

Guam and the Northern Mariana Islands 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:

Citation_Information:

Originator:

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Publication_Date: 200603

Title:

Guam and the Northern Mariana Islands ESI: HYDRO (Hydrography Lines and Polygons)

Edition: First

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:

Series_Name: None

Issue_Identification: Guam and the Northern Mariana Islands

Publication_Information:

Publication_Place: Seattle, Washington

Publisher:

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

Other_Citation_Details:

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Description:

Abstract:

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

This data set comprises a portion of the ESI data for Guam and the Northern Mariana Islands. 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: 1999

Ending_Date: 2004

Currentness_Reference:

The data were compiled during 2004-2005. The currentness dates for the data range from 1999 to 2004 and are documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: 144.56700

East_Bounding_Coordinate: 145.88200

North_Bounding_Coordinate: 15.34400

South_Bounding_Coordinate: 13.18400

Keywords:

Theme:

Theme_Keyword_Thesaurus: None

Theme_Keyword: ESI

Theme_Keyword: Sensitivity maps

Theme_Keyword: Coastal resources

Theme_Keyword: Oil spill planning

Theme_Keyword: Coastal Zone Management

Theme_Keyword: Wildlife

Theme_Keyword: Hydrography

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Guam and the Northern Mariana Islands

Access_Constraints: None

Use_Constraints:

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the

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

Browse_Graphic:

Browse_Graphic_File_Name: [datafig.jpg](#)

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Guam and Northern Mariana Islands 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; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

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 the data set: bentpt.e00, birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, soecon.e00, vessels.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

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

Logical_Consistency_Report:

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

manager, where the data are written to CD-ROM and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks.

Completeness_Report:

These data represent linear and polygonal hydrography for Guam and the Northern Mariana Islands.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

The HYDROdata set was developed from pre-existing digital data and reflects the positional accuracy of these original data. The horizontal positional accuracy of the 1:24,000 and 1:25,000 U.S. Geological Survey (USGS) topographic quads should conform to National Map Accuracy Standards at scales of 1:24,000 and 1:25,000. 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: NOAA - COASTAL SERVICES CENTER

Publication_Date: 2003

Title: VECTORIZED SHORELINE OF GUAM AND THE MARIANA ISLANDS

Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA

Other_Citation_Details: NOAA - COASTAL SERVICES CENTER, CHARLESTON, SC

Source_Scale_Denominator: 3780

Type_of_Source_Media: ONLINE

Source_Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 2000

Ending_Date: 2003

Source_Currentness_Reference: DATE OF SURVEY

Source_Citation_Abbreviation: NONE

Source_Contribution: HYDRO INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: NOAA - COASTAL SERVICES CENTER

Publication_Date: 2003

Title: 2000-2003 IKONOS IMAGERY

Geospatial_Data_Presentation_Form: RASTER DIGITAL DATA

Other_Citation_Details: NOAA - COASTAL SERVICES CENTER, CHARLESTON, SC

Source_Scale_Denominator: 3780

Type_of_Source_Media: ONLINE

Source_Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 2000

Ending_Date: 2003
Source_Currentness_Reference: DATE OF SURVEY
Source_Citation_Abbreviation: NONE
Source_Contribution: HYDRO INFORMATION
Source_Information:
 Source_Citation:
 Citation_Information:
 Originator: RESEARCH PLANNING, INC.
 Publication_Date: 2004
 Title: STUDY AREA INDEX
 Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
 Other_Citation_Details: UNPUBLISHED
 Source_Scale_Denominator: 24,000
 Type_of_Source_Media: DISC
 Source_Time_Period_of_Content:
 Time_Period_Information:
 Single_Date/Time:
 Calendar_Date: 2004
 Source_Currentness_Reference: DATE OF PUBLICATION
 Source_Citation_Abbreviation: NONE
 Source_Contribution: HYDRO INFORMATION
 Source_Information:
 Source_Citation:
 Citation_Information:
 Originator: U.S. GEOLOGICAL SURVEY (USGS)
 Publication_Date: 2000
 Title: 7.5" TOPOGRAPHIC QUADRANGLES
 Geospatial_Data_Presentation_Form: HARDCOPY MAP
 Other_Citation_Details: U.S. GEOLOGICAL SURVEY, DENVER, CO
 Source_Scale_Denominator: 24,000-25,000
 Type_of_Source_Media: PAPER
 Source_Time_Period_of_Content:
 Time_Period_Information:
 Range_of_Dates/Times:
 Beginning_Date: 1999
 Ending_Date: 2000
 Source_Currentness_Reference: DATE OF PUBLICATION
 Source_Citation_Abbreviation: NONE
 Source_Contribution: HYDRO INFORMATION
 Process_Step:
 Process_Description:

The shoreline was derived primarily from digital coastline data originating from the NOAA Coastal Services Center (CSC), Charleston, South Carolina. CSC digitized the shoreline from georeferenced Ikonos imagery dating from 2000 to 2003. Some small islands missing from these data were digitized by Research Planning, Inc., directly from the georeferenced Ikonos imagery. Other minor gaps in the data set were digitized from U.S. Geological Survey (USGS) digital raster graphics (DRGs).

The above digital and/or hardcopy sources were compiled to create the HYDRO data layer. Depending on the type of source data, three general approaches are used for compiling the data layer: (1) hardcopy maps are digitized at their source scale; (2)

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

Process_Date: 200508

Process_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Person: Jill Petersen

Contact_Address:

Address_Type: Physical address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:

Direct_Spatial_Reference_Method: Vector

Point_and_Vector_Object_Information:

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains

Point_and_Vector_Object_Count: 62

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Area point

Point_and_Vector_Object_Count: 62

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Complete chain

Point_and_Vector_Object_Count: 168

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Link

Point_and_Vector_Object_Count: 44442

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Label Point

Point_and_Vector_Object_Count: 113

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Node, planar graph

Point_and_Vector_Object_Count: 168

*Spatial_Reference_Information:**Horizontal_Coordinate_System_Definition:**Geographic:**Latitude_Resolution:* 0.0000001*Longitude_Resolution:* 0.0000001*Geographic_Coordinate_Units:* Decimal degrees*Geodetic_Model:**Horizontal_Datum_Name:* World Geodetic Survey 1984*Ellipsoid_Name:* WGS_1984*Semi-major_Axis:* 6378137.000000*Denominator_of_Flattening_Ratio:* 298.257224*Entity_and_Attribute_Information:**Overview_Description:**Entity_and_Attribute_Overview:*

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

*Detailed_Description:**Entity_Type:**Entity_Type_Label:* HYDRO.AAT*Entity_Type_Definition:*

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

Entity_Type_Definition_Source: Research Planning, Inc.*Attribute:**Attribute_Label:* LINE*Attribute_Definition:* Type of geographic feature.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* I*Enumerated_Domain_Value_Definition:* Index*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Enumerated_Domain:**Enumerated_Domain_Value:* S*Enumerated_Domain_Value_Definition:* Shoreline*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute:**Attribute_Label:* SOURCE_ID*Attribute_Definition:*

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

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

*Detailed_Description:**Entity_Type:**Entity_Type_Label:* HYDRO.PAT*Entity_Type_Definition:*

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

Entity_Type_Definition_Source: Research Planning, Inc.*Attribute:**Attribute_Label:* WATER_CODE*Attribute_Definition:* Specifies a polygon as either water or land.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* L*Enumerated_Domain_Value_Definition:* Land*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Enumerated_Domain:**Enumerated_Domain_Value:* W*Enumerated_Domain_Value_Definition:* Water*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Detailed_Description:**Entity_Type:**Entity_Type_Label:* ANNO.GEOG*Entity_Type_Definition:*

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

Entity_Type_Definition_Source: Research Planning, Inc.*Detailed_Description:**Entity_Type:**Entity_Type_Label:* ANNO.HYDRO*Entity_Type_Definition:*

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

Entity_Type_Definition_Source: Research Planning, Inc.*Detailed_Description:**Entity_Type:**Entity_Type_Label:* ANNO.SOC*Entity_Type_Definition:*

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

Entity_Type_Definition_Source: Research Planning, Inc.*Detailed_Description:**Entity_Type:**Entity_Type_Label:* SOURCES*Entity_Type_Definition:*

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

Entity_Type_Definition_Source: Research Planning, Inc.*Attribute:*

Attribute_Label: SOURCE_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ORIGINATOR

Attribute_Definition: Author or developer of source material or data set.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: TITLE

Attribute_Definition: Title of source material or data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATA_FORMAT

Attribute_Definition: The format of the source material.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION

Attribute_Definition: Additional citation information.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SCALE

Attribute_Definition: Description of the source scale.

Attribute_Definition_Source: Research Planning, Inc.

*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute_Label:* TIME_PERIOD*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Distribution_Information:**Distributor:**Contact_Information:**Contact_Person_Primary:**Contact_Person:* John Kaperick*Contact_Organization:* NOAA, Office of Response and Restoration*Contact_Address:**Address_Type:* Physical Address*Address:* 7600 Sand Point Way N.E.*City:* Seattle*State_or_Province:* Washington*Postal_Code:* 98115-6349*Contact_Voice_Telephone:* (206) 526-6400*Contact_Facsimile_Telephone:* (206) 526-6329*Resource_Description:* ESI Atlas for Guam and the Northern Mariana Islands*Distribution_Liability:*

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

Custom_Order_Process:

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

*Metadata_Reference_Information:**Metadata_Date:* 200603*Metadata_Review_Date:* 200603*Metadata_Contact:**Contact_Information:**Contact_Person_Primary:**Contact_Person:* Jill Petersen

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Position: GIS Manager

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata

Metadata_Standard_Version: FGDC-STD-001-1998

Generated by [mp](#) version 2.8.21 on Sun Mar 26 10:51:51 2006

Guam and the Northern Mariana Islands ESI: ESI (Environmental Sensitivity Index Shoreline Types - Lines)

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

Metadata:

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

Identification_Information:

Citation:

Citation_Information:

Originator:

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Publication_Date: 200603

Title:

Guam and the Northern Mariana Islands ESI: ESI (Environmental Sensitivity Index Shoreline Types - Lines)

Edition: First

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:

Series_Name: None

Issue_Identification: Guam and the Northern Mariana Islands

Publication_Information:

Publication_Place: Seattle, Washington

Publisher:

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

Other_Citation_Details:

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

*Description:**Abstract:*

This data set contains vector lines representing the shoreline and coastal habitats for Guam and the Northern Mariana Islands, classified according to the Environmental Sensitivity Index (ESI) classification system. This data set comprises a portion of the ESI data for Guam and the Northern Mariana Islands. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources. See also the WETLANDS (Wetland Polygons) data layer, part of the larger Guam and Northern Mariana Islands ESI database, for additional ESI information.

Purpose:

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

*Time_Period_of_Content:**Time_Period_Information:**Range_of_Dates/Times:*

Beginning_Date: 1999

Ending_Date: 2003

Currentness_Reference:

The data were compiled during 2004-2005. The currentness dates for the data range from 1999 to 2003 and are documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

*Spatial_Domain:**Bounding_Coordinates:*

West_Bounding_Coordinate: 144.56700

East_Bounding_Coordinate: 145.88200

North_Bounding_Coordinate: 15.34400

South_Bounding_Coordinate: 13.18400

*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: Guam and the Northern Mariana Islands

Access_Constraints: None*Use_Constraints:*

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

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

Browse_Graphic:

Browse_Graphic_File_Name: [datafig.jpg](#)

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Guam and Northern Mariana Islands 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; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

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 the data set: bentpt.e00, birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, soecon.e00, vessels.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

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

Logical_Consistency_Report:

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

Completeness_Report:

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

*Positional_Accuracy:**Horizontal_Positional_Accuracy:**Horizontal_Positional_Accuracy_Report:*

The ESI data set was developed from pre-existing digital sources and reflects the positional accuracy of these original data. The horizontal positional accuracy of the 1:24,000 and 1:25,000 U.S. Geological Survey (USGS) topographic quads should conform to National Map Accuracy Standards at scales of 1:24,000 and 1:25,000. The minimum mapping unit (MMU) of the actual shoreline classification segments is estimated at 50 meters where mapping is conducted using 1:24,000 hardcopy fieldmaps. Field verification has shown that the absolute positional accuracy of breaks between shoreline ESI types with a 95-percent error bound is approximately 58 meters. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set.

*Lineage:**Source_Information:**Source_Citation:**Citation_Information:*

Originator: NOAA - COASTAL SERVICES CENTER

Publication_Date: 2003

Title: VECTORIZED SHORELINE OF GUAM AND THE MARIANA ISLANDS

Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA

Other_Citation_Details: NOAA - COASTAL SERVICES CENTER, CHARLESTON, SC

Source_Scale_Denominator: 3780

Type_of_Source_Media: ONLINE

Source_Time_Period_of_Content:

*Time_Period_Information:**Range_of_Dates/Times:*

Beginning_Date: 2000

Ending_Date: 2003

Source_Currentness_Reference: DATE OF SURVEY

Source_Citation_Abbreviation: NONE

Source_Contribution: ESI INFORMATION

*Source_Information:**Source_Citation:**Citation_Information:*

Originator: NOAA - COASTAL SERVICES CENTER

Publication_Date: 2003

Title: 2000 - 2003 IKONOS IMAGERY

Geospatial_Data_Presentation_Form: RASTER DIGITAL DATA

Other_Citation_Details: NOAA - COASTAL SERVICES CENTER, CHARLESTON, SC

Source_Scale_Denominator: 3780

Type_of_Source_Media: ONLINE

*Source_Time_Period_of_Content:**Time_Period_Information:**Range_of_Dates/Times:**Beginning_Date:* 2000*Ending_Date:* 2003*Source_Currentness_Reference:* DATE OF SURVEY*Source_Citation_Abbreviation:* NONE*Source_Contribution:* ESI INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:* U.S. GEOLOGICAL SURVEY (USGS)*Publication_Date:* 2000*Title:* 7.5" TOPOGRAPHIC QUADRANGLES*Geospatial_Data_Presentation_Form:* HARDCOPY MAP*Other_Citation_Details:* U.S. GEOLOGICAL SURVEY, DENVER, CO*Source_Scale_Denominator:* 24,000-25,000*Type_of_Source_Media:* PAPER*Source_Time_Period_of_Content:**Time_Period_Information:**Range_of_Dates/Times:**Beginning_Date:* 1999*Ending_Date:* 2000*Source_Currentness_Reference:* DATE OF PUBLICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* ESI INFORMATION*Process_Step:**Process_Description:*

The intertidal shoreline habitats were mapped during overflights and ground surveys conducted by an experienced coastal geologist in August 2004. The overflights were conducted 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 and 1:25,000 scale U.S. Geological Survey (USGS) topographic maps. Where appropriate, revisions to the existing shoreline were made and, where necessary, multiple habitats were described for each shoreline segment.

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

Process_Date: 200508

Process_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Person: Jill Petersen

Contact_Address:

Address_Type: Physical address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:

Direct_Spatial_Reference_Method: Vector

Point_and_Vector_Object_Information:

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains

Point_and_Vector_Object_Count: 62

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Area point

Point_and_Vector_Object_Count: 62

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Complete chain

Point_and_Vector_Object_Count: 881

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Link

Point_and_Vector_Object_Count: 44442

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Node, planar graph

Point_and_Vector_Object_Count: 881

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Geographic:

Latitude_Resolution: 0.0000001

Longitude_Resolution: 0.0000001

Geographic_Coordinate_Units: Decimal degrees

Geodetic_Model:

Horizontal_Datum_Name: World Geodetic Survey 1984

Ellipsoid_Name: WGS_1984

Semi-major_Axis: 6378137.000000

Denominator_of_Flattening_Ratio: 298.257224

Entity_and_Attribute_Information:

Overview_Description:

Entity_and_Attribute_Overview:

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

*Detailed_Description:**Entity_Type:*

Entity_Type_Label: ESI.AAT

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ESI

Attribute_Definition:

The item ESI contains values representing the ESI shoreline type. In many cases, shorelines are ranked with multiple codes, such as "6B/3A" (listed landward to seaward from left to right). The first code, "6B", is the most landward shoreline type and the second code, "3A", is the shoreline type closest to the water. Singular shoreline types are listed below. No multiple codes are listed, but all multiple codes included in the data set can be assembled from the codes described.

The ESI rankings progress from low to high susceptibility to oil spills. To determine the sensitivity of a particular intertidal shoreline habitat, the following factors are integrated: (1) Shoreline type (substrate, grain size, tidal elevation, origin); (2) Exposure to wave and tidal energy; (3) Biological productivity and sensitivity; (4) Ease of cleanup. Prediction of the behavior and persistence of oil in intertidal habitats is based on an understanding of the dynamics of the coastal environments, not just the substrate type and grain size. The intensity of energy expended upon a shoreline by wave action, tidal currents, and river currents directly affects the persistence of stranded oil. The need for shoreline cleanup activities is determined, in part, by the slowness of natural processes in removal of oil stranded on the shoreline. The potential for biological injury, and ease of cleanup of spilled oil, are also important factors in the ESI ranking. Generally speaking, areas exposed to high levels of physical energy, such as wave action and tidal currents, and low biological activity rank low on the scale, whereas sheltered areas with associated high biological activity have the highest ranking.

Attribute_Definition_Source: Research Planning, Inc.

*Attribute_Domain_Values:**Enumerated_Domain:*

Enumerated_Domain_Value: 1A

Enumerated_Domain_Value_Definition: Exposed Rocky Shores

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: 1B

Enumerated_Domain_Value_Definition: Exposed, Solid Man-made Structures

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: 2A

Enumerated_Domain_Value_Definition: Exposed Wave-cut Platforms

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: 5

Enumerated_Domain_Value_Definition: Mixed Sand and Gravel Beaches

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: 6A

Enumerated_Domain_Value_Definition: Gravel Beaches

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: 6B

Enumerated_Domain_Value_Definition: Riprap

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: 8A

Enumerated_Domain_Value_Definition: Sheltered Rocky Shores

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: 8B

Enumerated_Domain_Value_Definition: Sheltered, Solid Man-made Structures

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: 8C

Enumerated_Domain_Value_Definition: Sheltered Riprap

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: 9B

Enumerated_Domain_Value_Definition: Vegetated Low Banks

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: 10D

Enumerated_Domain_Value_Definition: Scrub-shrub Wetlands & Mangroves

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: S

Enumerated_Domain_Value_Definition: Shoreline

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ENVIR

Attribute_Definition: Type of regional environment.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Estuarine

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

*Detailed_Description:**Entity_Type:*

Entity_Type_Label: ESI.PAT

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ESI

Attribute_Definition: The item ESI contains values representing the ESI polygon type.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: U

Enumerated_Domain_Value_Definition: Unranked

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: WATER_CODE

Attribute_Definition: Specifies a polygon as either water or land.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: L

Enumerated_Domain_Value_Definition: Land

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ENVIR

Attribute_Definition: Type of regional environment.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: U

Enumerated_Domain_Value_Definition: Unranked

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

*Entity_Type:**Entity_Type_Label:* SOURCES*Entity_Type_Definition:*

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

Entity_Type_Definition_Source: Research Planning, Inc.*Attribute:**Attribute_Label:* SOURCE_ID*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Range_Domain:**Range_Domain_Minimum:* 1*Range_Domain_Maximum:* N*Attribute:**Attribute_Label:* ORIGINATOR*Attribute_Definition:* Author or developer of source material or data set.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute_Label:* DATE_PUB*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* YYYYMM*Enumerated_Domain_Value_Definition:* YYYY for year and optionally MM for month*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute:**Attribute_Label:* TITLE*Attribute_Definition:* Title of source material or data.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute_Label:* DATA_FORMAT*Attribute_Definition:* The format of the source material.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:*

Attribute_Label: PUBLICATION

Attribute_Definition: Additional citation information.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SCALE

Attribute_Definition: Description of the source scale.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: TIME_PERIOD

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Distribution_Information:

Distributor:

Contact_Information:

Contact_Person_Primary:

Contact_Person: John Kaperick

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400

Contact_Facsimile_Telephone: (206) 526-6329

Resource_Description: ESI Atlas for Guam and the Northern Mariana Islands

Distribution_Liability:

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

Custom_Order_Process:

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

*Metadata_Reference_Information:**Metadata_Date:* 200603*Metadata_Review_Date:* 200603*Metadata_Contact:**Contact_Information:**Contact_Person_Primary:**Contact_Person:* Jill Petersen*Contact_Organization:* NOAA, Office of Response and Restoration*Contact_Position:* GIS Manager*Contact_Address:**Address_Type:* Physical Address*Address:* 7600 Sand Point Way N.E.*City:* Seattle*State_or_Province:* Washington*Postal_Code:* 98115-6349*Contact_Voice_Telephone:* (206) 526-6944*Contact_Facsimile_Telephone:* (206) 526-6329*Contact_Electronic_Mail_Address:* Jill.Petersen@noaa.gov*Metadata_Standard_Name:* Content Standards for Digital Geospatial Metadata*Metadata_Standard_Version:* FGDC-STD-001-1998

Generated by [mp](#) version 2.8.21 on Sun Mar 26 10:49:44 2006

Guam and the Northern Mariana Islands ESI: WETLANDS (Wetland Polygons)

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

Metadata:

- [Identification_Information](#)
- [Data_Quality_Information](#)
- [Spatial_Data_Organization_Information](#)
- [Spatial_Reference_Information](#)
- [Entity_and_Attribute_Information](#)
- [Distribution_Information](#)
- [Metadata_Reference_Information](#)

Identification_Information:

Citation:

Citation_Information:

Originator:

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Publication_Date: 200603

Title:

Guam and the Northern Mariana Islands ESI: WETLANDS (Wetland Polygons)

Edition: First

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:

Series_Name: None

Issue_Identification: Guam and the Northern Mariana Islands

Publication_Information:

Publication_Place: Seattle, Washington

Publisher:

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

Other_Citation_Details:

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Description:

Abstract:

This data set contains vector polygons representing the coastal wetland habitats for Guam

and the Northern Mariana Islands classified according to the Environmental Sensitivity Index (ESI) classification system. This data set comprises a portion of the ESI data for Guam and the Northern Mariana Islands. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources. See also the ESI (ESI Shoreline Types – Lines) data layer, part of the larger Guam and Northern Mariana Islands ESI database, for additional coastal habitat information.

Purpose:

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

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 2004

Ending_Date: 2005

Currentness_Reference:

The data were compiled during 2004-2005. The currentness dates for the data range from 2004 to 2005 and are documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: 144.56700

East_Bounding_Coordinate: 145.88200

North_Bounding_Coordinate: 15.34400

South_Bounding_Coordinate: 13.18400

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: Coastal wetlands

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Guam and the Northern Mariana Islands

Access_Constraints: None

Use_Constraints:

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

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

Browse_Graphic:

Browse_Graphic_File_Name: [datafig.jpg](#)

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Guam and Northern Mariana Islands 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; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

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 the data set: bentpt.e00, birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, socecon.e00, vessels.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

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

Logical_Consistency_Report:

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

Completeness_Report:

These data represent coastal wetland habitats classified according to the Environmental

Sensitivity Index (ESI) classification system. See also the ESI (ESI Shoreline Types – Lines) data layer, part of the larger Guam and Northern Mariana Islands ESI database, for additional coastal habitat information.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

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

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: CNMI CRMO PLANNING DIVISION

Publication_Date: 2004

Title: DIGITIZED 2004 SAIPAN CONSTRUCTED WETLANDS INVENTORY

Geospatial_Data_Presentation_Form: DIGITAL VECTOR DATA

Other_Citation_Details:

COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS
(CNMI) COASTAL RESOURCE MANAGEMENT OFFICE (CRMO)
PLANNING DIVISION, SAN JOSE, SAIPAN, CNMI

Source_Scale_Denominator: 2000-1:5000

Type_of_Source_Media: ONLINE

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2004

Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: WETLANDS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: CNMI CRMO PLANNING DIVISION

Publication_Date: 2004

Title: DIGITIZED 2004 UPDATED TINIAN WETLAND INVENTORY

Geospatial_Data_Presentation_Form: DIGITAL VECTOR DATA

Other_Citation_Details: 2004

Source_Scale_Denominator: 25,000

Type_of_Source_Media: ONLINE

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2004

Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: WETLANDS INFORMATION

Source_Information:

Source_Citation:

*Citation_Information:**Originator:* CNMI CRMO PLANNING DIVISION*Publication_Date:* 2004*Title:* DIGITIZED 2004 UPDATED SAIPAN WETLAND INVENTORY*Geospatial_Data_Presentation_Form:* DIGITAL VECTOR DATA*Other_Citation_Details:* CNMI CRMO PLANNING DIVISION, SAN JOSE, SAIPAN, CNMI*Source_Scale_Denominator:* 25,000*Type_of_Source_Media:* ONLINE*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2004*Source_Currentness_Reference:* DATE OF PUBLICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* WETLANDS INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:* MINTON, DWAYNE (NATIONAL PARK SERVICE [NPS], GUAM)*Publication_Date:* 2005*Title:* DISTRIBUTION OF RESOURCES ON NATIONAL PARK LANDS*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF PUBLICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* WETLANDS INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:*

U.S. FISH & WILDLIFE SERVICE (USFWS) NATIONAL WETLANDS INVENTORY

Publication_Date: 2005*Title:* WETLANDS DIGITAL DATA*Geospatial_Data_Presentation_Form:* VECTOR DIGITAL DATA*Other_Citation_Details:* <http://wetlandsfws.er.usgs.gov/>*Source_Scale_Denominator:* 100,000*Type_of_Source_Media:* ONLINE*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF PUBLICATION*Source_Citation_Abbreviation:* NONE

Source_Contribution: WETLANDS INFORMATION*Process_Step:**Process_Description:*

The WETLANDS data layer was compiled from pre-existing digital wetlands inventory data sets and expert review. These polygonal wetland types were not validated as part of the ESI shoreline classification. The wetlands classification schemes were converted to the ESI scale following NOAA Technical Memorandum NOS OR&R 11: Environmental Sensitivity Index Guidelines: Version 3.0: March 2002. In some cases, the digital wetlands polygons were clipped with the atlas shoreline.

To create the WETLANDS data layer, review maps were plotted at 1:24,000 scale for verification of polygonal attributes. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data were plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews was conducted to review the maps. If necessary, edits to the WETLANDS data layer were made based on the recommendations of the resource experts, and final hardcopy maps and digital data were created.

Process_Date: 200508*Process_Contact:**Contact_Information:**Contact_Organization_Primary:**Contact_Organization:* NOAA, Office of Response and Restoration*Contact_Person:* Jill Petersen*Contact_Address:**Address_Type:* Physical address*Address:* 7600 Sand Point Way N.E.*City:* Seattle*State_or_Province:* Washington*Postal_Code:* 98115-6349*Contact_Voice_Telephone:* (206) 526-6944*Contact_Facsimile_Telephone:* (206) 526-6329*Contact_Electronic_Mail_Address:* Jill.Petersen@noaa.gov*Spatial_Data_Organization_Information:**Direct_Spatial_Reference_Method:* Vector*Point_and_Vector_Object_Information:**SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* GT-polygon composed of chains*Point_and_Vector_Object_Count:* 620*SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* Area point*Point_and_Vector_Object_Count:* 620*SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* Complete chain*Point_and_Vector_Object_Count:* 1181*SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* Link*Point_and_Vector_Object_Count:* 35051

*SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* Node, planar graph*Point_and_Vector_Object_Count:* 957*Spatial_Reference_Information:**Horizontal_Coordinate_System_Definition:**Geographic:**Latitude_Resolution:* 0.0000001*Longitude_Resolution:* 0.0000001*Geographic_Coordinate_Units:* Decimal degrees*Geodetic_Model:**Horizontal_Datum_Name:* World Geodetic Survey 1984*Ellipsoid_Name:* WGS_1984*Semi-major_Axis:* 6378137.000000*Denominator_of_Flattening_Ratio:* 298.257224*Entity_and_Attribute_Information:**Overview_Description:**Entity_and_Attribute_Overview:*

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

*Detailed_Description:**Entity_Type:**Entity_Type_Label:* WETLANDS.PAT*Entity_Type_Definition:*

The WETLANDS.PAT table contains attribute information for the vector polygons representing polygonal wetland 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.

The ESI rankings progress from low to high susceptibility to oil spills. To determine the sensitivity of a particular intertidal shoreline habitat, the following factors are integrated: (1) Shoreline type (substrate, grain size, tidal elevation, origin); (2) Exposure to wave and tidal energy; (3) Biological productivity and sensitivity; (4) Ease of cleanup. Prediction of the behavior and persistence of oil in intertidal habitats is based on an understanding of the dynamics of the coastal environments, not just the substrate type and grain size. The intensity of energy expended upon a shoreline by wave action, tidal currents, and river currents directly affects the persistence of stranded oil. The need for shoreline cleanup activities is determined, in part, by the slowness of natural processes in removal of oil stranded on the shoreline. The potential for biological injury, and ease of cleanup of spilled oil, are also important factors in the ESI ranking. Generally speaking, areas exposed to high levels of physical energy, such as wave action and tidal currents, and low biological activity rank low on the scale, whereas sheltered areas with associated high

biological activity have the highest ranking.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 10A

Enumerated_Domain_Value_Definition: Salt- and Brackish-Water Marshes

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: 10B

Enumerated_Domain_Value_Definition: Freshwater Marshes

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: 10C

Enumerated_Domain_Value_Definition: Swamp

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: 10D

Enumerated_Domain_Value_Definition: Scrub-shrub Wetlands & 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: SOURCE_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ENVIR

Attribute_Definition: Type of regional environment.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Estuarine

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: U

Enumerated_Domain_Value_Definition: Unranked

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOURCES

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ORIGINATOR

Attribute_Definition: Author or developer of source material or data set.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: TITLE

Attribute_Definition: Title of source material or data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATA_FORMAT

Attribute_Definition: The format of the source material.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION

Attribute_Definition: Additional citation information.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SCALE

Attribute_Definition: Description of the source scale.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: TIME_PERIOD

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Distribution_Information:

Distributor:

Contact_Information:

Contact_Person_Primary:

Contact_Person: John Kaperick

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400

Contact_Facsimile_Telephone: (206) 526-6329

Resource_Description: ESI Atlas for Guam and the Northern Mariana Islands

Distribution_Liability:

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

Custom_Order_Process:

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

*Metadata_Reference_Information:**Metadata_Date:* 200603*Metadata_Review_Date:* 200603*Metadata_Contact:**Contact_Information:**Contact_Person_Primary:**Contact_Person:* Jill Petersen*Contact_Organization:* NOAA, Office of Response and Restoration*Contact_Position:* GIS Manager*Contact_Address:**Address_Type:* Physical Address*Address:* 7600 Sand Point Way N.E.*City:* Seattle*State_or_Province:* Washington*Postal_Code:* 98115-6349*Contact_Voice_Telephone:* (206) 526-6944*Contact_Facsimile_Telephone:* (206) 526-6329*Contact_Electronic_Mail_Address:* Jill.Petersen@noaa.gov*Metadata_Standard_Name:* Content Standards for Digital Geospatial Metadata*Metadata_Standard_Version:* FGDC-STD-001-1998

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Guam and the Northern Mariana Islands ESI: INDEX (Index Polygons)

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

Metadata:

- [Identification_Information](#)
- [Data_Quality_Information](#)
- [Spatial_Data_Organization_Information](#)
- [Spatial_Reference_Information](#)
- [Entity_and_Attribute_Information](#)
- [Distribution_Information](#)
- [Metadata_Reference_Information](#)

Identification_Information:

Citation:

Citation_Information:

Originator:

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Publication_Date: 200603

Title:

Guam and the Northern Mariana Islands ESI: INDEX (Index Polygons)

Edition: First

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:

Series_Name: None

Issue_Identification: Guam and the Northern Mariana Islands

Publication_Information:

Publication_Place: Seattle, Washington

Publisher:

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

Other_Citation_Details:

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Description:

Abstract:

This data set contains vector polygons representing the boundaries of all hardcopy

cartographic products produced as part of the Environmental Sensitivity Index (ESI) for Guam and the Northern Mariana Islands. This data set comprises a portion of the ESI data for Guam and the Northern Mariana Islands. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources.

Purpose:

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

Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2004

Currentness_Reference:

The INDEX data were compiled during 2004-2005. The currentness date for the data is 2004 and is documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: 144.56700

East_Bounding_Coordinate: 145.88200

North_Bounding_Coordinate: 15.34400

South_Bounding_Coordinate: 13.18400

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: Guam and the Northern Mariana Islands

Access_Constraints: None

Use_Constraints:

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

and sources listed would be appreciated in products derived from these data.

Browse_Graphic:

Browse_Graphic_File_Name: [datafig.jpg](#)

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Guam and Northern Mariana Islands 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; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

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 the data set: bentpt.e00, birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, socecon.e00, vessels.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

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

Logical_Consistency_Report:

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

Completeness_Report:

These data represent the boundaries of all hardcopy cartographic products produced as part of the ESI for Guam and the Northern Mariana Islands, as well as the digital data extents.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

The index polygons in this data layer were generated in ArcInfo from the coordinates of the U.S. Geological Survey (USGS) 1:24,000 and 1:25,000 topographic map corners. Some small amount of positional error may be present along the arcs forming the boundaries of these polygons, particularly away from the polygon corners. Some boundaries were developed from pre-existing digital and hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: RESEARCH PLANNING, INC.

Publication_Date: 2004

Title: STUDY AREA INDEX

Geospatial_Data_Presentation_Form: DIGITAL VECTOR DATA

Other_Citation_Details: UNPUBLISHED

Source_Scale_Denominator: 24000

Type_of_Source_Media: DISC

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2004

Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: INDEX INFORMATION

Process_Step:

Process_Description:

The polygons represent U.S. Geological Survey (USGS) topographic maps that were re-tiled, moved, or extended to provide better cartographic coverage of the study area.

Process_Date: 200508

Process_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Person: Jill Petersen

Contact_Address:

Address_Type: Physical address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:

Direct_Spatial_Reference_Method: Vector

Point_and_Vector_Object_Information:

*SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* GT-polygon composed of chains*Point_and_Vector_Object_Count:* 44*SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* Area point*Point_and_Vector_Object_Count:* 44*SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* Complete chain*Point_and_Vector_Object_Count:* 179*SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* Link*Point_and_Vector_Object_Count:* 2910*SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* Node, planar graph*Point_and_Vector_Object_Count:* 138*Spatial_Reference_Information:**Horizontal_Coordinate_System_Definition:**Geographic:**Latitude_Resolution:* 0.0000001*Longitude_Resolution:* 0.0000001*Geographic_Coordinate_Units:* Decimal degrees*Geodetic_Model:**Horizontal_Datum_Name:* World Geodetic Survey 1984*Ellipsoid_Name:* WGS_1984*Semi-major_Axis:* 6378137.000000*Denominator_of_Flattening_Ratio:* 298.257224*Entity_and_Attribute_Information:**Detailed_Description:**Entity_Type:**Entity_Type_Label:* INDEX.PAT*Entity_Type_Definition:*

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

Entity_Type_Definition_Source: Research Planning, Inc.*Attribute:**Attribute_Label:* TILE-NAME*Attribute_Definition:* The map number according to the specified layout of the atlas.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Range_Domain:**Range_Domain_Minimum:* 1*Range_Domain_Maximum:* 28*Attribute:**Attribute_Label:* TOPO-NAME*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SCALE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 32000

Enumerated_Domain_Value_Definition: Scale = 1:32,000

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MAPANGLE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 0.0000

Range_Domain_Maximum: 0.5500

Attribute_Units_of_Measure: Degree

Attribute:

Attribute_Label: PAGESIZE

Attribute_Definition:

The value of the width and height of the map in the final map product.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 11,17

Enumerated_Domain_Value_Definition: Page size= 11" by 17"

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Distribution_Information:

Distributor:

Contact_Information:

Contact_Person_Primary:

Contact_Person: John Kaperick

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400

Contact_Facsimile_Telephone: (206) 526-6329

Resource_Description: ESI Atlas for Guam and the Northern Mariana Islands

Distribution_Liability:

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

Custom_Order_Process:

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

Metadata_Reference_Information:

Metadata_Date: 200603

Metadata_Review_Date: 200603

Metadata_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Person: Jill Petersen

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Position: GIS Manager

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata

Metadata_Standard_Version: FGDC-STD-001-1998

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Guam and the Northern Mariana Islands 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:

Citation_Information:

Originator:

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Publication_Date: 200603

Title:

Guam and the Northern Mariana Islands ESI: MGT (Management Area Polygons)

Edition: First

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:

Series_Name: None

Issue_Identification: Guam and the Northern Mariana Islands

Publication_Information:

Publication_Place: Seattle, Washington

Publisher:

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

Other_Citation_Details:

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Description:

Abstract:

This data set contains geographical boundary information for National Park Service

properties, wildlife refuges, and other management areas in Guam and the Northern Mariana Islands. Vector polygons in this data set represent the management areas. Location-specific type and source information is stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Guam and the Northern Mariana Islands. 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 Guam and Northern Mariana Islands 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: 1999

Ending_Date: 2005

Currentness_Reference:

The MGT data were compiled during 2004-2005. The currentness dates for the data range from 1999 to 2005 and are documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: 144.56700

East_Bounding_Coordinate: 145.88200

North_Bounding_Coordinate: 15.34400

South_Bounding_Coordinate: 13.18400

Keywords:

Theme:

Theme_Keyword_Thesaurus: None

Theme_Keyword: ESI

Theme_Keyword: Sensitivity maps

Theme_Keyword: Coastal resources

Theme_Keyword: Oil spill planning

Theme_Keyword: Coastal Zone Management

Theme_Keyword: Wildlife

Theme_Keyword: Management areas

Theme_Keyword: Human use resources

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Guam and the Northern Mariana Islands

Access_Constraints: None

Use_Constraints:

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

Browse_Graphic:

Browse_Graphic_File_Name: [datafig.jpg](#)

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Guam and Northern Mariana Islands 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; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

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 the data set: bentpt.e00, birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, soecon.e00, vessels.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

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

Logical_Consistency_Report:

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

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

Completeness_Report:

These data represent a synthesis of digital vector data, digital and hardcopy maps, and expert knowledge of management area boundaries. See also the SOCECON (Socioeconomic Resource Points) data layer, part of the larger Guam and Northern Mariana Islands ESI database, for additional human-use information. These data do not necessarily represent all management areas in Guam and the Northern Mariana Islands.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the human-use data layers can come from expert interviews and hardcopy or digital sources. Most of the spatial components of the human-use data layers are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. Some of the spatial components of the human-use data layers are compiled on hardcopy base maps with a scale of 1:24,000 and 1:25,000. 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:

CABRERA, GENEVIEVE (DIVISION OF HISTORIC PRESERVATION [DHP], SAIPAN)

Publication_Date: 2005

Title: DISTRIBUTION OF HISTORIC AND ARCHAEOLOGICAL RESOURCES IN CNMI

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: MGT INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator:

COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS (CNMI) DIVISION OF FISH AND WILDLIFE (DFW)

Publication_Date: 2005

Title: CNMI DIVISION OF FISH AND WILDLIFE WEBSITE

Geospatial_Data_Presentation_Form: WEBSITE

Other_Citation_Details: N/A

Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: MGT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: CNMI DIVISION OF FISH AND WILDLIFE (DFW)
Publication_Date: 2005
Title: MARINE PROTECTED AREAS IN SAIPAN
Geospatial_Data_Presentation_Form: DIGITAL MAP
Other_Citation_Details: <http://www.dfw.gov.mp/protected/papfs.htm>
Source_Scale_Denominator: 24,000
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: MGT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: CNMI DIVISION OF FISH AND WILDLIFE (DFW)
Publication_Date: 2005
Title: MARINE PROTECTED AREAS IN ROTA
Geospatial_Data_Presentation_Form: DIGITAL MAP
Other_Citation_Details: <http://www.dfw.gov.mp/protected/papfs.htm>
Source_Scale_Denominator: 24,000
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: MGT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: DE CRUZ, TINA (FORMERLY CNMI DFW)
Publication_Date: 2005
Title:
 DISTRIBUTION AND SEASONALITY OF WILDLIFE AND
 SOC_ECON FEATURES ON CNMI
Geospatial_Data_Presentation_Form: HARDCOPY TEXT

Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: MGT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: GUAM BUREAU OF STATISTICS AND PLANS
Publication_Date: 2002
Title: MARINE PROTECTED AREAS
Geospatial_Data_Presentation_Form: DIGITAL VECTOR DATA
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: CD-ROM
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: MGT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: GUAM BUREAU OF STATISTICS AND PLANS
Publication_Date: 2002
Title:
 COVERAGE OF THE DEPT. OF THE NAVY HAPUTO
 ECOLOGICAL RESERVE AREA
Geospatial_Data_Presentation_Form: DIGITAL VECTOR DATA
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: CD-ROM
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: MGT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: GUAM DEPARTMENT OF PUBLIC WORKS
Publication_Date: 2002
Title: COVERAGE OF OROTE PT. ENVIRONMENTAL RESTRICTED
 AREA
Geospatial_Data_Presentation_Form: DIGITAL VECTOR DATA

Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: CD-ROM
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: MGT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: NATIONAL PARK SERVICE (GUAM)
Publication_Date: 2005
Title:
 "DISSOLVE ASAN" (WAR IN THE PACIFIC NATIONAL
 HISTORIC PARK BOUNDARY)
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: CD-ROM
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: MGT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: U.S. FISH & WILDLIFE SERVICE (USFWS), PORTLAND, OR
Publication_Date: 2005
Title: GUAM NATIONAL WILDLIFE REFUGE BOUNDARY
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: MGT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: U.S. GEOLOGICAL SURVEY (USGS)
Publication_Date: 2000
Title: 7.5" TOPOGRAPHIC QUADRANGLES
Geospatial_Data_Presentation_Form: HARDCOPY MAP
Other_Citation_Details: U.S. GEOLOGICAL SURVEY, DENVER, CO

Source_Scale_Denominator: 24,000-25,000

Type_of_Source_Media: PAPER

Source_Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 1999

Ending_Date: 2000

Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: MGT INFORMATION

Process_Step:

Process_Description:

Four main types of data were used to depict management areas for this data layer: (1) multiple digital coverages provided by the following agencies: Government of Guam Bureau of Statistics and Plans, Government of Guam Department of Public Works, National Park Service (NPS), and U.S. Fish & Wildlife Service (USFWS); (2) digital maps provided by the Commonwealth of the Northern Mariana Islands (CNMI) Division of Fish and Wildlife (DFW); (3) expert knowledge of boundary locations, provided by CNMI Department of Historic Preservation (DHP); and (4) hardcopy U.S. Geological Survey (USGS) topographic quadrangle maps.

The above digital and/or hardcopy sources were compiled by the project biologist to create the MGT data layer. Depending on the type of source data, three general approaches are used for compiling the data layer: (1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 and 1:25,000 topographic quadrangles and digitized; (2) hardcopy maps are digitized at their source scale; (3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the MGT data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200508

Process_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Person: Jill Petersen

Contact_Address:

Address_Type: Physical address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

*Spatial_Data_Organization_Information:**Direct_Spatial_Reference_Method:* Vector*Point_and_Vector_Object_Information:**SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* GT-polygon composed of chains*Point_and_Vector_Object_Count:* 27*SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* Area point*Point_and_Vector_Object_Count:* 27*SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* Complete chain*Point_and_Vector_Object_Count:* 50*SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* Link*Point_and_Vector_Object_Count:* 11425*SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* Node, planar graph*Point_and_Vector_Object_Count:* 45*Spatial_Reference_Information:**Horizontal_Coordinate_System_Definition:**Geographic:**Latitude_Resolution:* 0.0000001*Longitude_Resolution:* 0.0000001*Geographic_Coordinate_Units:* Decimal degrees*Geodetic_Model:**Horizontal_Datum_Name:* World Geodetic Survey 1984*Ellipsoid_Name:* WGS_1984*Semi-major_Axis:* 6378137.000000*Denominator_of_Flattening_Ratio:* 298.257224*Entity_and_Attribute_Information:**Overview_Description:**Entity_and_Attribute_Overview:*

In addition to the geographic data layers, two relational attribute or data tables, SOC_DAT and SOURCES, are used to store the complex socioeconomic data in the ESI data structure. The geographic data layer containing socioeconomic data resource information (in this case, MGT) is linked to the Socioeconomic Resources table (SOC_DAT) using the unique ID and the lookup table SOC_LUT, or it can be linked directly using HUNUM. HUNUM is a unique reference number concatenated with the atlas number (for Guam and the Northern Mariana Islands, the number is 78). ID is a unique combination of the atlas number (78), 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 National Park Service properties, wildlife refuges, and other 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 Area

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: MR

Enumerated_Domain_Value_Definition:

Multiple Records - Signifies that multiple types overlap in the polygon

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: NP

Enumerated_Domain_Value_Definition: National Park

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: WR

Enumerated_Domain_Value_Definition: Wildlife Refuge

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ID

Attribute_Definition:

An identifier that links vector objects in the human-use data layers to records in the SOC_LUT data table. ID is a concatenation of atlas number (78), 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: 781100002

Range_Domain_Maximum: 781100030

Attribute:

Attribute_Label: HUNUM

Attribute_Definition:

An identifier that links directly to the SOC_DAT table. HUNUM values of 0 are

holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 78000053

Range_Domain_Maximum: 78000092

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOC_LUT

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: HUNUM

Attribute_Definition:

An identifier that links records in the SOC_LUT data table to records in the SOC_DAT data table. HUNUM values of 0 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 78000001

Range_Domain_Maximum: 78000092

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 (78), 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: 781000001

Range_Domain_Maximum: 781100030

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: 78000001

Range_Domain_Maximum: 78000092

Attribute:

Attribute_Label: TYPE

Attribute_Definition: Identifies the feature type.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: AIRPORT

Enumerated_Domain_Value_Definition: Airport

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: AQUACULTURE

Enumerated_Domain_Value_Definition: Aquaculture Site

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: ARCHAEOLOGICAL SITE

Enumerated_Domain_Value_Definition: Archaeological/Historic Site

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BEACH

Enumerated_Domain_Value_Definition: Recreational Beach

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BOAT RAMP

Enumerated_Domain_Value_Definition: Boat Ramp

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: COAST GUARD

Enumerated_Domain_Value_Definition: Coast Guard Station

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: DIVING SITE

Enumerated_Domain_Value_Definition: Diving Site

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: MANAGEMENT AREA

Enumerated_Domain_Value_Definition: Management Area

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

*Enumerated_Domain:**Enumerated_Domain_Value:* MARINA*Enumerated_Domain_Value_Definition:* Marina*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* NATIONAL PARK*Enumerated_Domain_Value_Definition:* National Park*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* SUBSISTENCE*Enumerated_Domain_Value_Definition:* Subsistence Fishing/Collecting Site*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* SURFING*Enumerated_Domain_Value_Definition:* Surfing Location*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* SEWAGE OUTFALL*Enumerated_Domain_Value_Definition:* Sewage Outfall*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* WATER INTAKE*Enumerated_Domain_Value_Definition:* Water Intake*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* WILDLIFE REFUGE*Enumerated_Domain_Value_Definition:* Wildlife Refuge*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute:**Attribute_Label:* NAME*Attribute_Definition:* The feature name.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute_Label:* CONTACT*Attribute_Definition:* Contact person or entity.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute_Label:* PHONE*Attribute_Definition:* Contact telephone number.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:*

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: G_SOURCE

Attribute_Definition:

Geographic source identifier that links records in the SOC_DAT data table to records in the SOURCES data table.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: A_SOURCE

Attribute_Definition:

Attribute source identifier that links records in the SOC_DAT data table to records in the SOURCES data table.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOURCES

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ORIGINATOR

Attribute_Definition: Author or developer of source material or data set.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: TITLE

Attribute_Definition: Title of source material or data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATA_FORMAT

Attribute_Definition: The format of the source material.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION

Attribute_Definition: Additional citation information.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SCALE

Attribute_Definition: Description of the source scale.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: TIME_PERIOD

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Distribution_Information:

Distributor:

Contact_Information:

Contact_Person_Primary:

Contact_Person: John Kaperick

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400

Contact_Facsimile_Telephone: (206) 526-6329

Resource_Description: ESI Atlas for Guam and the Northern Mariana Islands

Distribution_Liability:

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

Custom_Order_Process:

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

Metadata_Reference_Information:

Metadata_Date: 200603

Metadata_Review_Date: 200603

Metadata_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Person: Jill Petersen

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Position: GIS Manager

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata

Metadata_Standard_Version: FGDC-STD-001-1998

Guam and the Northern Mariana Islands 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:

Citation_Information:

Originator:

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Publication_Date: 200603

Title:

Guam and the Northern Mariana Islands ESI: SOCECON (Socioeconomic Resource Points)

Edition: First

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:

Series_Name: None

Issue_Identification: Guam and the Northern Mariana Islands

Publication_Information:

Publication_Place: Seattle, Washington

Publisher:

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

Other_Citation_Details:

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Description:

Abstract:

This data set contains human-use resource data for airports, aquaculture sites, archaeological/historic sites, boat ramps, coast guard stations, dive sites, marinas, recreational beaches, subsistence fishing/collecting sites, surfing locations, water intakes, and outfalls in Guam and the Northern Mariana Islands. Vector points in this data set represent the human-use site locations. Location-specific type and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Guam and the Northern Mariana Islands. 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 Guam and Northern Mariana Islands 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: 1974

Ending_Date: 2005

Currentness_Reference:

The SOCECON data were compiled during 2004-2005. The currentness dates for the data range from 1974 to 2005 and are documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: 144.56700

East_Bounding_Coordinate: 145.88200

North_Bounding_Coordinate: 15.34400

South_Bounding_Coordinate: 13.18400

Keywords:

Theme:

Theme_Keyword_Thesaurus: None

Theme_Keyword: ESI

Theme_Keyword: Sensitivity maps

Theme_Keyword: Coastal resources

Theme_Keyword: Oil spill planning

Theme_Keyword: Coastal Zone Management

Theme_Keyword: Wildlife

Theme_Keyword: Socioeconomic resources

Theme_Keyword: Human use resources

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Guam and the Northern Mariana Islands

Access_Constraints: None

Use_Constraints:

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

Browse_Graphic:

Browse_Graphic_File_Name: [datafig.jpg](#)

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Guam and Northern Mariana Islands 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; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

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 the data set: bentpt.e00, birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, socecon.e00, vessels.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

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

Logical_Consistency_Report:

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

Completeness_Report:

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

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the human-use data layers can come from expert interviews and hardcopy or digital sources. Most of the spatial components of the human-use data layers are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. Some of the spatial components of the human-use data layers are compiled on hardcopy base maps with a scale of 1:24,000 and 1:25,000. 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: APRIL, VIC (GUAM HISTORIC RESOURCES DIVISION [HRD])

Publication_Date: 2005

Title: ARCHAEOLOGICAL/HISTORICAL SITE DISTRIBUTION

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: SOCECON INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: BIRKELAND, CHUCK (UNIVERSITY OF HAWAII [UH], HONOLULU)

Publication_Date: 2005

Title: DISTRIBUTION OF MARINE RESOURCES ON GUAM

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: SOCECON INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator:

BURDICK, DAVE (NATIONAL OCEANIC AND ATMOSPHERIC
ADMINISTRATION [NOAA])

Publication_Date: 2005

Title: HABITATS AND SOC_ECON RESOURCES ON GUAM

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: SOCECON INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator:

CABRERA, GENEVIEVE (DIVISION OF HISTORIC
PRESERVATION [DHP], SAIPAN)

Publication_Date: 2005

Title: DISTRIBUTION OF HISTORIC AND ARCHAEOLOGICAL
RESOURCES IN CNMI

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: SOCECON INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: CNMI COASTAL RESOURCES MANAGEMENT OFFICE

Publication_Date: 2005

Title: OUTFALL LOCATION

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: CNMI COASTAL RESOURCES MANAGEMENT OFFICE
Publication_Date: 1997
Title: SAIPAN DIVE SITE INFORMATION
Geospatial_Data_Presentation_Form: DIGITAL VECTOR DATA
Other_Citation_Details: COASTAL RESOURCES MANAGEMENT OFFICE (CRMO), SAIPAN, CNMI
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1997
Source_Currentness_Reference: DATE OF SURVEY
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: CNMI DIVISION OF FISH AND WILDLIFE (DFW)
Publication_Date: 2005
Title: DISTRIBUTION OF SENSITIVE MARINE RESOURCES IN CNMI
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
 DAVIS, GERRY (NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION [NOAA], HONOLULU, HI)
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF SENSITIVE

RESOURCES ON GUAM

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE*Other_Citation_Details*: UNPUBLISHED*Type_of_Source_Media*: PERSONAL COMMUNICATION*Source_Time_Period_of_Content*:*Time_Period_Information*:*Single_Date/Time*:*Calendar_Date*: 2005*Source_Currentness_Reference*: DATE OF COMMUNICATION*Source_Citation_Abbreviation*: NONE*Source_Contribution*: SOCECON INFORMATION*Source_Information*:*Source_Citation*:*Citation_Information*:*Originator*:

DE CRUZ, TINA (FORMERLY CNMI DIVISION OF FISH AND WILDLIFE [DFW])

Publication_Date: 2005*Title*:

DISTRIBUTION AND SEASONALITY OF WILDLIFE AND SOC_ECON FEATURES ON CNMI

Geospatial_Data_Presentation_Form: HARDCOPY TEXT*Other_Citation_Details*: UNPUBLISHED*Type_of_Source_Media*: EMAIL*Source_Time_Period_of_Content*:*Time_Period_Information*:*Single_Date/Time*:*Calendar_Date*: 2005*Source_Currentness_Reference*: DATE OF COMMUNICATION*Source_Citation_Abbreviation*: NONE*Source_Contribution*: SOCECON INFORMATION*Source_Information*:*Source_Citation*:*Citation_Information*:*Originator*: DIVE PACIFIC WHOLESAL*Publication_Date*: 1998*Title*:

DIVE! SNORKEL! KAYAK! HIKE! A GUIDE TO GUAM'S WONDERFUL WATER ADVENTURES

Geospatial_Data_Presentation_Form: HARDCOPY TEXT*Other_Citation_Details*: DIVE PACIFIC WHOLESAL, 67 PP.*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*: SOCECON INFORMATION*Source_Information*:*Source_Citation*:

*Citation_Information:**Originator:* GAWEL, MIKE (GUAM ENVIRONMENTAL PROTECTION AGENCY [GEPa])*Publication_Date:* 2005*Title:* DISTRIBUTION OF SENSITIVE MARINE RESOURCES ON GUAM*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* SOCECON INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:* GUAM BUREAU OF STATISTICS AND PLANS*Publication_Date:* 2005*Title:* MARINAS ON GUAM*Geospatial_Data_Presentation_Form:* DIGITAL VECTOR DATA*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* CD-ROM*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF PUBLICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* SOCECON INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:* GUAM DEPARTMENT OF PARKS AND RECREATION*Publication_Date:* 2000*Title:* HISTORICAL SITES LOCATED ON GUAM*Geospatial_Data_Presentation_Form:* DIGITAL VECTOR DATA*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* EMAIL*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2000*Source_Currentness_Reference:* DATE OF PUBLICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* SOCECON INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:* GUAM DEPARTMENT OF PUBLIC WORKS

Publication_Date: 2003
Title: RECREATION AREAS
Geospatial_Data_Presentation_Form: DIGITAL VECTOR DATA
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: CD-ROM
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2003
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: GUAM DEPARTMENT OF PUBLIC WORKS
Publication_Date: 1993
Title: LANDMARKS AND GOVERNMENT FACILITIES ON GUAM (PARKS)
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1993
Source_Currentness_Reference: DATE OF SURVEY
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: GUAM DIVISION OF AQUATIC AND WILDLIFE RESOURCES (DAWR)
Publication_Date: 2005
Title: SHALLOW WATER MOORING SITE COORDINATES AND DEPTH
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PAPER
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: GUAM DIVISION OF AQUATIC AND WILDLIFE

RESOURCES (DAWR) STAFF

Publication_Date: 2004*Title:*DISTRIBUTION AND SEASONALITY OF SENSITIVE MARINE
RESOURCES ON GUAM*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* SOCECON INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:* HERNANDEZ, BILL (GUAM HISTORIC RESOURCES
DIVISION [HRD])*Publication_Date:* 2005*Title:* ARCHAEOLOGICAL/HISTORICAL SITE DISTRIBUTION*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* SOCECON INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:* HOUK, PETER (CNMI DIVISION OF ENVIRONMENTAL
QUALITY [DEQ])*Publication_Date:* 2005*Title:* DISTRIBUTION OF SENSITIVE MARINE RESOURCES ON CNMI*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* SOCECON INFORMATION*Source_Information:**Source_Citation:*

*Citation_Information:**Originator:*

JOSEPH, JOHN MARK (DIVISION OF HISTORIC PRESERVATION
[DHP], SAIPAN)

Publication_Date: 2005

Title: DISTRIBUTION OF HISTORIC AND ARCHAEOLOGICAL SITES
IN CNMI

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: SOCECON INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: LEBERER, TRINA (THE NATURE CONSERVANCY [TNC])

Publication_Date: 2005

Title: DISTRIBUTION AND SEASONALITY OF SENSITIVE
RESOURCES ON GUAM

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: SOCECON INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: MARIANAS VISITORS AUTHORITY

Publication_Date: 2005

Title: MARIANAS VISITORS AUTHORITY ROTA MAP

Geospatial_Data_Presentation_Form: HARDCOPY MAP

Other_Citation_Details: MARIANAS VISITORS AUTHORITY

Type_of_Source_Media: PAPER

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: SOCECON INFORMATION

Source_Information:

*Source_Citation:**Citation_Information:**Originator:* MINTON, DWAYNE (NATIONAL PARK SERVICE [NPS], GUAM)*Publication_Date:* 2005*Title:* DISTRIBUTION OF RESOURCES ON NATIONAL PARK LANDS*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF PUBLICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* SOCECON INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:* NATIONAL REGISTER INFORMATION SYSTEM*Publication_Date:* 2005*Title:* HISTORICAL AND ARCHAEOLOGICAL SITES IN CNMI*Geospatial_Data_Presentation_Form:* HARDCOPY TEXT*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PAPER*Source_Time_Period_of_Content:**Time_Period_Information:**Range_of_Dates/Times:**Beginning_Date:* 1974*Ending_Date:* 2003*Source_Currentness_Reference:* DATE OF SURVEY*Source_Citation_Abbreviation:* NONE*Source_Contribution:* SOCECON INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:*

PORTER, VAL (GUAM DIVISION OF AQUATIC AND WILDLIFE RESOURCES [DAWR])

Publication_Date: 2005*Title:* DISTRIBUTION OF SENSITIVE RESOURCES ON GUAM*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* SOCECON INFORMATION

*Source_Information:**Source_Citation:**Citation_Information:**Originator:* RESEARCH PLANNING, INC.*Publication_Date:* 2004*Title:* RPI - LOW ALTITUDE OVERFLIGHTS*Geospatial_Data_Presentation_Form:* HARDCOPY MAP*Other_Citation_Details:* UNPUBLISHED*Source_Scale_Denominator:* 24,000*Type_of_Source_Media:* PAPER*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2004*Source_Currentness_Reference:* DATE OF SURVEY*Source_Citation_Abbreviation:* NONE*Source_Contribution:* SOCECON INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:* RICHMOND, BOB (UNIVERSITY OF HAWAII [UH], HONOLULU)*Publication_Date:* 2005*Title:* DISTRIBUTION OF SENSITIVE MARINE RESOURCES ON GUAM*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* SOCECON INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:* SMITH, BARRY (UNIVERSITY OF GUAM)*Publication_Date:* 2005*Title:* DISTRIBUTION OF SENSITIVE MARINE RESOURCES ON GUAM*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* SOCECON INFORMATION*Source_Information:*

*Source_Citation:**Citation_Information:**Originator:* TAISICAN, STAN (ROTA)*Publication_Date:* 2005*Title:* DISTRIBUTION OF MARINE RESOURCES ON ROTA*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* SOCECON INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:* TORRES, VIC (GUAM BUREAU OF STATISTICS AND PLANS [BSP])*Publication_Date:* 2005*Title:* DISTRIBUTION OF SOC_ECON RESOURCES ON GUAM*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* SOCECON INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:* U.S. GEOLOGICAL SURVEY (USGS)*Publication_Date:* 2000*Title:* 7.5" TOPOGRAPHIC QUADRANGLES*Geospatial_Data_Presentation_Form:* HARDCOPY MAP*Other_Citation_Details:* U.S. GEOLOGICAL SURVEY, DENVER, CO*Source_Scale_Denominator:* 24,000-25,000*Type_of_Source_Media:* PAPER*Source_Time_Period_of_Content:**Time_Period_Information:**Range_of_Dates/Times:**Beginning_Date:* 1999*Ending_Date:* 2000*Source_Currentness_Reference:* DATE OF PUBLICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* SOCECON INFORMATION*Source_Information:*

*Source_Citation:**Citation_Information:*

Originator: WESTERN PACIFIC FISHERY MANAGEMENT COUNCIL
(WPFMC)

Publication_Date: 2005

Title: DISTRIBUTION OF SENSITIVE MARINE RESOURCES ON GUAM

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: SOCECON INFORMATION

*Process_Step:**Process_Description:*

Three main sources of data were used to depict human-use resources for this data layer: (1) personal interviews with resource experts from the National Oceanic and Atmospheric Administration (NOAA), Guam Division of Aquatic and Wildlife Resources (DAWR), Guam Environmental Protection Agency (GEPA), The Nature Conservancy (TNC), the University of Hawaii, Western Pacific Fishery Management Council (WPFMC), Guam Bureau of Statistics and Plans (BSP), the Commonwealth of the Northern Mariana Islands (CNMI) Division of Fish and Wildlife (DFW), CNMI Division of Environmental Quality (DEQ), CNMI Division of Historic Preservation (DHP), National Park Service (NPS), Guam Historic Resources Division (HRD), and CNMI Coastal Resources Management Office (CRM); (2) published and unpublished reports and maps; and (3) digital data sets provided by the agencies listed above.

The above digital and/or hardcopy sources were compiled by the project biologist to create the SOCECON data layer. Depending on the type of source data, three general approaches are used for compiling the data layer: (1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 and 1:25,000 topographic quadrangles and digitized; (2) hardcopy maps are digitized at their source scale; (3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the SOCECON data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200508

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:* 532*Spatial_Reference_Information:**Horizontal_Coordinate_System_Definition:**Geographic:**Latitude_Resolution:* 0.0000001*Longitude_Resolution:* 0.0000001*Geographic_Coordinate_Units:* Decimal degrees*Geodetic_Model:**Horizontal_Datum_Name:* World Geodetic Survey 1984*Ellipsoid_Name:* WGS_1984*Semi-major_Axis:* 6378137.000000*Denominator_of_Flattening_Ratio:* 298.257224*Entity_and_Attribute_Information:**Overview_Description:**Entity_and_Attribute_Overview:*

In addition to the geographic data layers, two relational attribute or data tables, SOC_DAT and SOURCES, are used to store the complex socioeconomic data in the ESI data structure. The geographic data layer containing socioeconomic data resource information (in this case, SOCECON) is linked to the Socioeconomic Resources table (SOC_DAT) using the unique ID and the lookup table SOC_LUT, or it can be linked directly using HUNUM. HUNUM is a unique reference number concatenated with the atlas number (for Guam and the Northern Mariana Islands, the number is 78). ID is a unique combination of the atlas number (78), 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 airports, aquaculture sites, archaeological/historic sites, boat ramps, coast guard stations, dive sites, marinas, recreational beaches, subsistence fishing/collecting sites, surfing locations, water intakes, and outfalls. Note that all attribute information is stored in a series of relational files, described below. See the *Browse_Graphic* section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: TYPE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: A

Enumerated_Domain_Value_Definition: Airport

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: AQ

Enumerated_Domain_Value_Definition: Aquaculture Site

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: AS

Enumerated_Domain_Value_Definition: Archaeological/Historic Site

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: B

Enumerated_Domain_Value_Definition: Recreational Beach

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BR

Enumerated_Domain_Value_Definition: Boat Ramp

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: CG

Enumerated_Domain_Value_Definition: Coast Guard Station

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: DV

Enumerated_Domain_Value_Definition: Diving Site

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M

Enumerated_Domain_Value_Definition: Marina

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: S

Enumerated_Domain_Value_Definition: Subsistence fishing/collecting site

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: S2

Enumerated_Domain_Value_Definition: Surfing Location

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: SO

Enumerated_Domain_Value_Definition: Sewage Outfall

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: WI

Enumerated_Domain_Value_Definition: Water Intake

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ID

Attribute_Definition:

An identifier that links vector objects in the human-use data layers to records in the SOC_LUT data table. ID is a concatenation of atlas number (78), element number (10), and record number.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 781000001

Range_Domain_Maximum: 781000532

Attribute:

Attribute_Label: HUNUM

Attribute_Definition: An identifier that links directly to the SOC_DAT table.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 78000001

Range_Domain_Maximum: 78000089

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOC_LUT

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: HUNUM

Attribute_Definition:

An identifier that links records in the SOC_LUT data table to records in the SOC_DAT data table. HUNUM values of 0 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 78000001

Range_Domain_Maximum: 78000092

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 (78), 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: 781000001

Range_Domain_Maximum: 781100030

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: 78000001

Range_Domain_Maximum: 78000092

Attribute:

Attribute_Label: TYPE

Attribute_Definition: Identifies the feature type.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: AIRPORT

Enumerated_Domain_Value_Definition: Airport

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

*Enumerated_Domain:**Enumerated_Domain_Value:* AQUACULTURE*Enumerated_Domain_Value_Definition:* Aquaculture Site*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* ARCHAEOLOGICAL SITE*Enumerated_Domain_Value_Definition:* Archaeological/Historic Site*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* BEACH*Enumerated_Domain_Value_Definition:* Recreational Beach*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* BOAT RAMP*Enumerated_Domain_Value_Definition:* Boat Ramp*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* COAST GUARD*Enumerated_Domain_Value_Definition:* Coast Guard Station*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* DIVING SITE*Enumerated_Domain_Value_Definition:* Diving Site*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* MANAGEMENT AREA*Enumerated_Domain_Value_Definition:* Management Area*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* MARINA*Enumerated_Domain_Value_Definition:* Marina*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* NATIONAL PARK*Enumerated_Domain_Value_Definition:* National Park*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* SUBSISTENCE*Enumerated_Domain_Value_Definition:* Subsistence Fishing/Collection Site*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:*

Enumerated_Domain_Value: SURFING

Enumerated_Domain_Value_Definition: Surfing Location

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: SEWAGE OUTFALL

Enumerated_Domain_Value_Definition: Sewage Outfall

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: WATER INTAKE

Enumerated_Domain_Value_Definition: Water Intake

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: WILDLIFE REFUGE

Enumerated_Domain_Value_Definition: Wildlife Refuge

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: NAME

Attribute_Definition: The feature name.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: CONTACT

Attribute_Definition: Contact person or entity.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PHONE

Attribute_Definition: Contact telephone number.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: G_SOURCE

Attribute_Definition:

Geographic source identifier that links records in the SOC_DAT data table to records in the SOURCES data table.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: A_SOURCE

Attribute_Definition:

Attribute source identifier that links records in the SOC_DAT data table to records in the SOURCES data table.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOURCES

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ORIGINATOR

Attribute_Definition: Author or developer of source material or data set.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: TITLE

Attribute_Definition: Title of source material or data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATA_FORMAT

Attribute_Definition: The format of the source material.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION

Attribute_Definition: Additional citation information.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SCALE

Attribute_Definition: Description of the source scale.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: TIME_PERIOD

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Distribution_Information:

Distributor:

Contact_Information:

Contact_Person_Primary:

Contact_Person: John Kaperick

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400

Contact_Facsimile_Telephone: (206) 526-6329

Resource_Description: ESI Atlas for Guam and the Northern Mariana Islands

Distribution_Liability:

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

Custom_Order_Process:

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats

include a Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata_Reference_Information:

Metadata_Date: 200603

Metadata_Review_Date: 200603

Metadata_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Person: Jill Petersen

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Position: GIS Manager

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata

Metadata_Standard_Version: FGDC-STD-001-1998

Generated by [mp](#) version 2.8.21 on Sun Mar 26 12:49:16 2006

Guam and the Northern Mariana Islands ESI: VESSELS (Grounded, Abandoned, and Derelict Vessel Points)

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

Metadata:

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

Identification_Information:

Citation:

Citation_Information:

Originator:

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Publication_Date: 200603

Title:

Guam and the Northern Mariana Islands ESI: VESSELS (Grounded, Abandoned, and Derelict Vessel Points)

Edition: First

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:

Series_Name: None

Issue_Identification: Guam and the Northern Mariana Islands

Publication_Information:

Publication_Place: Seattle, Washington

Publisher:

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

Other_Citation_Details:

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

*Description:**Abstract:*

This data set contains human-use resource data for grounded, abandoned, and derelict vessels in Guam and the Northern Mariana Islands. Vector points in this data set represent the vessel locations. This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Guam and the Northern Mariana Islands. 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: 2001

Ending_Date: 2003

Currentness_Reference:

The VESSELS data were compiled during 2003-2005. The currentness dates for the data range from 2001 to 2003 and are documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

*Spatial_Domain:**Bounding_Coordinates:*

West_Bounding_Coordinate: 144.56700

East_Bounding_Coordinate: 145.88200

North_Bounding_Coordinate: 15.34400

South_Bounding_Coordinate: 13.18400

*Keywords:**Theme:*

Theme_Keyword_Thesaurus: None

Theme_Keyword: ESI

Theme_Keyword: Sensitivity maps

Theme_Keyword: Coastal resources

Theme_Keyword: Oil spill planning

Theme_Keyword: Coastal Zone Management

Theme_Keyword: Wildlife

Theme_Keyword: Socioeconomic resources

Theme_Keyword: Human use resources

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Guam and the Northern Mariana Islands

Access_Constraints: None*Use_Constraints:*

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

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

Browse_Graphic:

Browse_Graphic_File_Name: [datafig.jpg](#)

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Guam and Northern Mariana Islands 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; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

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 the data set: bentpt.e00, birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, soecon.e00, vessels.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

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

Logical_Consistency_Report:

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

Completeness_Report:

These data represent a synthesis of expert knowledge and available hardcopy maps and digital data on grounded, abandoned, and derelict vessels. These data do not necessarily represent all grounded, abandoned, and derelict vessel sites in Guam and the Northern Mariana Islands. 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: Lord, C., C. Plank, I. Zelo, and D. Helton

Publication_Date: 2003

Title:

Surveys of Abandoned Vessels: Guam and the Commonwealth of the Northern Mariana Islands

Geospatial_Data_Presentation_Form: HARDCOPY REPORT

Other_Citation_Details: NOAA Damage Assessment Center (DAC)
Northwest, Seattle, WA

Source_Scale_Denominator: N/A

Type_of_Source_Media: PAPER

Source_Time_Period_of_Content:

*Time_Period_Information:**Range_of_Dates/Times:*

Beginning_Date: 2001

Ending_Date: 2003

Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: VESSEL INFORMATION

*Source_Information:**Source_Citation:**Citation_Information:*

Originator: NOAA Abandoned Vessels Program

Publication_Date: 2005

Title: Abandoned Vessels Inventory, tabular digital data

Geospatial_Data_Presentation_Form: Tabular data

Other_Citation_Details: NOAA Damage Assessment Center (DAC)
Northwest, Seattle, WA

Source_Scale_Denominator: N/A

Type_of_Source_Media: ONLINE

Source_Time_Period_of_Content:

*Time_Period_Information:**Range_of_Dates/Times:*

Beginning_Date: 2001

Ending_Date: 2005

Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: VESSEL INFORMATION

*Process_Step:**Process_Description:*

The data source used to depict the vessels locations in this data layer was the National Oceanic and Atmospheric Administration (NOAA) Abandoned Vessel

Inventory (AVI) database. This database is a compilation of existing data from sources such as NOAA, U.S. Coast Guard, U.S. Navy, States, Territories, and the maritime industry, as well as original data from charts and interviews with local sources. In some cases, the position information in the database and on the ESI maps may be approximate or inaccurate. Furthermore, new vessels continue to become abandoned while older vessels degrade, shift in position, or are occasionally removed. Only a subset of vessels depicted on the maps were surveyed and verified in 2003, and changes in their status may have occurred since that time. Please refer to the Abandoned Vessel Project website <http://response.restoration.noaa.gov/dac/vessels/> for contact information and links to published documents.

Process_Date: 200508

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: 150

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Geographic:

Latitude_Resolution: 0.0000001

Longitude_Resolution: 0.0000001

Geographic_Coordinate_Units: Decimal degrees

Geodetic_Model:

Horizontal_Datum_Name: World Geodetic Survey 1984

Ellipsoid_Name: WGS_1984

Semi-major_Axis: 6378137.000000

Denominator_of_Flattening_Ratio: 298.257224

Entity_and_Attribute_Information:

Detailed_Description:

Entity_Type:

Entity_Type_Label: VESSELS.PAT

Entity_Type_Definition:

The VESSELS.PAT table contains attribute information for the vector points representing grounded, abandoned, and derelict vessels.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: INCIDENTID

Attribute_Definition:

Identifier for the vessel incident that can be linked to the NOAA Abandoned Vessel Inventory database.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: GROUPID

Attribute_Definition:

Identifier for the vessel group which can be linked to the cartographic presentation of the vessel locations on the hardcopy ESI maps.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ISLAND

Attribute_Definition: Name of the island to which the vessel is associated.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change based on location.

Attribute:

Attribute_Label: LOCATION

Attribute_Definition: Name of the grouping of vessels associated with a GROUPID.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change based on location.

Attribute:

Attribute_Label: NOAASURVEY

Attribute_Definition:

Indicates if the vessel is part of the 2003 NOAA Abandoned Vessel Survey.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YES

Enumerated_Domain_Value_Definition: The vessel was surveyed in 2003

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: NO

Enumerated_Domain_Value_Definition: The vessel was not surveyed in 2003

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: VESSELNAME

Attribute_Definition: Name or description of the vessel, if known.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change.

Attribute:

Attribute_Label: VESSELTYPE

Attribute_Definition: A description of the type of vessel, if known.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change.

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 Guam and the Northern Mariana Islands

Distribution_Liability:

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

Custom_Order_Process:

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

Metadata_Reference_Information:

Metadata_Date: 200603

Metadata_Review_Date: 200603

Metadata_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Person: Jill Petersen

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Position: GIS Manager

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata

Metadata_Standard_Version: FGDC-STD-001-1998

Generated by [mp](#) version 2.8.21 on Sun Mar 26 11:09:40 2006

Guam and the Northern Mariana Islands 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:

Citation Information:

Originator:

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Publication Date: 200603

Title:

Guam and the Northern Mariana Islands ESI: BIRDS (Bird Polygons)

Edition: First

Geospatial Data Presentation Form: Vector digital data

Series Information:

Series Name: None

Issue Identification: Guam and the Northern Mariana Islands

Publication Information:

Publication Place: Seattle, Washington

Publisher:

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

Other Citation Details:

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Description:

Abstract:

This data set contains sensitive biological resource data for pelagic birds, shorebirds,

wading birds, waterfowl, gulls, terns, and passerine birds in Guam and the Northern Mariana Islands. Vector polygons in this data set represent bird nesting, roosting, migratory staging, wintering, and on-water concentration areas. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Guam and the Northern Mariana Islands. 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: 1999

Ending_Date: 2005

Currentness_Reference:

The biological data were compiled during 2004-2005. The currentness dates for the data range from 1999 to 2005 and are documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: 144.56700

East_Bounding_Coordinate: 145.88200

North_Bounding_Coordinate: 15.34400

South_Bounding_Coordinate: 13.18400

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: Guam and the Northern Mariana Islands

Access_Constraints: None

Use_Constraints:

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the

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

Browse_Graphic:

Browse_Graphic_File_Name: [datafig.jpg](#)

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Guam and Northern Mariana Islands 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; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

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: bentpt.e00, birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, soecon.e00, vessels.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

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

Logical_Consistency_Report:

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

manager, where the data are written to CD-ROM and the metadata are written.

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

Completeness_Report:

These data represent a synthesis of expert knowledge and available hardcopy documents on bird nesting, roosting, wintering, migratory staging, and on-water concentration areas. These data do not necessarily represent all bird occurrences in Guam and the Northern Mariana Islands. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 17, Northern pintail, *Anas acuta*; 18, Green-winged teal, *Anas crecca*; 20, Northern shoveler, *Anas clypeata*; 22, Greater scaup, *Aythya marila*; 45, Common tern, *Sterna hirundo*; 55, Whimbrel, *Numenius phaeopus*; 57, Wandering tattler, *Heteroscelus incanus*; 58, Greater yellowlegs, *Tringa melanoleuca*; 59, Lesser yellowlegs, *Tringa flavipes*; 71, Black-bellied plover, *Pluvialis squatarola*; 73, Ruddy turnstone, *Arenaria interpres*; 88, Great egret, *Ardea alba*; 90, Black-crowned night-heron, *Nycticorax nycticorax*; 93, Cattle egret, *Bubulcus ibis*; 126, Brown noddy, *Anous stolidus*; 247, Wedge-tailed shearwater, *Puffinus pacificus*; 249, Black noddy, *Anous minutus*; 250, Red-tailed tropicbird, *Phaethon rubricauda*; 251, Great frigatebird, *Fregata minor*; 252, White-tailed tropicbird, *Phaethon lepturus*; 260, Red-footed booby, *Sula sula*; 261, Brown booby, *Sula leucogaster*; 264, White tern, *Gygis alba*; 290, Stints, *Calidris* spp.; 346, Boobies, *Sula* spp.; 466, Little egret, *Egretta garzetta*; 494, Tufted duck, *Aythya fuligula*; 515, Common sandpiper, *Actitis hypoleucos*; 521, Little tern, *Sterna albifrons*; 522, White-winged black tern, *Chlidonias leucopterus*; 543, Pacific golden-plover, *Pluvialis fulva*; 730, Pacific reef-heron, *Egretta sacra*; 825, Yellow bittern, *Ixobrychus sinensis*; 826, Mariana common moorhen, *Gallinula chloropus guami*; 827, Micronesian starling, *Aplonis opaca*; 828, Gray-tailed tattler, *Heteroscelus brevipes*; 829, Lesser sand-plover, *Charadrius mongolus*; 844, Intermediate egret, *Egretta intermedia*; 845, Whiskered tern, *Chlidonias hybridus*; 846, Nightingale reed-warbler, *Acrocephalus luscini*a; 1002, Shorebirds, n/a; 1008, Terns, n/a; 1028, Curlews, *Numenius* spp.; 1030, Frigatebirds, *Fregata* spp.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Most of the spatial components of the biological data layers are developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000 and 1:25,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy", and

this should be understood when considering the positional accuracy of vector digital objects representing these resources.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator:

AGUON, TINO (GUAM DEPARTMENT OF AGRICULTURE'S
DIVISION OF AQUATIC AND WILDLIFE RESOURCES [DAWR])

Publication_Date: 2005

Title: BIRD DISTRIBUTION AND SEASONALITY ON GUAM

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: BIRDS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: CABRERA, HENRY (DIVISION OF FISH AND WILDLIFE
[DFW], TINIAN)

Publication_Date: 2005

Title: DISTRIBUTION OF SPECIES ON TINIAN

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: BIRDS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator:

COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS
(CNMI) COASTAL RESOURCES MANAGEMENT OFFICE

Publication_Date: 1999

Title: CNMI ESI

Geospatial_Data_Presentation_Form: DIGITAL VECTOR DATA

Other_Citation_Details: COASTAL RESOURCES MANAGEMENT
PROGRAM, SAIPAN, MP

Type_of_Source_Media: CD-ROM

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:* BIRDS INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:*COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS
(CNMI) DIVISION OF FISH AND WILDLIFE (DFW)*Publication_Date:* 2005*Title:* CNMI DIVISION OF FISH AND WILDLIFE WEBSITE*Geospatial_Data_Presentation_Form:* WEBSITE*Other_Citation_Details:* N/A*Type_of_Source_Media:* ONLINE*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF PUBLICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* BIRDS INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:*DAVIS, GERRY (NATIONAL OCEANIC AND ATMOSPHERIC
ADMINISTRATION [NOAA], HONOLULU, HI)*Publication_Date:* 2005*Title:* DISTRIBUTION AND SEASONALITY OF SENSITIVE
RESOURCES ON GUAM*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* BIRDS INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:*DE CRUZ, TINA (FORMERLY CNMI DIVISION OF FISH AND
WILDLIFE [DFW])*Publication_Date:* 2005*Title:*

DISTRIBUTION AND SEASONALITY OF WILDLIFE AND
SOC_ECON FEATURES ON CNMI

Geospatial_Data_Presentation_Form: HARDCOPY TEXT

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: EMAIL

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: BIRDS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: GUAM DIVISION OF AQUATIC AND WILDLIFE
RESOURCES (DAWR)

Publication_Date: 2005

Title:

NATURAL RESOURCES AT RISK - MONTHLY SEASONALITY
FOR MARINE SPECIES ON GUAM

Geospatial_Data_Presentation_Form: HARDCOPY TEXT

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PAPER

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: BIRDS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: JOHNSON, NATHAN (U.S. GEOLOGICAL SURVEY [USGS])

Publication_Date: 2005

Title: BIRD DISTRIBUTION ON CNMI

Geospatial_Data_Presentation_Form: HARDCOPY TEXT

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: EMAIL

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: BIRDS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator:

KESSLER, CURT (U.S. FISH AND WILDLIFE SERVICE [USFWS],
HONOLULU, HI)

Publication_Date: 2005

Title: BIRD DISTRIBUTION IN CNMI

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: BIRDS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: KREMER, SHELLY (CNMI DIVISION OF FISH AND
WILDLIFE [DFW])

Publication_Date: 2005

Title: DISTRIBUTION OF BIRDS IN CNMI

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: BIRDS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: MINTON, DWAYNE (NATIONAL PARK SERVICE [NPS],
GUAM)

Publication_Date: 2005

Title: DISTRIBUTION OF RESOURCES ON NATIONAL PARK LANDS

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: BIRDS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: NARCIS, DANZEL (GUAM ENVIRONMENTAL PROTECTION AGENCY, [GEPa])
Publication_Date: 2005
Title: BIRDS, HABITATS, REPTILES, AND SOC_ECON FEATURES ON GUAM
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
 PORTER, VAL (GUAM DIVISION OF AQUATIC AND WILDLIFE RESOURCES [DAWR])
Publication_Date: 2005
Title: DISTRIBUTION OF SENSITIVE RESOURCES ON GUAM
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: TAISICAN, STAN (ROTA)
Publication_Date: 2005
Title: DISTRIBUTION OF MARINE RESOURCES ON ROTA
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:

*Citation_Information:**Originator:* TAKANO, L.L.*Publication_Date:* 2003*Title:*SEASONAL MOVEMENT, HOME RANGE, AND ABUNDANCE OF
THE MARIANA COMMON MOORHEN*Geospatial_Data_Presentation_Form:* HARDCOPY TEXT*Other_Citation_Details:* MASTERS THESIS, OREGON STATE
UNIVERSITY, 38 PP.*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:* BIRDS INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:* WILLIAMS, LAURA (CNMI DIVISION OF FISH AND
WILDLIFE [DFW])*Publication_Date:* 2005*Title:* DISTRIBUTION OF BIRDS IN CNMI*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* BIRDS INFORMATION*Process_Step:**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 the National Oceanic and Atmospheric Administration (NOAA), Guam Department of Agriculture's Division of Aquatic and Wildlife Resources (DAWR), Guam Environmental Protection Agency (GEPA), the Commonwealth of the Northern Mariana Islands (CNMI) Division of Fish and Wildlife (DFW), National Park Service (NPS), U.S. Geological Survey (USGS), and U.S. Fish and Wildlife Service (USFWS); and (2) unpublished reports.

The above digital and/or hardcopy sources were compiled by the project biologist to create the BIRDS data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: (1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 and 1:25,000 topographic quadrangles and digitized; (2) hardcopy maps are digitized at their source scale; (3) digital data layers are evaluated

and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the BIRDS data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200508

Process_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Person: Jill Petersen

Contact_Address:

Address_Type: Physical address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:

Direct_Spatial_Reference_Method: Vector

Point_and_Vector_Object_Information:

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains

Point_and_Vector_Object_Count: 142

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Area point

Point_and_Vector_Object_Count: 142

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Complete chain

Point_and_Vector_Object_Count: 196

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Link

Point_and_Vector_Object_Count: 30575

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Node, planar graph

Point_and_Vector_Object_Count: 174

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Geographic:

Latitude_Resolution: 0.0000001

Longitude_Resolution: 0.0000001

Geographic_Coordinate_Units: Decimal degrees

Geodetic_Model:

Horizontal_Datum_Name: World Geodetic Survey 1984

Ellipsoid_Name: WGS_1984

Semi-major_Axis: 6378137.000000

Denominator_of_Flattening_Ratio: 298.257224

Entity_and_Attribute_Information:

Overview_Description:

Entity_and_Attribute_Overview:

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, BIRDS) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Guam and Northern Mariana Islands atlas, the number is 78), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

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

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

Detailed_Description:

*Entity_Type:**Entity_Type_Label:* BIRDS.PAT*Entity_Type_Definition:*

The BIRDS.PAT table contains attribute information for the vector polygons in this data set representing bird nesting, roosting, migratory staging, wintering, and on-water 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 (78), 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:* 780100002*Range_Domain_Maximum:* 780100144*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:* 78000001*Range_Domain_Maximum:* 78000061*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: 78000001

Range_Domain_Maximum: 78000176

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 (78), 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: 780100002

Range_Domain_Maximum: 780700056

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: 078000001

Range_Domain_Maximum: 078000176

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: CONC

Attribute_Definition:

The field CONC refers to "concentration," abundance, or density values. The field may contain counts of individuals (XX BIRDS) or a range of counts (XX-XX BIRDS). In cases where no quantitative data were available, the field may contain either "-" or a descriptive term, such as "HIGH". Counts were estimated by local

resource experts.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SEASON_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: G_SOURCE

Attribute_Definition:

Geographic source identifier that links records in the BIORRES data table to records in the SOURCES data table.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: S_SOURCE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE_SEA

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SPECIES

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: NAME

Attribute_Definition: Species common name for the entire ESI data set.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: GEN_SPEC

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* INVERT*Enumerated_Domain_Value_Definition:* Invertebrates*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* M_MAMMAL*Enumerated_Domain_Value_Definition:* Marine Mammals*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* REPTILE*Enumerated_Domain_Value_Definition:* Reptiles and Amphibians*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* T_MAMMAL*Enumerated_Domain_Value_Definition:* Terrestrial Mammals*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute:**Attribute_Label:* SUBELEMENT*Attribute_Definition:* Element subgroup delineating a logical grouping of species.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* algae*Enumerated_Domain_Value_Definition:* Algae*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:* coral*Enumerated_Domain_Value_Definition:* Coral*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: echinoderm
 Enumerated_Domain_Value_Definition: Echinoderm
 Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
 Enumerated_Domain:
 Enumerated_Domain_Value: e_nursery
 Enumerated_Domain_Value_Definition: Estuarine nursery fish
 Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
 Enumerated_Domain:
 Enumerated_Domain_Value: fish
 Enumerated_Domain_Value_Definition: Fish
 Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
 Enumerated_Domain:
 Enumerated_Domain_Value: gastropod
 Enumerated_Domain_Value_Definition: Gastropod
 Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
 Enumerated_Domain:
 Enumerated_Domain_Value: gull_tern
 Enumerated_Domain_Value_Definition: Gull or tern
 Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
 Enumerated_Domain:
 Enumerated_Domain_Value: invert
 Enumerated_Domain_Value_Definition: Invertebrate
 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: passerine

Enumerated_Domain_Value_Definition: Passerine bird

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: pelagic

Enumerated_Domain_Value_Definition: Pelagic bird

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: plant

Enumerated_Domain_Value_Definition: Plant

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: sav

Enumerated_Domain_Value_Definition: Submerged aquatic vegetation

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: shorebird

Enumerated_Domain_Value_Definition: Shorebird

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 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:

Attribute_Label: NHP

Attribute_Definition: Natural Heritage Program global ranking.

Attribute_Definition_Source: Network of Natural Heritage Program

Attribute_Domain_Values:

Codeset_Domain:

Codeset_Name: NHP Global Conservation Status Rank

Codeset_Source: Natural Heritage Program

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition: Date of NHP listing.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 0

Enumerated_Domain_Value_Definition: Date unspecified

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SEASONAL

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* INVERT*Enumerated_Domain_Value_Definition:* Invertebrates*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* M_MAMMAL*Enumerated_Domain_Value_Definition:* Marine Mammals*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* REPTILE*Enumerated_Domain_Value_Definition:* Reptiles and Amphibians*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* T_MAMMAL*Enumerated_Domain_Value_Definition:* Terrestrial Mammals*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute:**Attribute_Label:* SPECIES_ID*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Range_Domain:**Range_Domain_Minimum:* 1*Range_Domain_Maximum:* N*Attribute:**Attribute_Label:* SEASON_ID*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Range_Domain:**Range_Domain_Minimum:* 1*Range_Domain_Maximum:* N*Attribute:**Attribute_Label:* JAN*Attribute_Definition:* January*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* X*Enumerated_Domain_Value_Definition:* Present in January*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute:**Attribute_Label:* FEB

Attribute_Definition: February

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in February

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MAR

Attribute_Definition: March

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in March

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: APR

Attribute_Definition: April

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in April

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MAY

Attribute_Definition: May

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in May

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: JUN

Attribute_Definition: June

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in June

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: JUL

Attribute_Definition: July

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in July

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: AUG

Attribute_Definition: August

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in August

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SEP

Attribute_Definition: September

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in September

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: OCT

Attribute_Definition: October

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in October

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: NOV

Attribute_Definition: November

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in November

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: DEC

Attribute_Definition: December

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in December

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE_SEA

Attribute_Definition:

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

tables.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: BREED

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE_SEA

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MONTH

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: 12

Attribute:

Attribute_Label: BREED1

Attribute_Definition:

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M_MAMMAL" then BREED1 = mating. This attribute

is not used for HABITAT or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED2

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED3

Attribute_Definition:

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

interesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED4

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED5

Attribute_Definition:

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is

"REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M_MAMMAL, HABITAT, or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOURCES

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ORIGINATOR

Attribute_Definition: Author or developer of source material or data set.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition:

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

source.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: TITLE

Attribute_Definition: Title of source material or data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATA_FORMAT

Attribute_Definition: The format of the source material.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION

Attribute_Definition: Additional citation information.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SCALE

Attribute_Definition: Description of the source scale.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: TIME_PERIOD

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Detailed_Description:

Entity_Type:

Entity_Type_Label: STATUS

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: STATE

Attribute_Definition: Two-letter state abbreviation.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: COUNTRY

Attribute_Definition: Three-letter country abbreviation.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: S

Attribute_Definition: State threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on state list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on state list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: F

Attribute_Definition: Federal threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on federal list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on federal list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: I

Attribute_Definition: International threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on international list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on international list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: S_DATE

Attribute_Definition:

Publication date of source material used to assign state status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: F_DATE

Attribute_Definition:

Publication date of source material used to assign federal status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: I_DATE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

*Attribute_Domain_Values:**Enumerated_Domain:*

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

*Distribution_Information:**Distributor:**Contact_Information:**Contact_Person_Primary:*

Contact_Person: John Kaperick

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400

Contact_Facsimile_Telephone: (206) 526-6329

Resource_Description: ESI Atlas for Guam and the Northern Mariana Islands

Distribution_Liability:

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

Custom_Order_Process:

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

Metadata_Reference_Information:

Metadata_Date: 200603

Metadata_Review_Date: 200603

Metadata_Contact:

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

Generated by [mp](#) version 2.8.21 on Sun Mar 26 10:21:08 2006

Guam and the Northern Mariana Islands 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:

Citation_Information:

Originator:

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Publication_Date: 200603

Title: Guam and the Northern Mariana Islands ESI: FISH (Fish Polygons)

Edition: First

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:

Series_Name: None

Issue_Identification: Guam and the Northern Mariana Islands

Publication_Information:

Publication_Place: Seattle, Washington

Publisher:

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

Other_Citation_Details:

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Description:

Abstract:

This data set contains sensitive biological resource data for reef, pelagic, benthic, and estuarine fish species in Guam and the Northern Mariana Islands. Vector polygons in this

data set represent fish concentration areas. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Guam and the Northern Mariana Islands. 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: 1993

Ending_Date: 2005

Currentness_Reference:

The biological data were compiled during 2004-2005. The currentness dates for the data range from 1993 to 2005 and are documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: 144.56700

East_Bounding_Coordinate: 145.88200

North_Bounding_Coordinate: 15.34400

South_Bounding_Coordinate: 13.18400

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: Guam and the Northern Mariana Islands

Access_Constraints: None

Use_Constraints:

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

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

Browse_Graphic:

Browse_Graphic_File_Name: [datafig.jpg](#)

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Guam and Northern Mariana Islands 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; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

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: bentpt.e00, birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, soecon.e00, vessels.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

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

Logical_Consistency_Report:

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

After the data are delivered to NOAA, they are again subjected to a number of quality and

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

Completeness_Report:

These data represent a synthesis of expert knowledge and survey data on reef, pelagic, benthic, and estuarine fish species. These data do not necessarily represent all fish occurrences in Guam and the Northern Mariana Islands. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 132, Groupers, Serranidae; 331, Sharks, n/a; 397, Bumphead parrotfish, *Scarus perrico*; 416, Mojarras, *Diapterus* spp.; 438, Scalloped hammerhead, *Sphyrna lewini*; 499, Mackerels, *Scomberomorus* spp.; 574, Milkfish, *Chanos chanos*; 585, Jacks, *Hemicarax* sp.; 631, Bigeye scad, *Selar crumenophthalmus*; 702, Grunt, *Haemulon* spp.; 704, Barracudas, *Sphyrna* spp.; 792, Skipjack tuna, *Katsuwonus pelamis*; 949, Humphead wrasse, *Cheilinus undulatus*; 957, Rabbitfishes, *Siganus* spp.; 958, Unicornfishes, *Naso* spp.; 995, Giant manta, *Manta birostris*; 996, Small-toothed whiptail, *Pentapodus caninus*; 1007, Parrotfishes, Scaridae; 1009, Damselfishes, Pomacentridae; 1010, Wrasses, Labridae; 1017, Grunts, Haemulidae; 1019, Snappers, Lutjanidae; 1025, Butterflyfishes, Chaetodontidae; 1028, Goatfishes, Mullidae; 1032, Puffers, Tetraodontidae; 1033, Squirrelfishes, Holocentridae; 1034, Surgeonfishes, Acanthuridae; 1035, Triggerfishes, Balistidae; 1037, Rudderfishes, *Kyphosus* spp.; 1038, Bigeyes, Priacanthidae; 1042, Needlefishes, Belonidae; 1048, Porcupinefishes, Diodontidae; 1051, Soldierfishes, Myripristinae; 1058, Emperors, Lethrinidae; 1065, Mulletts, Mugilidae; 1070, Requiem sharks, Carcharhinidae; 1071, Fusiliers, Caesionidae.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Most of the spatial components of the biological data layers are developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000 and 1:25,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator:

COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS

(CNMI) DIVISION OF FISH AND WILDLIFE (DFW) - FISHERIES

Publication_Date: 2005*Title:* CORAL REEF FISH*Geospatial_Data_Presentation_Form:* SPREADSHEET*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* EMAIL*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF PUBLICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* FISH INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:* COCHRANE, ERICA (CNMI COASTAL RESOURCES
MANAGEMENT [CRM])*Publication_Date:* 2005*Title:* DISTRIBUTION OF FISH ON CNMI*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* FISH INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:*DAVIS, GERRY (NATIONAL OCEANIC AND ATMOSPHERIC
ADMINISTRATION [NOAA], HONOLULU, HI)*Publication_Date:* 2005*Title:* DISTRIBUTION AND SEASONALITY OF SENSITIVE
RESOURCES ON GUAM*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* FISH INFORMATION*Source_Information:**Source_Citation:*

*Citation_Information:**Originator:* GAWEL, MIKE (GUAM ENVIRONMENTAL PROTECTION AGENCY [GEPa])*Publication_Date:* 2005*Title:* DISTRIBUTION OF SENSITIVE MARINE RESOURCES ON GUAM*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* FISH INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:*GUAM DEPARTMENT OF AGRICULTURE'S DIVISION OF
AQUATIC AND WILDLIFE RESOURCES (DAWR)*Publication_Date:* 2003*Title:*ESTIMATED HARVEST OF TOP 10-20 FAMILIES FOR
INSHORE/OFFSHORE FISHERIES: 2000-2003*Geospatial_Data_Presentation_Form:* DIGITAL TABLE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* EMAIL*Source_Time_Period_of_Content:**Time_Period_Information:**Range_of_Dates/Times:**Beginning_Date:* 2000*Ending_Date:* 2003*Source_Currentness_Reference:* DATE OF SURVEY*Source_Citation_Abbreviation:* NONE*Source_Contribution:* FISH INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:* GUAM DAWR STAFF*Publication_Date:* 2004*Title:*DISTRIBUTION AND SEASONALITY OF SENSITIVE MARINE
RESOURCES ON GUAM*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005

Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: HOOVER, J.P.
Publication_Date: 1993
Title: HAWAII'S FISHES: A GUIDE FOR SNORKELERS, DIVERS, AND AQUARISTS
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: MUTUAL PUBLISHING, HONOLULU, HI, 183 PP.
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: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: HOUK, PETER (CNMI DIVISION OF ENVIRONMENTAL QUALITY [DEQ])
Publication_Date: 2005
Title: DISTRIBUTION OF SENSITIVE MARINE RESOURCES ON CNMI
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: LEBERER, TRINA (THE NATURE CONSERVANCY [TNC])
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF SENSITIVE RESOURCES ON GUAM
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:

Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: PORTER, VAL (GUAM DAWR)
Publication_Date: 2005
Title: DISTRIBUTION OF SENSITIVE RESOURCES ON GUAM
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: RICHMOND, BOB (UNIVERSITY OF HAWAII [UH], HONOLULU)
Publication_Date: 2005
Title: DISTRIBUTION OF SENSITIVE MARINE RESOURCES ON GUAM
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: SMITH, BARRY (UNIVERSITY OF GUAM)
Publication_Date: 2005
Title: DISTRIBUTION OF SENSITIVE MARINE RESOURCES ON GUAM
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: FISH INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: TIBBATTS, BRENT (GUAM DAWR)

Publication_Date: 2005

Title: DISTRIBUTION OF MARINE RESOURCES ON GUAM

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: FISH INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: WESTERN PACIFIC FISHERY MANAGEMENT COUNCIL (WPFMC)

Publication_Date: 2005

Title: DISTRIBUTION OF SENSITIVE MARINE RESOURCES ON GUAM

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: FISH INFORMATION

Process_Step:

Process_Description:

Two main sources of data were used to depict fish distribution and seasonality for this data layer: (1) personal interviews with resource experts from the National Oceanic and Atmospheric Administration (NOAA), Guam Department of Agriculture's Division of Aquatic and Wildlife Resources (DAWR), Guam Environmental Protection Agency (GEPA), The Nature Conservancy (TNC), Western Pacific Fishery Management Council (WPFMC), the Commonwealth of the Northern Mariana Islands (CNMI) Division of Environmental Quality (DEQ), CNMI Coastal Resources Management (CRM), and CNMI Division of Fish and Wildlife (DFW); and (2) survey data provided by Guam DAWR and CNMI DFW.

The above digital and/or hardcopy sources were compiled by the project biologist to create the FISH data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: (1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S.

Geological Survey 1:24,000 and 1:25,000 topographic quadrangles and digitized; (2) hardcopy maps are digitized at their source scale; (3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the FISH data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200508

Process_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Person: Jill Petersen

Contact_Address:

Address_Type: Physical address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:

Direct_Spatial_Reference_Method: Vector

Point_and_Vector_Object_Information:

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains

Point_and_Vector_Object_Count: 56

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Area point

Point_and_Vector_Object_Count: 56

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Complete chain

Point_and_Vector_Object_Count: 99

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Link

Point_and_Vector_Object_Count: 22081

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Node, planar graph

Point_and_Vector_Object_Count: 87

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Geographic:

Latitude_Resolution: 0.0000001

Longitude_Resolution: 0.0000001

Geographic_Coordinate_Units: Decimal degrees

Geodetic_Model:

Horizontal_Datum_Name: World Geodetic Survey 1984

Ellipsoid_Name: WGS_1984

Semi-major_Axis: 6378137.000000

Denominator_of_Flattening_Ratio: 298.257224

Entity_and_Attribute_Information:

Overview_Description:

Entity_and_Attribute_Overview:

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, FISH) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Guam and Northern Mariana Islands atlas, the number is 78), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

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

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

*Detailed_Description:**Entity_Type:**Entity_Type_Label:* FISH.PAT*Entity_Type_Definition:*

The FISH.PAT table contains attribute information for the vector polygons in this data set representing fish 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 (78), 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:* 780200002*Range_Domain_Maximum:* 780200053*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:* 78000062*Range_Domain_Maximum:* 78000087*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: 78000001

Range_Domain_Maximum: 78000176

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 (78), 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: 780100002

Range_Domain_Maximum: 780700056

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: 078000001

Range_Domain_Maximum: 078000176

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: CONC

Attribute_Definition:

The field CONC refers to "concentration," abundance, or density values of a species at a particular location. No quantitative data were available for fish, so the concentration field may either contain "-" or a descriptive term, such as "HIGH".

Attribute_Definition_Source: Research Planning, Inc.

*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute_Label:* SEASON_ID*Attribute_Definition:*

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

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

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Range_Domain:**Range_Domain_Minimum:* 1*Range_Domain_Maximum:* N*Attribute:**Attribute_Label:* S_SOURCE*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Range_Domain:**Range_Domain_Minimum:* 1*Range_Domain_Maximum:* N*Attribute:**Attribute_Label:* ELEMENT*Attribute_Definition:* Major categories of biological data.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* BIRD*Enumerated_Domain_Value_Definition:* Birds*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* FISH*Enumerated_Domain_Value_Definition:* Fish*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* HABITAT*Enumerated_Domain_Value_Definition:* Habitats and Plants*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.

*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* INVERT*Enumerated_Domain_Value_Definition:* Invertebrates*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* M_MAMMAL*Enumerated_Domain_Value_Definition:* Marine Mammals*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* REPTILE*Enumerated_Domain_Value_Definition:* Reptiles and Amphibians*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* T_MAMMAL*Enumerated_Domain_Value_Definition:* Terrestrial Mammals*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute:**Attribute_Label:* EL_SPE*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* E#####*Enumerated_Domain_Value_Definition:*

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.*Attribute:**Attribute_Label:* EL_SPE_SEA*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* E#####*Enumerated_Domain_Value_Definition:*

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.*Detailed_Description:*

*Entity_Type:**Entity_Type_Label:* SPECIES*Entity_Type_Definition:*

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

Entity_Type_Definition_Source: Research Planning, Inc.*Attribute:**Attribute_Label:* SPECIES_ID*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Range_Domain:**Range_Domain_Minimum:* 1*Range_Domain_Maximum:* N*Attribute:**Attribute_Label:* NAME*Attribute_Definition:* Species common name for the entire ESI data set.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute_Label:* GEN_SPEC*Attribute_Definition:* Species scientific name for the entire ESI data set.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute_Label:* ELEMENT*Attribute_Definition:* Major categories of biological data.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* BIRD*Enumerated_Domain_Value_Definition:* Birds*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* FISH*Enumerated_Domain_Value_Definition:* Fish*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* HABITAT*Enumerated_Domain_Value_Definition:* Habitats and Plants*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:*

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SUBELEMENT

Attribute_Definition: Element subgroup delineating a logical grouping of species.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: algae

Enumerated_Domain_Value_Definition: Algae

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: coral

Enumerated_Domain_Value_Definition: Coral

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: echinoderm
Enumerated_Domain_Value_Definition: Echinoderm
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

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

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gastropod
Enumerated_Domain_Value_Definition: Gastropod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

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

*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* pelagic*Enumerated_Domain_Value_Definition:* Pelagic bird*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* plant*Enumerated_Domain_Value_Definition:* Plant*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* sav*Enumerated_Domain_Value_Definition:* Submerged aquatic vegetation*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* shorebird*Enumerated_Domain_Value_Definition:* Shorebird*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* 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:**Attribute_Label:* NHP*Attribute_Definition:* Natural Heritage Program global ranking.*Attribute_Definition_Source:* Network of Natural Heritage Program*Attribute_Domain_Values:**Codeset_Domain:**Codeset_Name:* NHP Global Conservation Status Rank*Codeset_Source:* Natural Heritage Program*Attribute:**Attribute_Label:* DATE_PUB*Attribute_Definition:* Date of NHP listing.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* YYYYMM*Enumerated_Domain_Value_Definition:* YYYY for year and optionally MM

for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 0

Enumerated_Domain_Value_Definition: Date unspecified

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SEASONAL

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: SEASON_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: JAN

Attribute_Definition: January

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in January

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: FEB

Attribute_Definition: February

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in February

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MAR

Attribute_Definition: March

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in March

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: APR

Attribute_Definition: April

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in April

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MAY

Attribute_Definition: May

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in May

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: JUN

Attribute_Definition: June

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in June

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: JUL

Attribute_Definition: July

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in July

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: AUG

Attribute_Definition: August

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in August

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SEP

Attribute_Definition: September

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in September

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: OCT

Attribute_Definition: October

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in October

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: NOV

Attribute_Definition: November

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in November

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: DEC

Attribute_Definition: December

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in December

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE_SEA

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* E#####*Enumerated_Domain_Value_Definition:*

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.*Detailed_Description:**Entity_Type:**Entity_Type_Label:* BREED*Entity_Type_Definition:*

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

Entity_Type_Definition_Source: Research Planning, Inc.*Attribute:**Attribute_Label:* EL_SPE_SEA*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* E#####*Enumerated_Domain_Value_Definition:*

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.*Attribute:**Attribute_Label:* MONTH*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Range_Domain:**Range_Domain_Minimum:* 1*Range_Domain_Maximum:* 12*Attribute:**Attribute_Label:* BREED1*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.

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

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.*Attribute:**Attribute_Label:* BREED2*Attribute_Definition:*

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

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

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.*Attribute:**Attribute_Label:* BREED3*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED4

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED5

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOURCES

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ORIGINATOR

Attribute_Definition: Author or developer of source material or data set.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* YYYYMM*Enumerated_Domain_Value_Definition:* YYYY for year and optionally MM for month*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute:**Attribute_Label:* TITLE*Attribute_Definition:* Title of source material or data.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute_Label:* DATA_FORMAT*Attribute_Definition:* The format of the source material.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute_Label:* PUBLICATION*Attribute_Definition:* Additional citation information.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute_Label:* SCALE*Attribute_Definition:* Description of the source scale.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute_Label:* TIME_PERIOD*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Detailed_Description:**Entity_Type:**Entity_Type_Label:* STATUS*Entity_Type_Definition:*

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

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

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

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Range_Domain:**Range_Domain_Minimum:* 1*Range_Domain_Maximum:* N*Attribute:**Attribute_Label:* STATE*Attribute_Definition:* Two-letter state abbreviation.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:*

Attribute_Label: COUNTRY

Attribute_Definition: Three-letter country abbreviation.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: S

Attribute_Definition: State threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on state list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on state list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: F

Attribute_Definition: Federal threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on federal list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on federal list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: I

Attribute_Definition: International threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on international list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on international list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: S_DATE

Attribute_Definition:

Publication date of source material used to assign state status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: F_DATE

Attribute_Definition:

Publication date of source material used to assign federal status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: I_DATE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE

Attribute_Definition:

Concatenation of ELEMENT and SPECIES_ID. This item links the STATUS data

table to the BIORES and SPECIES data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Distribution_Information:

Distributor:

Contact_Information:

Contact_Person_Primary:

Contact_Person: John Kaperick

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400

Contact_Facsimile_Telephone: (206) 526-6329

Resource_Description: ESI Atlas for Guam and the Northern Mariana Islands

Distribution_Liability:

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

Custom_Order_Process:

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

Metadata_Reference_Information:

Metadata_Date: 200603

Metadata_Review_Date: 200603

Metadata_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Person: Jill Petersen

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Position: GIS Manager

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata

Metadata_Standard_Version: FGDC-STD-001-1998

Generated by [mp](#) version 2.8.21 on Sun Mar 26 10:24:16 2006

Guam and the Northern Mariana Islands 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:

Citation Information:

Originator:

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Publication Date: 200603

Title:

Guam and the Northern Mariana Islands ESI: INVERT (Invertebrate Polygons)

Edition: First

Geospatial Data Presentation Form: Vector digital data

Series Information:

Series Name: None

Issue Identification: Guam and the Northern Mariana Islands

Publication Information:

Publication Place: Seattle, Washington

Publisher:

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

Other Citation Details:

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Description:

Abstract:

This data set contains sensitive biological resource data for intertidal-, reef-, and

mangrove-associated invertebrate species in Guam and the Northern Mariana Islands. Vector polygons in this data set represent invertebrate concentration areas. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Guam and the Northern Mariana Islands. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources.

Purpose:

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

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 1998

Ending_Date: 2005

Currentness_Reference:

The biological data were compiled during 2004-2005. The currentness dates for the data range from 1998 to 2005 and are documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: 144.56700

East_Bounding_Coordinate: 145.88200

North_Bounding_Coordinate: 15.34400

South_Bounding_Coordinate: 13.18400

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: Guam and the Northern Mariana Islands

Access_Constraints: None

Use_Constraints:

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the

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

Browse_Graphic:

Browse_Graphic_File_Name: [datafig.jpg](#)

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Guam and Northern Mariana Islands 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; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

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: bentpt.e00, birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, soecon.e00, vessels.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

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

Logical_Consistency_Report:

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

made by the GIS manager, where the data are written to CD-ROM and the metadata are written.

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

Completeness_Report:

These data represent a synthesis of expert knowledge and survey data on invertebrate concentration areas. These data do not necessarily represent all invertebrate occurrences in Guam and the Northern Mariana Islands. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 149, Mangrove crab, *Ucides occidentalis*; 501, Turbo shell, *Turbo* sp.; 542, Topshell, *Trochus* spp.; 1012, Sea cucumbers, *Stichopodidae*; 1013, Bivalves, n/a; 1025, Swimming crabs, *Portunidae*; 1027, Sponges, n/a; 1030, Octopuses, *Octopodidae*; 1039, Intertidal invertebrates, n/a; 1041, Gastropods, n/a; 1053, Giant clams, *Tridacna* spp.; 1054, Reef invertebrates, n/a; 1055, Spiny lobsters, *Panulirus* spp.; 1056, Slipper lobsters, *Parribacus* spp..

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Most of the spatial components of the biological data layers are developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000 and 1:25,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator:

COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS
(CNMI) DIVISION OF FISH AND WILDLIFE (DFW) - FISHERIES

Publication_Date: 2005

Title: CORAL REEF FISH

Geospatial_Data_Presentation_Form: SPREADSHEET

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: EMAIL

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: INVERT INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: CNMI DIVISION OF FISH AND WILDLIFE

Publication_Date: 2005

Title: DISTRIBUTION OF SENSITIVE MARINE RESOURCES IN CNMI

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: INVERT INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: DIVE PACIFIC WHOLESALE

Publication_Date: 1998

Title:

DIVE! SNORKEL! KAYAK! HIKE! A GUIDE TO GUAM'S
WONDERFUL WATER ADVENTURES

Geospatial_Data_Presentation_Form: HARDCOPY TEXT

Other_Citation_Details: DIVE PACIFIC WHOLESALE, 67 PP.

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: INVERT INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: GAWEL, MIKE (GUAM ENVIRONMENTAL PROTECTION
AGENCY [GEPA])

Publication_Date: 2005

Title: DISTRIBUTION OF SENSITIVE MARINE RESOURCES ON GUAM

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: INVERT INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: GUAM DIVISION OF AQUATIC AND WILDLIFE
RESOURCES (DAWR)

Publication_Date: 2003

Title:

ESTIMATED HARVEST OF TOP 10-20 FAMILIES FOR
INSHORE/OFFSHORE FISHERIES: 2000-2003

Geospatial_Data_Presentation_Form: DIGITAL TABLE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: EMAIL

Source_Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 2000

Ending_Date: 2003

Source_Currentness_Reference: DATE OF SURVEY

Source_Citation_Abbreviation: NONE

Source_Contribution: INVERT INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: GUAM DIVISION OF AQUATIC AND WILDLIFE
RESOURCES (DAWR) STAFF

Publication_Date: 2004

Title:

DISTRIBUTION AND SEASONALITY OF SENSITIVE MARINE
RESOURCES ON GUAM

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: INVERT INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: HOUK, PETER (CNMI DIVISION OF ENVIRONMENTAL
QUALITY [DEQ])

Publication_Date: 2005
Title: DISTRIBUTION OF SENSITIVE MARINE RESOURCES ON CNMI
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: INVERT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: SMITH, BARRY (UNIVERSITY OF GUAM)
Publication_Date: 2005
Title: DISTRIBUTION OF SENSITIVE MARINE RESOURCES ON GUAM
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: INVERT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
TIBBATTS, BRENT (GUAM DIVISION OF AQUATIC AND
WILDLIFE RESOURCES [DAWR])
Publication_Date: 2005
Title: DISTRIBUTION OF MARINE RESOURCES ON GUAM
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: INVERT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: WESTERN PACIFIC FISHERY MANAGEMENT COUNCIL
(WPFMC)

Publication_Date: 2005

Title: DISTRIBUTION OF SENSITIVE MARINE RESOURCES ON GUAM

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: INVERT INFORMATION

Process_Step:

Process_Description:

Three main sources of data were used to depict invertebrate distribution and seasonality for this data layer: (1) personal interviews with resource experts from the University of Guam, Guam Department of Agriculture's Division of Aquatic and Wildlife Resources (DAWR), Guam Environmental Protection Agency (GEPA), Western Pacific Fishery Management Council (WPFMC), the Commonwealth of the Northern Mariana Islands (CNMI) Division of Environmental Quality (DEQ); (2) survey data provided by Guam DAWR and CNMI Division of Fish and Wildlife (DFW); and (3) published documents.

The above digital and/or hardcopy sources were compiled by the project biologist to create the INVERT data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: (1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 and 1:25,000 topographic quadrangles and digitized; (2) hardcopy maps are digitized at their source scale; (3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the INVERT data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200508

Process_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Person: Jill Petersen

Contact_Address:

Address_Type: Physical address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:

Direct_Spatial_Reference_Method: Vector

Point_and_Vector_Object_Information:

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains

Point_and_Vector_Object_Count: 53

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Area point

Point_and_Vector_Object_Count: 53

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Complete chain

Point_and_Vector_Object_Count: 125

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Link

Point_and_Vector_Object_Count: 21342

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Node, planar graph

Point_and_Vector_Object_Count: 105

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Geographic:

Latitude_Resolution: 0.0000001

Longitude_Resolution: 0.0000001

Geographic_Coordinate_Units: Decimal degrees

Geodetic_Model:

Horizontal_Datum_Name: World Geodetic Survey 1984

Ellipsoid_Name: WGS_1984

Semi-major_Axis: 6378137.000000

Denominator_of_Flattening_Ratio: 298.257224

Entity_and_Attribute_Information:

Overview_Description:

Entity_and_Attribute_Overview:

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, INVERT) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Guam and Northern Mariana Islands atlas, the number is 78), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail.

See the *Browse_Graphic* section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

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

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

Detailed_Description:

Entity_Type:

Entity_Type_Label: INVERT.PAT

Entity_Type_Definition:

The INVERT.PAT table contains attribute information for the vector polygons in this data set representing invertebrate 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 (78), 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: 780700002

Range_Domain_Maximum: 780700056

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: 78000117

Range_Domain_Maximum: 78000135

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: 78000001

Range_Domain_Maximum: 78000176

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 (78), 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: 780100002

Range_Domain_Maximum: 780700056

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: 078000001

Range_Domain_Maximum: 078000176

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: CONC

Attribute_Definition:

The field CONC refers to "concentration," abundance, or density values of a species at a particular location. No quantitative data were available for invertebrates, so the concentration field contains either "-" or a descriptive term, such as "HIGH".

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SEASON_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: G_SOURCE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: S_SOURCE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE_SEA

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SPECIES

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: NAME

Attribute_Definition: Species common name for the entire ESI data set.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: GEN_SPEC

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SUBELEMENT

Attribute_Definition: Element subgroup delineating a logical grouping of species.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: algae

Enumerated_Domain_Value_Definition: Algae

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: coral

Enumerated_Domain_Value_Definition: Coral

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: echinoderm

Enumerated_Domain_Value_Definition: Echinoderm

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: e_nursery

Enumerated_Domain_Value_Definition: Estuarine nursery fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: fish

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: gastropod

Enumerated_Domain_Value_Definition: Gastropod

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* gull_tern*Enumerated_Domain_Value_Definition:* Gull or tern*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* invert*Enumerated_Domain_Value_Definition:* Invertebrate*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:* passerine*Enumerated_Domain_Value_Definition:* Passerine bird*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* pelagic*Enumerated_Domain_Value_Definition:* Pelagic bird*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* plant*Enumerated_Domain_Value_Definition:* Plant*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* sav*Enumerated_Domain_Value_Definition:* Submerged aquatic vegetation*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* shorebird*Enumerated_Domain_Value_Definition:* Shorebird*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:*

*Enumerated_Domain:**Enumerated_Domain_Value:* 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:**Attribute_Label:* NHP*Attribute_Definition:* Natural Heritage Program global ranking.*Attribute_Definition_Source:* Network of Natural Heritage Program*Attribute_Domain_Values:**Codeset_Domain:**Codeset_Name:* NHP Global Conservation Status Rank*Codeset_Source:* Natural Heritage Program*Attribute:**Attribute_Label:* DATE_PUB*Attribute_Definition:* Date of NHP listing.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* YYYYMM*Enumerated_Domain_Value_Definition:* YYYY for year and optionally MM for month*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* 0*Enumerated_Domain_Value_Definition:* Date unspecified*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute:**Attribute_Label:* EL_SPE*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* E#####*Enumerated_Domain_Value_Definition:*

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

*Detailed_Description:**Entity_Type:**Entity_Type_Label:* SEASONAL*Entity_Type_Definition:*

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

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

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: SEASON_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: JAN

Attribute_Definition: January

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in January

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: FEB

Attribute_Definition: February

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in February

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MAR

Attribute_Definition: March

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in March

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: APR

Attribute_Definition: April

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in April

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MAY

Attribute_Definition: May

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in May

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: JUN

Attribute_Definition: June

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in June

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: JUL

Attribute_Definition: July

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in July

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: AUG

Attribute_Definition: August

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in August

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SEP

Attribute_Definition: September

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in September

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: OCT

Attribute_Definition: October

Attribute_Definition_Source: Research Planning, Inc.

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

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* E#####*Enumerated_Domain_Value_Definition:*

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.*Detailed_Description:**Entity_Type:**Entity_Type_Label:* BREED*Entity_Type_Definition:*

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

Entity_Type_Definition_Source: Research Planning, Inc.*Attribute:**Attribute_Label:* EL_SPE_SEA*Attribute_Definition:*

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

tables.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MONTH

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: 12

Attribute:

Attribute_Label: BREED1

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED2

Attribute_Definition:

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 =

migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED3

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED4

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED5

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOURCES

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ORIGINATOR

Attribute_Definition: Author or developer of source material or data set.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: TITLE

Attribute_Definition: Title of source material or data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATA_FORMAT

Attribute_Definition: The format of the source material.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION

Attribute_Definition: Additional citation information.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SCALE

Attribute_Definition: Description of the source scale.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: TIME_PERIOD

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Detailed_Description:

Entity_Type:

Entity_Type_Label: STATUS

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: STATE

Attribute_Definition: Two-letter state abbreviation.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: COUNTRY

Attribute_Definition: Three-letter country abbreviation.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: S

Attribute_Definition: State threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on state list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on state list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: F

Attribute_Definition: Federal threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on federal list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on federal list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: I

Attribute_Definition: International threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on international list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on international list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: S_DATE

Attribute_Definition:

Publication date of source material used to assign state status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM

for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: F_DATE

Attribute_Definition:

Publication date of source material used to assign federal status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: I_DATE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Distribution_Information:

Distributor:

Contact_Information:

Contact_Person_Primary:

Contact_Person: John Kaperick

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400

Contact_Facsimile_Telephone: (206) 526-6329

Resource_Description: ESI Atlas for Guam and the Northern Mariana Islands

Distribution_Liability:

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

Custom_Order_Process:

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

Metadata_Reference_Information:

Metadata_Date: 200603

Metadata_Review_Date: 200603

Metadata_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Person: Jill Petersen

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Position: GIS Manager

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata

Metadata_Standard_Version: FGDC-STD-001-1998

Guam and the Northern Mariana Islands ESI: REPTILES (Reptile Polygons)

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

Metadata:

- [Identification_Information](#)
- [Data_Quality_Information](#)
- [Spatial_Data_Organization_Information](#)
- [Spatial_Reference_Information](#)
- [Entity_and_Attribute_Information](#)
- [Distribution_Information](#)
- [Metadata_Reference_Information](#)

Identification_Information:

Citation:

Citation_Information:

Originator:

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Publication_Date: 200603

Title:

Guam and the Northern Mariana Islands ESI: REPTILES (Reptile Polygons)

Edition: First

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:

Series_Name: None

Issue_Identification: Guam and the Northern Mariana Islands

Publication_Information:

Publication_Place: Seattle, Washington

Publisher:

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

Other_Citation_Details:

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Description:

Abstract:

This data set contains sensitive biological resource data for sea turtles in Guam and the

Northern Mariana Islands. Vector polygons in this data set represent turtle concentration and nesting areas. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Guam and the Northern Mariana Islands. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources.

Purpose:

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

Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Currentness_Reference:

The biological data were compiled during 2004-2005. The currentness date for the data is 2005 and is documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: 144.56700

East_Bounding_Coordinate: 145.88200

North_Bounding_Coordinate: 15.34400

South_Bounding_Coordinate: 13.18400

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

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Guam and the Northern Mariana Islands

Access_Constraints: None

Use_Constraints:

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

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

Browse_Graphic:

Browse_Graphic_File_Name: [datafig.jpg](#)

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Guam and Northern Mariana Islands 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; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

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: bentpt.e00, birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, soecon.e00, vessels.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

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

Logical_Consistency_Report:

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

After the data are delivered to NOAA, they are again subjected to a number of quality and

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

Completeness_Report:

These data represent a synthesis of expert knowledge and digital data and maps on turtle concentration and nesting areas. These data do not necessarily represent all reptile occurrences in Guam and the Northern Mariana Islands. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 2, Green sea turtle, *Chelonia mydas*; 9, Hawksbill sea turtle, *Eretmochelys imbricata*.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Most of the spatial components of the biological data layers are developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000 and 1:25,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: CABRERA, HENRY (DIVISION OF FISH AND WILDLIFE [DFW], TINIAN)

Publication_Date: 2005

Title: DISTRIBUTION OF SPECIES ON TINIAN

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: REPTILES INFORMATION

Source_Information:

*Source_Citation:**Citation_Information:**Originator:* CNMI DIVISION OF FISH AND WILDLIFE (DFW)*Publication_Date:* 2005*Title:* SEA TURTLE NESTING SITES ON SAIPAN, TINIAN, AND ROTA*Geospatial_Data_Presentation_Form:* DIGITAL MAP*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* EMAIL*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF PUBLICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* REPTILES INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:* CNMI DIVISION OF FISH AND WILDLIFE (DFW)*Publication_Date:* 2005*Title:* DISTRIBUTION OF SENSITIVE MARINE RESOURCES IN CNMI*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* REPTILES INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:*DAVIS, GERRY (NATIONAL OCEANIC AND ATMOSPHERIC
ADMINISTRATION [NOAA], HONOLULU, HI)*Publication_Date:* 2005*Title:* DISTRIBUTION AND SEASONALITY OF SENSITIVE
RESOURCES ON GUAM*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* REPTILES INFORMATION*Source_Information:*

*Source_Citation:**Citation_Information:**Originator:*

DE CRUZ, TINA (FORMERLY CNMI DIVISION OF FISH AND WILDLIFE [DFW])

Publication_Date: 2005

Title:

DISTRIBUTION AND SEASONALITY OF WILDLIFE AND SOC_ECON FEATURES ON CNMI

Geospatial_Data_Presentation_Form: HARDCOPY TEXT

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: EMAIL

*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:*

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: REPTILES INFORMATION

*Source_Information:**Source_Citation:**Citation_Information:*

Originator: GUAM DIVISION OF AQUATIC AND WILDLIFE RESOURCES (DAWR)

Publication_Date: 2005

Title: TURTLE NESTING BEACHES ON GUAM

Geospatial_Data_Presentation_Form: DIGITAL VECTOR DATA

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: EMAIL

*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:*

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: REPTILES INFORMATION

*Source_Information:**Source_Citation:**Citation_Information:*

Originator: GUAM DIVISION OF AQUATIC AND WILDLIFE RESOURCES (DAWR)

Publication_Date: 2005

Title:

NATURAL RESOURCES AT RISK - MONTHLY SEASONALITY FOR MARINE SPECIES ON GUAM

Geospatial_Data_Presentation_Form: HARDCOPY TEXT

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PAPER

*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:*

Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILES INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: GUAM DIVISION OF AQUATIC AND WILDLIFE RESOURCES (DAWR) STAFF
Publication_Date: 2004
Title:
 DISTRIBUTION AND SEASONALITY OF SENSITIVE MARINE RESOURCES ON GUAM
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILES INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
 GUTIERREZ, JAY (GUAM DIVISION OF AQUATIC AND WILDLIFE RESOURCES [DAWR])
Publication_Date: 2005
Title: REPTILE DISTRIBUTION AND SEASONALITY
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILES INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: LEBERER, TRINA (THE NATURE CONSERVANCY [TNC])
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF SENSITIVE RESOURCES ON GUAM
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: REPTILES INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: NARCIS, DANZEL (GUAM ENVIRONMENTAL PROTECTION AGENCY [GEPAA])

Publication_Date: 2005

Title: BIRDS, HABITATS, REPTILES, AND SOCIOECONOMIC FEATURES ON GUAM

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: REPTILES INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator:

PORTER, VAL (GUAM DIVISION OF AQUATIC AND WILDLIFE RESOURCES [DAWR])

Publication_Date: 2005

Title: DISTRIBUTION OF SENSITIVE RESOURCES ON GUAM

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: REPTILES INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: TAISICAN, STAN (ROTA)

Publication_Date: 2005

Title: DISTRIBUTION OF MARINE RESOURCES ON ROTA

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: REPTILES INFORMATION

Process_Step:

Process_Description:

Two main sources of data were used to depict reptile distribution and seasonality for this data layer: (1) personal interviews with resource experts from the National Oceanic and Atmospheric Administration (NOAA), Guam Department of Agriculture's Division of Aquatic and Wildlife Resources (DAWR), The Nature Conservancy (TNC), Guam Environmental Protection Agency (GEPA), the Commonwealth of the Northern Mariana Islands (CNMI) Division of Fish and Wildlife (DFW); and (2) digital data and maps provided by Guam DAWR and CNMI DFW.

The above digital and/or hardcopy sources were compiled by the project biologist to create the REPTILES data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: (1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 and 1:25,000 topographic quadrangles and digitized; (2) hardcopy maps are digitized at their source scale; (3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the REPTILES data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200508

Process_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Person: Jill Petersen

Contact_Address:

Address_Type: Physical address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:

Direct_Spatial_Reference_Method: Vector

*Point_and_Vector_Object_Information:**SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* GT-polygon composed of chains*Point_and_Vector_Object_Count:* 89*SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* Area point*Point_and_Vector_Object_Count:* 89*SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* Complete chain*Point_and_Vector_Object_Count:* 134*SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* Link*Point_and_Vector_Object_Count:* 25170*SDTS_Terms_Description:**SDTS_Point_and_Vector_Object_Type:* Node, planar graph*Point_and_Vector_Object_Count:* 115*Spatial_Reference_Information:**Horizontal_Coordinate_System_Definition:**Geographic:**Latitude_Resolution:* 0.0000001*Longitude_Resolution:* 0.0000001*Geographic_Coordinate_Units:* Decimal degrees*Geodetic_Model:**Horizontal_Datum_Name:* World Geodetic Survey 1984*Ellipsoid_Name:* WGS_1984*Semi-major_Axis:* 6378137.000000*Denominator_of_Flattening_Ratio:* 298.257224*Entity_and_Attribute_Information:**Overview_Description:**Entity_and_Attribute_Overview:*

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, REPTILES) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Guam and Northern Mariana Islands atlas, the number is 78), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of

the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN_SPEC, S, F, NHP, DATE_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G_SOURCE, S_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed_Description of the BREED data table. The link to the BIOFILE may be made through the BIO_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED_DT is the BREED item.

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

Detailed_Description:

Entity_Type:

Entity_Type_Label: REPTILES.PAT

Entity_Type_Definition:

The REPTILES.PAT table contains attribute information for the vector polygons in this data set representing turtle concentration and nesting areas. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

Entity_Type_Definition_Source: 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 (78), 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: 780600002

Range_Domain_Maximum: 780600088

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: 78000149

Range_Domain_Maximum: 78000176

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: 78000001

Range_Domain_Maximum: 78000176

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 (78), 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: 780100002

Range_Domain_Maximum: 780700056

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: 078000001

Range_Domain_Maximum: 078000176

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: CONC

Attribute_Definition:

The field CONC refers to "concentration," abundance, or density values. No quantitative concentration data were available, so the field contains either "-" or a descriptive term, such as "HIGH". Qualitative estimates were provided by local resource experts.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SEASON_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: G_SOURCE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: S_SOURCE

Attribute_Definition:

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

the SOURCES data table.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* E#####*Enumerated_Domain_Value_Definition:*

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.*Attribute:**Attribute_Label:* EL_SPE_SEA*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* E#####*Enumerated_Domain_Value_Definition:*

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.*Detailed_Description:**Entity_Type:**Entity_Type_Label:* SPECIES*Entity_Type_Definition:*

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

Entity_Type_Definition_Source: Research Planning, Inc.*Attribute:**Attribute_Label:* SPECIES_ID*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Range_Domain:**Range_Domain_Minimum:* 1*Range_Domain_Maximum:* N*Attribute:**Attribute_Label:* NAME*Attribute_Definition:* Species common name for the entire ESI data set.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute_Label:* GEN_SPEC

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SUBELEMENT

Attribute_Definition: Element subgroup delineating a logical grouping of species.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: algae

Enumerated_Domain_Value_Definition: Algae

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: coral
 Enumerated_Domain_Value_Definition: Coral
 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: echinoderm
 Enumerated_Domain_Value_Definition: Echinoderm
 Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
 Enumerated_Domain:
 Enumerated_Domain_Value: e_nursery
 Enumerated_Domain_Value_Definition: Estuarine nursery fish
 Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
 Enumerated_Domain:
 Enumerated_Domain_Value: fish
 Enumerated_Domain_Value_Definition: Fish
 Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
 Enumerated_Domain:
 Enumerated_Domain_Value: gastropod
 Enumerated_Domain_Value_Definition: Gastropod
 Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
 Enumerated_Domain:
 Enumerated_Domain_Value: gull_tern
 Enumerated_Domain_Value_Definition: Gull or tern
 Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* invert*Enumerated_Domain_Value_Definition:* Invertebrate*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:* passerine*Enumerated_Domain_Value_Definition:* Passerine bird*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* pelagic*Enumerated_Domain_Value_Definition:* Pelagic bird*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* plant*Enumerated_Domain_Value_Definition:* Plant*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* sav*Enumerated_Domain_Value_Definition:* Submerged aquatic vegetation*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* shorebird*Enumerated_Domain_Value_Definition:* Shorebird*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* 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:**Attribute_Label:* NHP*Attribute_Definition:* Natural Heritage Program global ranking.*Attribute_Definition_Source:* Network of Natural Heritage Program*Attribute_Domain_Values:**Codeset_Domain:**Codeset_Name:* NHP Global Conservation Status Rank*Codeset_Source:* Natural Heritage Program*Attribute:**Attribute_Label:* DATE_PUB*Attribute_Definition:* Date of NHP listing.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* YYYYMM*Enumerated_Domain_Value_Definition:* YYYY for year and optionally MM for month*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* 0*Enumerated_Domain_Value_Definition:* Date unspecified*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute:**Attribute_Label:* EL_SPE*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* E#####*Enumerated_Domain_Value_Definition:*

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.*Detailed_Description:**Entity_Type:**Entity_Type_Label:* SEASONAL*Entity_Type_Definition:*

The data table SEASONAL contains information on the seasonal presence of each

species associated with each spatial vector object. See the *Browse_Graphic* section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:

Attribute_Label: SEASON_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: JAN

Attribute_Definition: January

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in January

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: FEB

Attribute_Definition: February

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in February

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MAR

Attribute_Definition: March

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in March

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: APR

Attribute_Definition: April

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in April

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MAY

Attribute_Definition: May

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in May

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: JUN

Attribute_Definition: June

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in June

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: JUL

Attribute_Definition: July

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in July

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: AUG

Attribute_Definition: August

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in August

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SEP

Attribute_Definition: September

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in September

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: OCT

Attribute_Definition: October

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in October

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

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

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* E#####*Enumerated_Domain_Value_Definition:*

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.*Detailed_Description:**Entity_Type:**Entity_Type_Label:* BREED*Entity_Type_Definition:*

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

Entity_Type_Definition_Source: Research Planning, Inc.*Attribute:**Attribute_Label:* EL_SPE_SEA*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MONTH

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: 12

Attribute:

Attribute_Label: BREED1

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED2

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

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

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.*Attribute:**Attribute_Label:* BREED3*Attribute_Definition:*

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

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

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.*Attribute:**Attribute_Label:* BREED4*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED5

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOURCES

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ORIGINATOR

Attribute_Definition: Author or developer of source material or data set.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: TITLE

Attribute_Definition: Title of source material or data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATA_FORMAT

Attribute_Definition: The format of the source material.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION

Attribute_Definition: Additional citation information.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SCALE

Attribute_Definition: Description of the source scale.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: TIME_PERIOD

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Detailed_Description:

Entity_Type:

Entity_Type_Label: STATUS

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: STATE

Attribute_Definition: Two-letter state abbreviation.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: COUNTRY

Attribute_Definition: Three-letter country abbreviation.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: S

Attribute_Definition: State threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on state list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on state list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: F

Attribute_Definition: Federal threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on federal list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on federal list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: I

Attribute_Definition: International threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on international list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on international list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: S_DATE

Attribute_Definition:

Publication date of source material used to assign state status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: F_DATE

Attribute_Definition:

Publication date of source material used to assign federal status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: I_DATE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Distribution_Information:

Distributor:

Contact_Information:

Contact_Person_Primary:

Contact_Person: John Kaperick

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400

Contact_Facsimile_Telephone: (206) 526-6329

Resource_Description: ESI Atlas for Guam and the Northern Mariana Islands

Distribution_Liability:

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

Custom_Order_Process:

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

Metadata_Reference_Information:

Metadata_Date: 200603

Metadata_Review_Date: 200603

Metadata_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Person: Jill Petersen

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Position: GIS Manager

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata

Metadata_Standard_Version: FGDC-STD-001-1998

Generated by [mp](#) version 2.8.21 on Sun Mar 26 10:29:56 2006

Guam and the Northern Mariana Islands 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:

Citation_Information:

Originator:

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Publication_Date: 200603

Title:

Guam and the Northern Mariana Islands ESI: M_MAMMAL (Marine Mammal Polygons)

Edition: First

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:

Series_Name: None

Issue_Identification: Guam and the Northern Mariana Islands

Publication_Information:

Publication_Place: Seattle, Washington

Publisher:

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

Other_Citation_Details:

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Description:

Abstract:

This data set contains sensitive biological resource data for dolphins in Guam and the Northern Mariana Islands. Vector polygons in this data set represent marine mammal concentration areas. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Guam and the Northern Mariana Islands. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources.

Purpose:

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

Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Currentness_Reference:

The biological data were compiled during 2004-2005. The currentness date for the data is 2005 and is documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: 144.56700

East_Bounding_Coordinate: 145.88200

North_Bounding_Coordinate: 15.34400

South_Bounding_Coordinate: 13.18400

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: Guam and the Northern Mariana Islands

Access_Constraints: None

Use_Constraints:

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

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

Browse_Graphic:

Browse_Graphic_File_Name: [datafig.jpg](#)

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Guam and Northern Mariana Islands 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; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

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: bentpt.e00, birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, socecon.e00, vessels.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

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

Logical_Consistency_Report:

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

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

Completeness_Report:

These data represent a synthesis of expert knowledge. These data do not necessarily represent all marine mammal occurrences in Guam and the Northern Mariana Islands. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 17, Bottlenose dolphin, *Tursiops truncatus*; 49, Spotted dolphin, *Stenella attenuata*; 50, Spinner dolphin, *Stenella longirostris*.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Most of the spatial components of the biological data layers are developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000 and 1:25,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: CABRERA, HENRY (DIVISION OF FISH AND WILDLIFE [DFW], TINIAN)

Publication_Date: 2005

Title: DISTRIBUTION OF SPECIES ON TINIAN

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: M_MAMMAL INFORMATION

Source_Information:

*Source_Citation:**Citation_Information:**Originator:* CNMI DIVISION OF FISH AND WILDLIFE (DFW)*Publication_Date:* 2005*Title:* DISTRIBUTION OF SENSITIVE MARINE RESOURCES IN CNMI*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* M_MAMMAL INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:*DAVIS, GERRY (NATIONAL OCEANIC AND ATMOSPHERIC
ADMINISTRATION [NOAA], HONOLULU, HI)*Publication_Date:* 2005*Title:* DISTRIBUTION AND SEASONALITY OF SENSITIVE
RESOURCES ON GUAM*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* M_MAMMAL INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:* HOUK, PETER (CNMI DIVISION OF ENVIRONMENTAL
QUALITY [DEQ])*Publication_Date:* 2005*Title:* DISTRIBUTION OF SENSITIVE MARINE RESOURCES ON CNMI*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* M_MAMMAL INFORMATION

*Source_Information:**Source_Citation:**Citation_Information:*

Originator: MINTON, DWAYNE (NATIONAL PARK SERVICE [NPS], GUAM)

Publication_Date: 2005

Title: DISTRIBUTION OF RESOURCES ON NATIONAL PARK LANDS

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

*Time_Period_Information:**Single_Date/Time:*

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: M_MAMMAL INFORMATION

*Source_Information:**Source_Citation:**Citation_Information:*

Originator: TAISICAN, STAN (ROTA)

Publication_Date: 2005

Title: DISTRIBUTION OF MARINE RESOURCES ON ROTA

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

*Time_Period_Information:**Single_Date/Time:*

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: M_MAMMAL INFORMATION

*Process_Step:**Process_Description:*

The main source of data used to depict marine mammal distribution and seasonality for this data layer was personal interviews with resource experts from the National Oceanic and Atmospheric Administration (NOAA), the Commonwealth of the Northern Mariana Islands (CNMI) Division of Fish and Wildlife (DFW), CNMI Division of Environmental Quality (DEQ), and National Park Service (NPS).

The above digital and/or hardcopy sources were compiled by the project biologist to create the M_MAMMAL data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: (1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 and 1:25,000 topographic quadrangles and digitized; (2) hardcopy maps are digitized at their source scale; (3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second

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

Process_Date: 200508

Process_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Person: Jill Petersen

Contact_Address:

Address_Type: Physical address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:

Direct_Spatial_Reference_Method: Vector

Point_and_Vector_Object_Information:

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains

Point_and_Vector_Object_Count: 47

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Area point

Point_and_Vector_Object_Count: 47

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Complete chain

Point_and_Vector_Object_Count: 114

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Link

Point_and_Vector_Object_Count: 32858

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Node, planar graph

Point_and_Vector_Object_Count: 108

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Geographic:

Latitude_Resolution: 0.0000001

Longitude_Resolution: 0.0000001

Geographic_Coordinate_Units: Decimal degrees

Geodetic_Model:

Horizontal_Datum_Name: World Geodetic Survey 1984

Ellipsoid_Name: WGS_1984

Semi-major_Axis: 6378137.000000

Denominator_of_Flattening_Ratio: 298.257224

*Entity_and_Attribute_Information:**Overview_Description:**Entity_and_Attribute_Overview:*

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, M_MAMMAL) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Guam and Northern Mariana Islands atlas, the number is 78), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

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

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

*Detailed_Description:**Entity_Type:*

Entity_Type_Label: M_MAMMAL.PAT

Entity_Type_Definition:

The M_MAMMAL.PAT table contains attribute information for the vector polygons

in this data set representing marine mammal 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 (78), 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: 780400002

Range_Domain_Maximum: 780400048

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: 78000136

Range_Domain_Maximum: 78000148

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: 78000001

Range_Domain_Maximum: 78000176

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 (78), 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: 780100002

Range_Domain_Maximum: 780700056

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: 078000001

Range_Domain_Maximum: 078000176

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: CONC

Attribute_Definition:

The field CONC refers to "concentration," abundance, or density values. The field may contain counts of individuals (XX MARINE MAMMALS); however, if no quantitative data were available, the field may either contain "-" or a descriptive term, such as "COMMON". Counts were based on estimates made by local resource experts.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SEASON_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: G_SOURCE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: S_SOURCE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE_SEA

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SPECIES

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: NAME

Attribute_Definition: Species common name for the entire ESI data set.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: GEN_SPEC

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* M_MAMMAL*Enumerated_Domain_Value_Definition:* Marine Mammals*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* REPTILE*Enumerated_Domain_Value_Definition:* Reptiles and Amphibians*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* T_MAMMAL*Enumerated_Domain_Value_Definition:* Terrestrial Mammals*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute:**Attribute_Label:* SUBELEMENT*Attribute_Definition:* Element subgroup delineating a logical grouping of species.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* algae*Enumerated_Domain_Value_Definition:* Algae*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:* coral*Enumerated_Domain_Value_Definition:* Coral*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: echinoderm

Enumerated_Domain_Value_Definition: Echinoderm

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: e_nursery

Enumerated_Domain_Value_Definition: Estuarine nursery fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: fish

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: gastropod

Enumerated_Domain_Value_Definition: Gastropod

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: gull_tern

Enumerated_Domain_Value_Definition: Gull or tern

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: invert

Enumerated_Domain_Value_Definition: Invertebrate

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: passerine

Enumerated_Domain_Value_Definition: Passerine bird

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: pelagic

Enumerated_Domain_Value_Definition: Pelagic bird

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: plant

Enumerated_Domain_Value_Definition: Plant

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: sav

Enumerated_Domain_Value_Definition: Submerged aquatic vegetation

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: shorebird

Enumerated_Domain_Value_Definition: Shorebird

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 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:

Attribute_Label: NHP

Attribute_Definition: Natural Heritage Program global ranking.

Attribute_Definition_Source: Network of Natural Heritage Program

Attribute_Domain_Values:

Codeset_Domain:

Codeset_Name: NHP Global Conservation Status Rank

Codeset_Source: Natural Heritage Program

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition: Date of NHP listing.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

*Enumerated_Domain:**Enumerated_Domain_Value:* 0*Enumerated_Domain_Value_Definition:* Date unspecified*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute:**Attribute_Label:* EL_SPE*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* E#####*Enumerated_Domain_Value_Definition:*

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.*Detailed_Description:**Entity_Type:**Entity_Type_Label:* SEASONAL*Entity_Type_Definition:*

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

Entity_Type_Definition_Source: Research Planning, Inc.*Attribute:**Attribute_Label:* ELEMENT*Attribute_Definition:* Major categories of biological data.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* BIRD*Enumerated_Domain_Value_Definition:* Birds*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* FISH*Enumerated_Domain_Value_Definition:* Fish*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* HABITAT*Enumerated_Domain_Value_Definition:* Habitats and Plants*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* INVERT*Enumerated_Domain_Value_Definition:* Invertebrates*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.

*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* M_MAMMAL*Enumerated_Domain_Value_Definition:* Marine Mammals*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* REPTILE*Enumerated_Domain_Value_Definition:* Reptiles and Amphibians*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* T_MAMMAL*Enumerated_Domain_Value_Definition:* Terrestrial Mammals*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute:**Attribute_Label:* SPECIES_ID*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Range_Domain:**Range_Domain_Minimum:* 1*Range_Domain_Maximum:* N*Attribute:**Attribute_Label:* SEASON_ID*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Range_Domain:**Range_Domain_Minimum:* 1*Range_Domain_Maximum:* N*Attribute:**Attribute_Label:* JAN*Attribute_Definition:* January*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* X*Enumerated_Domain_Value_Definition:* Present in January*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute:**Attribute_Label:* FEB*Attribute_Definition:* February*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* X

Enumerated_Domain_Value_Definition: Present in February
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

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

Attribute:

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

Attribute:

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

Attribute:

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

Attribute:

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

Attribute:

Attribute_Label: AUG
Attribute_Definition: August
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in August

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SEP

Attribute_Definition: September

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in September

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: OCT

Attribute_Definition: October

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in October

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: NOV

Attribute_Definition: November

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in November

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: DEC

Attribute_Definition: December

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in December

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE_SEA

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

*Detailed_Description:**Entity_Type:*

Entity_Type_Label: BREED

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE_SEA

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

*Attribute_Domain_Values:**Enumerated_Domain:*

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MONTH

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

*Attribute_Domain_Values:**Range_Domain:*

Range_Domain_Minimum: 1

Range_Domain_Maximum: 12

Attribute:

Attribute_Label: BREED1

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

*Attribute_Domain_Values:**Enumerated_Domain:*

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED2

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED3

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED4

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED5

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOURCES

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ORIGINATOR

Attribute_Definition: Author or developer of source material or data set.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: TITLE

Attribute_Definition: Title of source material or data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATA_FORMAT

Attribute_Definition: The format of the source material.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION

Attribute_Definition: Additional citation information.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SCALE

Attribute_Definition: Description of the source scale.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: TIME_PERIOD

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Detailed_Description:

Entity_Type:

Entity_Type_Label: STATUS

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: STATE

Attribute_Definition: Two-letter state abbreviation.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: COUNTRY

Attribute_Definition: Three-letter country abbreviation.

Attribute_Definition_Source: Research Planning, Inc.

*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute_Label:* S*Attribute_Definition:* State threatened or endangered status.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* E*Enumerated_Domain_Value_Definition:* Endangered on state list*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* T*Enumerated_Domain_Value_Definition:* Threatened on state list*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* C*Enumerated_Domain_Value_Definition:* Species of Special Concern*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines*Attribute:**Attribute_Label:* F*Attribute_Definition:* Federal threatened or endangered status.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* E*Enumerated_Domain_Value_Definition:* Endangered on federal list*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* T*Enumerated_Domain_Value_Definition:* Threatened on federal list*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* C*Enumerated_Domain_Value_Definition:* Species of Special Concern*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines*Attribute:**Attribute_Label:* I*Attribute_Definition:* International threatened or endangered status.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* E*Enumerated_Domain_Value_Definition:* Endangered on international list*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines*Attribute_Domain_Values:**Enumerated_Domain:*

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on international list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: S_DATE

Attribute_Definition:

Publication date of source material used to assign state status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: F_DATE

Attribute_Definition:

Publication date of source material used to assign federal status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: I_DATE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE

Attribute_Definition:

Concatenation of ELEMENT and SPECIES_ID. This item links the STATUS data table to the BIORRES and SPECIES data tables.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

*Enumerated_Domain:**Enumerated_Domain_Value:* E#####*Enumerated_Domain_Value_Definition:*

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.*Distribution_Information:**Distributor:**Contact_Information:**Contact_Person_Primary:**Contact_Person:* John Kaperick*Contact_Organization:* NOAA, Office of Response and Restoration*Contact_Address:**Address_Type:* Physical Address*Address:* 7600 Sand Point Way N.E.*City:* Seattle*State_or_Province:* Washington*Postal_Code:* 98115-6349*Contact_Voice_Telephone:* (206) 526-6400*Contact_Facsimile_Telephone:* (206) 526-6329*Resource_Description:* ESI Atlas for Guam and the Northern Mariana Islands*Distribution_Liability:*

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

Custom_Order_Process:

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

*Metadata_Reference_Information:**Metadata_Date:* 200603*Metadata_Review_Date:* 200603*Metadata_Contact:**Contact_Information:**Contact_Person_Primary:**Contact_Person:* Jill Petersen*Contact_Organization:* NOAA, Office of Response and Restoration*Contact_Position:* GIS Manager

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata

Metadata_Standard_Version: FGDC-STD-001-1998

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Guam and the Northern Mariana Islands ESI: HABITATS (Habitat Polygons)

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

Metadata:

- [Identification_Information](#)
- [Data_Quality_Information](#)
- [Spatial_Data_Organization_Information](#)
- [Spatial_Reference_Information](#)
- [Entity_and_Attribute_Information](#)
- [Distribution_Information](#)
- [Metadata_Reference_Information](#)

Identification_Information:

Citation:

Citation_Information:

Originator:

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Publication_Date: 200603

Title:

Guam and the Northern Mariana Islands ESI: HABITATS (Habitat Polygons)

Edition: First

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:

Series_Name: None

Issue_Identification: Guam and the Northern Mariana Islands

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

Other_Citation_Details:

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Description:

Abstract:

This data set contains sensitive biological resource data for benthic marine habitats and

plants in Guam and the Northern Mariana Islands. Vector polygons in this data set represent benthic marine habitats (e.g. coral reefs, seagrass) and sensitive/rare plant distribution. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer. See also the BENTPT (Benthic Points) data layer, part of the larger Guam and Northern Mariana Islands ESI database, for additional benthic habitat information. The HABITATS data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Guam and the Northern Mariana Islands. 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: 2005

Currentness_Reference:

The biological data were compiled during 2004-2005. The currentness dates for the data range from 2002 to 2005 and are documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: 144.56700

East_Bounding_Coordinate: 145.88200

North_Bounding_Coordinate: 15.34400

South_Bounding_Coordinate: 13.18400

Keywords:

Theme:

Theme_Keyword_Thesaurus: None

Theme_Keyword: ESI

Theme_Keyword: Sensitivity maps

Theme_Keyword: Coastal resources

Theme_Keyword: Oil spill planning

Theme_Keyword: Coastal Zone Management

Theme_Keyword: Wildlife

Theme_Keyword: Habitats

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Guam and the Northern Mariana Islands

Access_Constraints: None

Use_Constraints:

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

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

Browse_Graphic:

Browse_Graphic_File_Name: [datafig.jpg](#)

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Guam and Northern Mariana Islands 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; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

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: bentpt.e00, birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, soecon.e00, vessels.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

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

Logical_Consistency_Report:

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

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

Completeness_Report:

These data represent a synthesis of expert knowledge and digital data on benthic marine habitat (e.g. coral reefs, seagrass) and sensitive/rare plant distribution. See also the BENTPT (Benthic Points) data layer, part of the larger Guam and Northern Mariana Islands ESI database, for additional benthic habitat information. The HABITATS data do not necessarily represent all habitat occurrences in Guam and the Northern Mariana Islands. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 85, Seagrass, n/a; 620, Nipa palm, *Nypa fruticans*; 638, Turf algae, n/a; 1036, Macroalgae, n/a; 1052, Coral reef habitat, n/a; 1057, Coralline algae, n/a.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Most of the spatial components of the biological data layers are developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000 and 1:25,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator:

BURDICK, DAVE (NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION [NOAA])

Publication_Date: 2005

Title: HABITATS AND SOC_ECON RESOURCES ON GUAM

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: HABITATS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS
(CNMI) DIVISION OF ENVIRONMENTAL QUALITY (DEQ)
Publication_Date: 2004
Title: SAIPAN LAGOON BENTHIC DATA
Geospatial_Data_Presentation_Form: DIGITAL VECTOR DATA
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2004
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: HABITATS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: DAVIS, GERRY (NOAA, HONOLULU, HI)
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF SENSITIVE
RESOURCES ON GUAM
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: HABITATS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
DEPARTMENT OF COMMERCE (DOC), NOAA, NATIONAL
OCEAN SERVICE (NOS), NATIONAL CENTERS FOR COASTAL
OCEAN SCIENCE (NCCOS), CENTER FOR COASTAL
MONITORING AND ASSESSMENT (CCMA), BIOGEOGRAPHY
PROGRAM (BIOGEO)
Publication_Date: 2004
Title:
BENTHIC HABITATS OF THE SOUTHERN MARIANA

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Geospatial_Data_Presentation_Form: DIGITAL VECTOR DATA*Other_Citation_Details*: NOAA'S OCEAN SERVICE, NCCOS, SILVER SPRING, MD*Source_Scale_Denominator*: 6000*Type_of_Source_Media*: EMAIL*Source_Time_Period_of_Content*:*Time_Period_Information*:*Range_of_Dates/Times*:*Beginning_Date*: 2002*Ending_Date*: 2004*Source_Currentness_Reference*: DATE OF SURVEY*Source_Citation_Abbreviation*: NONE*Source_Contribution*: HABITATS INFORMATION*Source_Information*:*Source_Citation*:*Citation_Information*:*Originator*: GAWEL, MIKE (GUAM ENVIRONMENTAL PROTECTION AGENCY [GEP])*Publication_Date*: 2005*Title*: DISTRIBUTION OF SENSITIVE MARINE RESOURCES ON GUAM*Geospatial_Data_Presentation_Form*: EXPERT KNOWLEDGE*Other_Citation_Details*: UNPUBLISHED*Type_of_Source_Media*: PERSONAL COMMUNICATION*Source_Time_Period_of_Content*:*Time_Period_Information*:*Single_Date/Time*:*Calendar_Date*: 2005*Source_Currentness_Reference*: DATE OF COMMUNICATION*Source_Citation_Abbreviation*: NONE*Source_Contribution*: HABITATS INFORMATION*Source_Information*:*Source_Citation*:*Citation_Information*:*Originator*: HOUK, PETER (CNMI DIVISION OF ENVIRONMENTAL QUALITY [DEQ])*Publication_Date*: 2005*Title*: DISTRIBUTION OF SENSITIVE MARINE RESOURCES ON CNMI*Geospatial_Data_Presentation_Form*: EXPERT KNOWLEDGE*Other_Citation_Details*: UNPUBLISHED*Type_of_Source_Media*: PERSONAL COMMUNICATION*Source_Time_Period_of_Content*:*Time_Period_Information*:*Single_Date/Time*:*Calendar_Date*: 2005*Source_Currentness_Reference*: DATE OF COMMUNICATION*Source_Citation_Abbreviation*: NONE*Source_Contribution*: HABITATS INFORMATION*Source_Information*:*Source_Citation*:*Citation_Information*:

Originator: LEBERER, TRINA (THE NATURE CONSERVANCY [TNC])
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF SENSITIVE RESOURCES ON GUAM
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: HABITATS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: MINTON, DWAYNE (NATIONAL PARK SERVICE [NPS], GUAM)
Publication_Date: 2005
Title: DISTRIBUTION OF RESOURCES ON NATIONAL PARK LANDS
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: HABITATS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: NARCIS, DANZEL (GUAM EPA)
Publication_Date: 2005
Title: BIRDS, HABITATS, REPTILES, AND SOC_ECON FEATURES ON GUAM
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: HABITATS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:

Originator: NOAA (GUAM)
Publication_Date: 2005
Title: GUAM BENTHIC HABITAT DATA DRAFT 06_09_05
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: CD-ROM
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: HABITATS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
 PORTER, VAL (GUAM DIVISION OF AQUATIC AND WILDLIFE
 RESOURCES [DAWR])
Publication_Date: 2005
Title: DISTRIBUTION OF SENSITIVE RESOURCES ON GUAM
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: HABITATS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: TIBBATTI, BRENT (GUAM DAWR)
Publication_Date: 2005
Title: DISTRIBUTION OF MARINE RESOURCES ON GUAM
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: HABITATS INFORMATION
Process_Step:
Process_Description:
 Two main sources of data were used to depict habitat distribution for this data layer:
 (1) personal interviews with resource experts from the National Oceanic and

Atmospheric Administration (NOAA), the Commonwealth of the Northern Mariana Islands (CNMI) Division of Environmental Quality (DEQ), Guam Division of Aquatic and Wildlife Resources (DAWR), Guam Environmental Protection Agency (GEPA), The Nature Conservancy (TNC), and the National Park Service (NPS); and (2) digital coverages including: a 2004 Guam/CNMI vector polygon benthic habitat data set provided by the NOAA National Ocean Service (NOS) Biogeography Program; a draft 2005 Guam vector polygon benthic habitat data set provided by the NOAA Pacific Island Technical Assistant - Guam; and a 2005 Saipan Lagoon benthic habitat data set provided by CNMI DEQ.

The above digital and/or hardcopy sources were compiled by the project biologist to create the HABITATS data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: (1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 and 1:25,000 topographic quadrangles and digitized; (2) hardcopy maps are digitized at their source scale; (3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the HABITATS data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200508

Process_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Person: Jill Petersen

Contact_Address:

Address_Type: Physical address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:

Direct_Spatial_Reference_Method: Vector

Point_and_Vector_Object_Information:

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains

Point_and_Vector_Object_Count: 1544

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Area point

Point_and_Vector_Object_Count: 1544

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Complete chain

Point_and_Vector_Object_Count: 3151

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Link

Point_and_Vector_Object_Count: 199137

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Node, planar graph

Point_and_Vector_Object_Count: 2462

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Geographic:

Latitude_Resolution: 0.0000001

Longitude_Resolution: 0.0000001

Geographic_Coordinate_Units: Decimal degrees

Geodetic_Model:

Horizontal_Datum_Name: World Geodetic Survey 1984

Ellipsoid_Name: WGS_1984

Semi-major_Axis: 6378137.000000

Denominator_of_Flattening_Ratio: 298.257224

Entity_and_Attribute_Information:

Overview_Description:

Entity_and_Attribute_Overview:

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, HABITATS) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Guam and Northern Mariana Islands atlas, the number is 78), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN_SPEC, S, F, NHP, DATE_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G_SOURCE, S_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are

the same as those listed in the Detailed_Description of the BREED data table. The link to the BIOFILE may be made through the BIO_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED_DT is the BREED item.

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

Detailed_Description:

Entity_Type:

Entity_Type_Label: HABITATS.PAT

Entity_Type_Definition:

The HABITATS.PAT table contains attribute information for the vector polygons in this data set representing benthic marine habitats (e.g. coral reefs, seagrass) and sensitive/rare plant distribution. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ID

Attribute_Definition:

An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (78), element number (3), and record number. ID values of 9999 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 780300002

Range_Domain_Maximum: 780301644

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: 78000088

Range_Domain_Maximum: 78000116

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: 78000001

Range_Domain_Maximum: 78000176

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 (78), element number (3), and record number. ID values of 9999 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

*Attribute_Domain_Values:**Range_Domain:*

Range_Domain_Minimum: 780100002

Range_Domain_Maximum: 780700056

*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: 078000001

Range_Domain_Maximum: 078000176

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: CONC

Attribute_Definition:

The field CONC refers to "concentration," abundance, or density values. The field contains either a range of percent cover (XX%-XX% live coral cover) or, if no concentration information was available, "-". Percent cover estimates were provided in the digital data coverages or were estimated by resource experts.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SEASON_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: G_SOURCE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: S_SOURCE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

*Attribute:**Attribute_Label:* EL_SPE_SEA*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* E#####*Enumerated_Domain_Value_Definition:*

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.*Detailed_Description:**Entity_Type:**Entity_Type_Label:* SPECIES*Entity_Type_Definition:*

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

Entity_Type_Definition_Source: Research Planning, Inc.*Attribute:**Attribute_Label:* SPECIES_ID*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Range_Domain:**Range_Domain_Minimum:* 1*Range_Domain_Maximum:* N*Attribute:**Attribute_Label:* NAME*Attribute_Definition:* Species common name for the entire ESI data set.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute_Label:* GEN_SPEC*Attribute_Definition:* Species scientific name for the entire ESI data set.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute_Label:* ELEMENT*Attribute_Definition:* Major categories of biological data.*Attribute_Definition_Source:* Research Planning, Inc.

*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* BIRD*Enumerated_Domain_Value_Definition:* Birds*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* FISH*Enumerated_Domain_Value_Definition:* Fish*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* HABITAT*Enumerated_Domain_Value_Definition:* Habitats and Plants*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* INVERT*Enumerated_Domain_Value_Definition:* Invertebrates*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* M_MAMMAL*Enumerated_Domain_Value_Definition:* Marine Mammals*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* REPTILE*Enumerated_Domain_Value_Definition:* Reptiles and Amphibians*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* T_MAMMAL*Enumerated_Domain_Value_Definition:* Terrestrial Mammals*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute:**Attribute_Label:* SUBELEMENT*Attribute_Definition:* Element subgroup delineating a logical grouping of species.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* algae*Enumerated_Domain_Value_Definition:* Algae*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: coral
 Enumerated_Domain_Value_Definition: Coral
 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: echinoderm
 Enumerated_Domain_Value_Definition: Echinoderm
 Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
 Enumerated_Domain:
 Enumerated_Domain_Value: e_nursery
 Enumerated_Domain_Value_Definition: Estuarine nursery fish
 Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
 Enumerated_Domain:
 Enumerated_Domain_Value: fish
 Enumerated_Domain_Value_Definition: Fish
 Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
 Enumerated_Domain:
 Enumerated_Domain_Value: gastropod
 Enumerated_Domain_Value_Definition: Gastropod
 Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
 Enumerated_Domain:
 Enumerated_Domain_Value: gull_tern
 Enumerated_Domain_Value_Definition: Gull or tern
 Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
 Enumerated_Domain:
 Enumerated_Domain_Value: invert
 Enumerated_Domain_Value_Definition: Invertebrate
 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: passerine
Enumerated_Domain_Value_Definition: Passerine bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pelagic
Enumerated_Domain_Value_Definition: Pelagic bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: plant
Enumerated_Domain_Value_Definition: Plant
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sav
Enumerated_Domain_Value_Definition: Submerged aquatic vegetation
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: shorebird
Enumerated_Domain_Value_Definition: Shorebird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: 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:

Attribute_Label: NHP

Attribute_Definition: Natural Heritage Program global ranking.

Attribute_Definition_Source: Network of Natural Heritage Program

Attribute_Domain_Values:

Codeset_Domain:

Codeset_Name: NHP Global Conservation Status Rank

Codeset_Source: Natural Heritage Program

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition: Date of NHP listing.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 0

Enumerated_Domain_Value_Definition: Date unspecified

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SEASONAL

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

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

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Range_Domain:**Range_Domain_Minimum:* 1*Range_Domain_Maximum:* N*Attribute:**Attribute_Label:* SEASON_ID*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: JAN

Attribute_Definition: January

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in January

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: FEB

Attribute_Definition: February

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in February

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MAR

Attribute_Definition: March

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in March

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: APR

Attribute_Definition: April

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in April

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MAY

Attribute_Definition: May

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in May

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: JUN

Attribute_Definition: June

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in June

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: JUL

Attribute_Definition: July

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in July

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: AUG

Attribute_Definition: August

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in August

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SEP

Attribute_Definition: September

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in September

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: OCT

Attribute_Definition: October

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in October

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: NOV

Attribute_Definition: November

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in November

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: DEC

Attribute_Definition: December

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in December

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE_SEA

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: BREED

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE_SEA

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MONTH

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: 12

Attribute:

Attribute_Label: BREED1

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED2

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED3

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED4

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED5

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOURCES

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ORIGINATOR

Attribute_Definition: Author or developer of source material or data set.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: TITLE

Attribute_Definition: Title of source material or data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATA_FORMAT

Attribute_Definition: The format of the source material.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION

Attribute_Definition: Additional citation information.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SCALE

Attribute_Definition: Description of the source scale.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: TIME_PERIOD

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Detailed_Description:

Entity_Type:

Entity_Type_Label: STATUS

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

*Attribute:**Attribute_Label:* SPECIES_ID*Attribute_Definition:*

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

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Range_Domain:**Range_Domain_Minimum:* 1*Range_Domain_Maximum:* N*Attribute:**Attribute_Label:* STATE*Attribute_Definition:* Two-letter state abbreviation.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute_Label:* COUNTRY*Attribute_Definition:* Three-letter country abbreviation.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Unrepresentable_Domain:* Acceptable values change from atlas to atlas.*Attribute:**Attribute_Label:* S*Attribute_Definition:* State threatened or endangered status.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* E*Enumerated_Domain_Value_Definition:* Endangered on state list*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* T*Enumerated_Domain_Value_Definition:* Threatened on state list*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* C*Enumerated_Domain_Value_Definition:* Species of Special Concern*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines*Attribute:**Attribute_Label:* F*Attribute_Definition:* Federal threatened or endangered status.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* E*Enumerated_Domain_Value_Definition:* Endangered on federal list*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines*Attribute_Domain_Values:*

*Enumerated_Domain:**Enumerated_Domain_Value:* T*Enumerated_Domain_Value_Definition:* Threatened on federal list*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* C*Enumerated_Domain_Value_Definition:* Species of Special Concern*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines*Attribute:**Attribute_Label:* I*Attribute_Definition:* International threatened or endangered status.*Attribute_Definition_Source:* Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* E*Enumerated_Domain_Value_Definition:* Endangered on international list*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* T*Enumerated_Domain_Value_Definition:* Threatened on international list*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* C*Enumerated_Domain_Value_Definition:* Species of Special Concern*Enumerated_Domain_Value_Definition_Source:* NOAA ESI Guidelines*Attribute:**Attribute_Label:* S_DATE*Attribute_Definition:*

Publication date of source material used to assign state status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* YYYYMM*Enumerated_Domain_Value_Definition:* YYYY for year and optionally MM for month*Enumerated_Domain_Value_Definition_Source:* Research Planning, Inc.*Attribute:**Attribute_Label:* F_DATE*Attribute_Definition:*

Publication date of source material used to assign federal status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.*Attribute_Domain_Values:**Enumerated_Domain:**Enumerated_Domain_Value:* YYYYMM*Enumerated_Domain_Value_Definition:* YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: I_DATE

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE

Attribute_Definition:

Concatenation of ELEMENT and SPECIES_ID. This item links the STATUS data table to the BIORRES and SPECIES data tables.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Distribution_Information:

Distributor:

Contact_Information:

Contact_Person_Primary:

Contact_Person: John Kaperick

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400

Contact_Facsimile_Telephone: (206) 526-6329

Resource_Description: ESI Atlas for Guam and the Northern Mariana Islands

Distribution_Liability:

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

Custom_Order_Process:

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

Metadata_Reference_Information:

Metadata_Date: 200603

Metadata_Review_Date: 200603

Metadata_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Person: Jill Petersen

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Position: GIS Manager

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata

Metadata_Standard_Version: FGDC-STD-001-1998

Generated by [mp](#) version 2.8.21 on Sun Mar 26 10:34:57 2006

Guam and the Northern Mariana Islands ESI: BENTPT (Benthic Points)

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

Metadata:

- [Identification_Information](#)
- [Data_Quality_Information](#)
- [Spatial_Data_Organization_Information](#)
- [Spatial_Reference_Information](#)
- [Entity_and_Attribute_Information](#)
- [Distribution_Information](#)
- [Metadata_Reference_Information](#)

Identification_Information:

Citation:

Citation_Information:

Originator:

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Publication_Date: 200603

Title:

Guam and the Northern Mariana Islands ESI: BENTPT (Benthic Points)

Edition: First

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:

Series_Name: None

Issue_Identification: Guam and the Northern Mariana Islands

Publication_Information:

Publication_Place: Seattle, Washington

Publisher:

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

Other_Citation_Details:

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

Description:

Abstract:

This data set contains sensitive biological resource data for Coral Areas of Special

Significance (CASS) and Seagrass Areas of Special Significance (SASS) in Guam and the Northern Mariana Islands. Vector points in this data set represent CASS and SASS areas that should be highly prioritized for protection following spills due to various reasons (e.g. species diversity, abundance of soft coral species, high percent cover, sensitive habitat for fish/invertebrates, having structure-building potential that may lead to high diversity/high cover in the future, etc.). This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Guam and the Northern Mariana Islands. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources.

Purpose:

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

Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Currentness_Reference:

The biological data were compiled during 2004-2005. The currentness date for the data is 2005 and is documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: 144.56700

East_Bounding_Coordinate: 145.88200

North_Bounding_Coordinate: 15.34400

South_Bounding_Coordinate: 13.18400

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 habitats

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Guam and the Northern Mariana Islands

Access_Constraints: None

Use_Constraints:

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

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

Browse_Graphic:

Browse_Graphic_File_Name: [datafig.jpg](#)

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Guam and Northern Mariana Islands 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; Coral Reef Conservation Program, Silver Spring, Maryland; and Pacific Services Center, Honolulu, Hawaii.

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: bentpt.e00, birds.e00, esi.e00, fish.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, reptiles.e00, socecon.e00, vessels.e00, wetlands.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

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

Logical_Consistency_Report:

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

Completeness_Report:

These data represent a synthesis of expert knowledge on benthic areas of special significance. These data do not necessarily represent all benthic areas of special significance in Guam and the Northern Mariana Islands.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Most of the spatial components of the biological data layers are developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000 and 1:25,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator:

DAVIS, GERRY (NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION [NOAA], HONOLULU, HI)

Publication_Date: 2005

Title: DISTRIBUTION AND SEASONALITY OF SENSITIVE RESOURCES ON GUAM

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: BENTHIC HABITATS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: HOUK, PETER (CNMI DIVISION OF ENVIRONMENTAL QUALITY [DEQ])

Publication_Date: 2005

Title: DISTRIBUTION OF SENSITIVE MARINE RESOURCES ON CNMI

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BENTHIC HABITATS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: LEBERER, TRINA (THE NATURE CONSERVANCY [TNC])
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF SENSITIVE RESOURCES ON GUAM
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BENTHIC HABITATS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: NARCIS, DANZEL (GUAM ENVIRONMENTAL PROTECTION AGENCY [GEPA])
Publication_Date: 2005
Title: BIRDS, HABITATS, REPTILES, AND SOC_ECON FEATURES ON GUAM
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BENTHIC HABITATS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
 PORTER, VAL (GUAM DIVISION OF AQUATIC AND WILDLIFE RESOURCES [DAWR])
Publication_Date: 2005
Title: DISTRIBUTION OF SENSITIVE RESOURCES ON GUAM
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:

*Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* BENTHIC HABITATS INFORMATION*Source_Information:**Source_Citation:**Citation_Information:**Originator:* DE WILKINS, SUSANNE (UNIVERSITY OF GUAM)*Publication_Date:* 2005*Title:* DISTRIBUTION ON MARINE AND TERRESTRIAL HABITATS ON GUAM*Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE*Other_Citation_Details:* UNPUBLISHED*Type_of_Source_Media:* PERSONAL COMMUNICATION*Source_Time_Period_of_Content:**Time_Period_Information:**Single_Date/Time:**Calendar_Date:* 2005*Source_Currentness_Reference:* DATE OF COMMUNICATION*Source_Citation_Abbreviation:* NONE*Source_Contribution:* BENTHIC HABITATS INFORMATION*Process_Step:**Process_Description:*

"Coral Areas of Special Significance" and "Seagrass Areas of Special Significance" were designated on hardcopy maps by resource experts as those areas that should be highly prioritized for protection following spills due to various reasons (e.g. species diversity, abundance of soft coral species, high percent cover, sensitive habitat for fish/invertebrates, having structure-building potential that may lead to high diversity/high cover in the future, etc.).

See the Lineage section for additional information on the type of source data for this data layer. To create the BENTPT data layer, the project biologist uses the following approach. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the BENTPT data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200508*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: 32

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Geographic:

Latitude_Resolution: 0.0000001

Longitude_Resolution: 0.0000001

Geographic_Coordinate_Units: Decimal degrees

Geodetic_Model:

Horizontal_Datum_Name: World Geodetic Survey 1984

Ellipsoid_Name: WGS_1984

Semi-major_Axis: 6378137.000000

Denominator_of_Flattening_Ratio: 298.257224

Entity_and_Attribute_Information:

Detailed_Description:

Entity_Type:

Entity_Type_Label: BENTPT.PAT

Entity_Type_Definition:

The BENTPT.PAT table contains attribute information for the vector points in this data set representing coral and seagrass areas of special significance.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: TYPE

Attribute_Definition: The type of benthic area of special significance.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: CASS

Enumerated_Domain_Value_Definition: Coral Area of Special Significance

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: SASS

Enumerated_Domain_Value_Definition: Seagrass Area of Special Significance

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 Guam and the Northern Mariana Islands*Distribution_Liability:*

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

Custom_Order_Process:

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

*Metadata_Reference_Information:**Metadata_Date:* 200603*Metadata_Review_Date:* 200603*Metadata_Contact:**Contact_Information:**Contact_Person_Primary:**Contact_Person:* Jill Petersen*Contact_Organization:* NOAA, Office of Response and Restoration*Contact_Position:* GIS Manager*Contact_Address:**Address_Type:* Physical Address*Address:* 7600 Sand Point Way N.E.*City:* Seattle*State_or_Province:* Washington*Postal_Code:* 98115-6349*Contact_Voice_Telephone:* (206) 526-6944*Contact_Facsimile_Telephone:* (206) 526-6329*Contact_Electronic_Mail_Address:* Jill.Petersen@noaa.gov

Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata

Metadata_Standard_Version: FGDC-STD-001-1998

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Guam and the Northern Mariana Islands ESI Entity Relationship Diagram

Relationships between spatial data layers and attribute data tables

