
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

#### Enumerated Domain:
- **Enumerated Domain Value:** NATIONAL LANDMARK
  - **Enumerated Domain Value Definition:** National Landmark
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

#### Enumerated Domain:
- **Enumerated Domain Value:** NATIONAL PARK
  - **Enumerated Domain Value Definition:** National Park
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

#### Enumerated Domain:
- **Enumerated Domain Value:** PARK
  - **Enumerated Domain Value Definition:** Park
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

#### Enumerated Domain:
- **Enumerated Domain Value:** SUBSISTENCE
  - **Enumerated Domain Value Definition:** Subsistence Collection Area
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

#### 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:

#### Enumerated Domain:
- **Enumerated Domain Value:** Any character
  - **Enumerated Domain Value Definition:** Free text
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.
Attribute: CONTACT
Attribute_Definition: Contact person or entity
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: Any character
    Enumerated_Domain_Value_Definition: Free text
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute: PHONE
Attribute_Definition: Contact telephone number
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: Any character
    Enumerated_Domain_Value_Definition: Free text
    Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute: G_SOURCE
Attribute_Definition: Geographic source integer 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: A_SOURCE
Attribute_Definition: Attribute source integer 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: SOURCES
Entity_Type_Label: SOURCES
Entity_Type_Definition:
The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.

Attribute: SOURCE_ID
Attribute_Definition: Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table, and to G_SOURCE and S_SOURCE in the BIORES table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
  Range_Domain:
    Range_Domain_Minimum: 1
    Range_Domain_Maximum: N

Attribute: ORIGINATOR
Attribute_Definition: Author or developer of source material or data set
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
    Enumerated Domain:
        Enumerated Domain Value: Any character
        Enumerated Domain Value Definition: Free text
        Enumerated Domain Value Definition Source: Research Planning, Inc.
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: Numeric
        Enumerated Domain Value Definition: mmyyyy
        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:
    Enumerated Domain:
        Enumerated Domain Value: Any character
        Enumerated Domain Value Definition: Free text
        Enumerated Domain Value Definition Source: Research Planning, Inc.
Attribute:
Attribute Label: DATA_FORMAT
Attribute Definition: The format of the source material
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
    Enumerated Domain:
        Enumerated Domain Value: Any character
        Enumerated Domain Value Definition: Free text
        Enumerated Domain Value Definition Source: Research Planning, Inc.
Attribute:
Attribute Label: PUBLICATION
Attribute Definition: Additional citation information
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
    Enumerated Domain:
        Enumerated Domain Value: Any character
        Enumerated Domain Value Definition: Free text
        Enumerated Domain Value Definition Source: Research Planning, Inc.
Attribute:
Attribute Label: SCALE
Attribute Definition: Scale denominator of the source
Attribute Definition Source: Research Planning, Inc.
Attribute Domain Values:
    Enumerated Domain:
        Enumerated Domain Value: Integer
        Enumerated Domain Value Definition: Any integer
        Enumerated Domain Value Definition Source: Research Planning, Inc.
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:
    Enumerated Domain:
**Enumerated_Domain_Value**: Numeric  
**Enumerated_Domain_Value_Definition**: yyyy  
**Enumerated_Domain_Value_Definition_Source**: Research Planning, Inc.

---

**Distribution_Information:**

**Distributor:**

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

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

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

**Resource_Description**: ESI Atlas for American Samoa

**Distribution_Liability:**

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

**Custom_Order_Process:**

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

---

**Metadata_Reference_Information:**

**Metadata_Date**: 200402  
**Metadata_Review_Date**: 200402  
**Metadata_Contact:**

**Contact_Person_Primary:**
- **Contact_Person**: Jill Petersen  
- **Contact_Organization**: NOAA, Office of Response and Restoration  
- **Contact_Position**: GIS Manager

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

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

**Metadata_Standard_Name**: Content Standards for Digital Geospatial Metadata  
**Metadata_Standard_Version**: FGDC-STD-001-1998
American Samoa ESI: SOCECON (Socioeconomic Resource Points)

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

Metadata:

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

Identification_Information:

Citation:

Originator:

Publication_Date: 200402
Title: American Samoa ESI: SOCECON (Socioeconomic Resource Points)
Edition: First

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:
Series_Name: None
Issue_Identification: American Samoa

Publication_Information:
Publication_Place: Seattle, Washington
Publisher:

Other_Citation_Details:

Description:

Abstract:
This data set contains human-use resource data for airports, aquaculture sites, archaeological and historic sites, National Landmarks, National Parks, recreational beaches, and subsistence collection areas in American Samoa. Vector points in this data set represent human-use site locations. Location-specific type and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for American Samoa. 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 American Samoa 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: 2002
   Ending_Date: 2004

Currentness_Reference:

These data were compiled during 2002-2003. The currentness dates for the data range from 1989 to 2002 and are documented in the Source_Information section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

   West_Bounding_Coordinate: -171.266
   East_Bounding_Coordinate: -167.964
   North_Bounding_Coordinate: -10.873
   South_Bounding_Coordinate: -14.723

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 resource
   Theme_Keyword: Human-use resource

Place:

   Place_Keyword_Thesaurus: None
   Place_Keyword: American Samoa

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: Relationships between spatial data layers and attribute data tables for American Samoa ESI data.
   Browse_Graphic_File_Type: JPEG

Data_Set_Credit:

   This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington, and NOAA's Coral Reef Conservation Program.

Native_Data_Set_Environment:

   The software packages used to develop the atlas are Environmental Systems Research Institute's
American Samoa ESI: SOCECON (Socioeconomic Resource Points)

ARC/INFO(r) (version 8.3) and SQL SERVER(r) (version 7.0). The hardware configuration is PC’s with Windows Operating System (NT4.0/2000).

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

Data_Quality_Information:

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

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

Completeness_Report:
These data represent a synthesis of expert knowledge, hardcopy maps, and reports depicting socioeconomic resources in American Samoa. Refer to the MGT (Management Area Polygons) data layer, part of the larger American Samoa ESI database, for additional human-use information. These data do not necessarily represent all human-use sites in American Samoa.

Positional_Accuracy:
Horizontal_Positional_Accuracy:
Horizontal_Positional_Accuracy_Report:
The spatial components of the SOCECON data set are developed from pre-existing digital and hardcopy sources and the knowledge of regional experts. It is difficult to estimate the positional accuracy of such data, except to state that hardcopy data were compiled on 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: Volk, Knudsen, Kluge, and Herdich
Publication_Date: 1992
Title: Towards a Territorial Conservation Strategy
Geospatial_Data_Presentation_Form: Hardcopy map
Publication_Information:
Publication_Place: Unknown
Publisher:
Le Vaomatua, Inc., MacArthur Foundation, East-West Center, Honolulu, HI

Type_of_Source_Media: Paper
Source_Time_Period_of_Content:
**Source Information:**

**Source Citation:**

**Citation Information:**
- **Originator:** Beeching, T.
- **Publication Date:** 2002
- **Title:** Fish, invertebrate, and socioeconomic resource distribution
- **Geospatial Data Presentation Form:** Expert knowledge
- **Publication Information:**
  - **Publication Place:** Unknown
  - **Publisher:** Unpublished

**Type of Source Media:** Personal communication

**Source Time Period of Content:**

**Time Period Information:**
- **Single Date/Time:** Calendar Date: 1992

**Source Currentness Reference:** Date of publication

**Source Contribution:** Socioeconomic information

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**Source Information:**

**Source Citation:**

**Citation Information:**
- **Originator:** AS Historic Preservation Office
- **Publication Date:** 2002
- **Title:** Archaeological/Historical Site Locations
- **Geospatial Data Presentation Form:** Expert knowledge
- **Publication Information:**
  - **Publication Place:** Unknown
  - **Publisher:** Unpublished

**Type of Source Media:** Personal communication

**Source Time Period of Content:**

**Time Period Information:**
- **Single Date/Time:** Calendar Date: 2003

**Source Currentness Reference:** Date of communication

**Source Contribution:** Socioeconomic information

---

**Source Information:**

**Source Citation:**

**Citation Information:**
- **Originator:** U.S. Geological Survey
- **Publication Date:** 1989
- **Title:** 7.5" Togographic Quadrangles
- **Geospatial Data Presentation Form:** Hardcopy map
- **Publication Information:**
  - **Publication Place:** Unknown
  - **Publisher:** Denver, CO

**Type of Source Media:** Paper

**Source Time Period of Content:**

**Time Period Information:**
- **Single Date/Time:** Calendar Date: 1989

**Source Currentness Reference:** Date of publication

**Source Contribution:** Socioeconomic information
Source Information:

Source Information:

Source Citation:

Citation Information:

Originator: National Park Service
Publication Date: 1999
Title: American Samoa: Official Map and Guide
Geospatial Data Presentation Form: Hardcopy map
Publication Information:
Publication Place: Unknown
Publisher: GPO:1999-454-767/60471

Type of Source Media: Paper
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: Socioeconomic information

Source Information:

Source Citation:

Citation Information:

Originator: Bier, J.A.
Publication Date: 1990
Title: Islands of Samoa
Geospatial Data Presentation Form: Hardcopy map
Publication Information:
Publication Place: Unknown
Publisher: University of Hawaii Press

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: Socioeconomic information

Process Step:

Process Description:
Two main sources of data were used to depict human-use resources for this data layer: (1) personal interviews with resource experts from the American Samoa Historic Preservation Office (AS HPO) and American Samoa Department of Marine and Wildlife Resources (DMWR), and (2) published maps and reports suggested for use by the National Park of American Samoa (NPS) and AS HPO.

Process Date: 200311

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
American Samoa ESI: SOCECON (Socioeconomic Resource Points)

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: 304

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
  Geographic:
    Latitude_Resolution: 0.00005
    Longitude_Resolution: 0.00005
  Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
  Horizontal_Datum_Name: North American Datum of 1983 (HARN)
  Ellipsoid_Name: Geodetic Reference System 80
  Semi-major_Axis: 6378137
  Denominator_of_Flattening_Ratio: 298.257222

Entity_and_Attribute_Information:
Overview_Description:
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 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 (the atlas number for American Samoa is 76). ID is a unique combination of the atlas number (76), 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 human-use site locations. 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.
### Enumerated Domain

<table>
<thead>
<tr>
<th>Enumerated_Domain_Value</th>
<th>Enumerated_Domain_Value_Definition</th>
<th>Enumerated_Domain_Value_Definition_Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQ</td>
<td>Aquaculture Site</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>AS</td>
<td>Archaeological Site</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>B</td>
<td>Beach</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>HS</td>
<td>Historical Site</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>NL</td>
<td>National Landmark</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>NP</td>
<td>National Park</td>
<td>Research Planning, Inc.</td>
</tr>
<tr>
<td>S</td>
<td>Subsistence Collection Area</td>
<td>Research Planning, Inc.</td>
</tr>
</tbody>
</table>

### Attribute

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Attribute_Label</th>
<th>Attribute_Definition</th>
<th>Attribute_Definition_Source</th>
<th>Attribute_Domain_Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>ID</td>
<td>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 (76), element number (10), and record number.</td>
<td>NOAA</td>
<td>Range_Domain:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HUNUM</td>
<td>HUNUM</td>
<td>An identifier that links directly to the SOC_DAT table.</td>
<td>NOAA</td>
<td>Range_Domain:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 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.
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**: 76000001
- **Range Domain Maximum**: 76000083

**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 (76), 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**: 761000001
- **Range Domain Maximum**: 761100318

**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**: 76000001
- **Range Domain Maximum**: 76000083

**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.

**Enumerated Domain**:
- **Enumerated Domain Value**: AQUACULTURE
- **Enumerated Domain Value Definition**: Aquaculture Site
- **Enumerated Domain Value Definition Source**: Research Planning, Inc.

**Enumerated Domain**:
- **Enumerated Domain Value**: ARCHAEOLOGICAL SITE
- **Enumerated Domain Value Definition**: Archaeological Site
- **Enumerated Domain Value Definition Source**: Research Planning, Inc.

**Enumerated Domain**:
- **Enumerated Domain Value**: BEACH
- **Enumerated Domain Value Definition**: Beach
- **Enumerated Domain Value Definition Source**: Research Planning, Inc.
Enumerated_Domain_Value: HISTORICAL SITE
Enumerated_Domain_Value_Definition: Historical Site
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: MANAGEMENT AREA
Enumerated_Domain_Value_Definition: Management Area
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: MARINE SANCTUARY
Enumerated_Domain_Value_Definition: Marine Sanctuary
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: NATIONAL LANDMARK
Enumerated_Domain_Value_Definition: National Landmark
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: NATIONAL PARK
Enumerated_Domain_Value_Definition: National Park
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: PARK
Enumerated_Domain_Value_Definition: Park
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: SUBSISTENCE
Enumerated_Domain_Value_Definition: Subsistence Collection Area
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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.

Enumerated_Domain:
Enumerated_Domain_Value: Any character
Enumerated_Domain_Value_Definition: Free text
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: CONTACT
Attribute_Definition: Contact person or entity
Attribute_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: Any character
Enumerated_Domain_Value_Definition: Free text
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: PHONE
Attribute_Definition: Contact telephone number
Attribute_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: Any character
Enumerated_Domain_Value_Definition: Free text
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: G_SOURCE
Attribute Definition:
Geographic source integer 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 integer 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, and to G_SOURCE and S_SOURCE in the BIORES table.

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:
Enumerated Domain:
  Enumerated Domain Value: Any character
  Enumerated Domain Value Definition: Free text
  Enumerated Domain Value Definition Source: Research Planning, Inc.

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: Numeric
  Enumerated Domain Value Definition: mmyyyy
  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:**  
- **Enumerated Domain:**  
  - **Enumerated Domain Value:** Any character  
  - **Enumerated Domain Value Definition:** Free text  
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute:**  
**Attribute Label:** DATA_FORMAT  
**Attribute Definition:** The format of the source material  
**Attribute Definition Source:** Research Planning, Inc.  
**Attribute Domain Values:**  
- **Enumerated Domain:**  
  - **Enumerated Domain Value:** Any character  
  - **Enumerated Domain Value Definition:** Free text  
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute:**  
**Attribute Label:** PUBLICATION  
**Attribute Definition:** Additional citation information  
**Attribute Definition Source:** Research Planning, Inc.  
**Attribute Domain Values:**  
- **Enumerated Domain:**  
  - **Enumerated Domain Value:** Any character  
  - **Enumerated Domain Value Definition:** Free text  
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**Attribute:**  
**Attribute Label:** SCALE  
**Attribute Definition:** Scale denominator of the source  
**Attribute Definition Source:** Research Planning, Inc.  
**Attribute Domain Values:**  
- **Enumerated Domain:**  
  - **Enumerated Domain Value:** integer  
  - **Enumerated Domain Value Definition:** Any integer  
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

**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:**  
- **Enumerated Domain:**  
  - **Enumerated Domain Value:** Numeric  
  - **Enumerated Domain Value Definition:** yyyy  
  - **Enumerated Domain Value Definition Source:** Research Planning, Inc.

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**Distribution Information:**  
**Distributor:**  
**Contact Information:**  
**Contact Person Primary:**  
**Contact Person:** John Kaperick  
**Contact Organization:** NOAA, Office of Response and Restoration

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**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 American Samoa

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

**Custom_Order_Process:**
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

**Metadata_Reference_Information:**

**Metadata_Date:** 200402

**Metadata_Review_Date:** 200402

**Metadata_Contact:**

**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

American Samoa ESI Entity Relationship Diagram

Relationships between spatial data layers and attribute data tables

Geographic Themes

- ESI (LINES)
  - ESI (10, 10, C)
  - LINE (1, 1, C)
  - SOURCE_ID (6, 6, I)
  - ENVIR (1, 1, C)
- ESI (POLYS)
  - ESI (10, 10, C)
  - WATER_CODE (1, 1, C)
  - ENVIR (1, 1, C)
- HYDRO (LINES)
  - LINE (1, 1, C)
  - SOURCE_ID (6, 6, I)
- HYDRO (POLYS)
  - WATER_CODE (1, 1, C)
  - INDEX (POLYS)
  - TILE-NAME (32, 32, C)
  - TOPO-NAME (255, 255, C)
  - SCALE (7, 7, I)
  - MAPANGLE (4, 8, F, 3)
  - PAGESIZE (11, 11, C)
- BENTHIC (POLYS)
  - TYPE (254, 254, C)
- CASSPT (POINTS)
- MGT (POLYS)
  - TYPE (2, 2, C)
  - ID (10, 10, I)
  - HUNUM (9, 9, I)
- SOCCECON (POINTS)
  - TYPE (2, 2, C)
  - ID (10, 10, I)
  - HUNUM (9, 9, I)
- BIRDS (POLYS)
  - ID (10, 10, I)
  - RARNUM (9, 9, I)
- FISH (POLYS)
  - ID (10, 10, I)
  - RARNUM (9, 9, I)
- INVERT (POLYS)
  - ID (10, 10, I)
  - RARNUM (9, 9, I)
- M_MAMMAL (POLYS)
  - ID (10, 10, I)
  - RARNUM (9, 9, I)
- NESTS (POINTS)
  - ID (10, 10, I)
  - RARNUM (9, 9, I)
- REPTILES (POLYS)
  - ID (10, 10, I)
  - RARNUM (9, 9, I)
- T_MAMPT (POINTS)
  - ID (10, 10, I)
  - RARNUM (9, 9, I)

Lookup Tables

- SOC_LUT
  - HUNUM (9, 9, I)
  - ID (10, 10, I)
  - (The SOC_LUT table can be bypassed by linking the human-use tables to SOC_DAT using HUNUM.)

- BIO_LUT
  - RARNUM (9, 9, I)
  - ID (10, 10, I)
  - (The BIO_LUT table can be bypassed by linking the biology tables to BIORES using RARNUM.)

Data Tables

- SOC_DAT
  - HUNUM (9, 9, I)
  - TYPE (20, 20, C)
  - NAME (40, 40, C)
  - CONTACT (80, 80, C)
  - PHONE (20, 20, C)
  - G_SOURCE (6, 6, I)
  - A_SOURCE (6, 6, I)

- BIRDS
  - RARNUM (9, 9, I)
  - SPECIES_ID (5, 5, I)
  - CONC (20, 20, C)
  - SEASON_ID (2, 2, I)
  - G_SOURCE (6, 6, I)
  - S_SOURCE (6, 6, I)
  - ELEMENT (10, 10, C)
  - EL_SPE (6, 6, C)
  - EL_SPE_SEA (8, 8, C)

- SOURCES
  - SOURCE_ID (6, 6, I)
  - ORIGINATOR (35, 35, C)
  - DATE_PUB (10, 10, I)
  - TITLE (80, 80, C)
  - DATA_FORMAT (80, 80, C)
  - PUBLICATION (120, 120, C)
  - SCALE (20, 20, C)
  - TIME_PERIOD (22, 22, C)

- SPECIES
  - SPECIES_ID (5, 5, I)
  - NAME (35, 35, C)
  - GEN_SPEC (45, 45, C)
  - ELEMENT (10, 10, C)
  - SUBELEMENT (10, 10, C)
  - NHP (10, 10, C)
  - DATE_PUB (10, 10, I)
  - EL_SPE (6, 6, C)
  - EL_SPE_SEA (8, 8, C)

- SEASONAL
  - ELEMENT (10, 10, C)
  - SPECIES_ID (5, 5, I)
  - SEASON_ID (2, 2, I)
  - JAN (1, 1, C)
  - FEB (1, 1, C)
  - MAR (1, 1, C)
  - APR (1, 1, C)
  - MAY (1, 1, C)
  - JUN (1, 1, C)
  - JUL (1, 1, C)
  - AUG (1, 1, C)
  - SEP (1, 1, C)
  - OCT (1, 1, C)
  - NOV (1, 1, C)
  - DEC (1, 1, C)
  - EL_SPE_SEA (8, 8, C)

- STATUS
  - ELEMENT (10, 10, C)
  - SPECIES_ID (5, 5, I)
  - STATE (2, 2, C)
  - S_F (3, 3, C)
  - T_E (3, 3, C)
  - DATE_PUB (10, 10, I)
  - EL_SPE (6, 6, C)
  - EL_SPE_SEA (8, 8, C)

- BREED
  - EL_SPE_SEA (8, 8, C)
  - MONTH (2, 2, I)
  - BREED1 (1, 1, C)
  - BREED2 (1, 1, C)
  - BREED3 (1, 1, C)
  - BREED4 (1, 1, C)
  - BREED5 (1, 1, C)