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, 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 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

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Spatial_Data_Organization_Information:
    Direct_Spatial_Reference_Method: Vector
    Point_and_Vector_Object_Information:
        SDTS_Terms_Description:
            SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains
            Point_and_Vector_Object_Count: 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

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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, 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 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 habitatinformation.

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

Generated by mp version 2.8.21 on Sun Mar 26 11:06:57 2006

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

Generated by mp version 2.8.21 on Sun Mar 26 11:02:38 2006

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, 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 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

Generated by mp version 2.8.21 on Sun Mar 26 12:45:20 2006

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 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: 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, 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 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 Abondoned 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

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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, 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 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 luscinia; 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 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 =

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

    Attribute_Definition_Source: Research Planning, Inc.

    Attribute_Domain_Values:

     Enumerated_Domain:

      Enumerated_Domain_Value: Y

      Enumerated_Domain_Value_Definition: Life-history stage or activity present

      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

    Attribute_Domain_Values:

     Enumerated_Domain:

      Enumerated_Domain_Value: N

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

      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

    Attribute_Domain_Values:

     Enumerated_Domain:

      Enumerated_Domain_Value: -

      Enumerated_Domain_Value_Definition:

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

      Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

  Attribute:

   Attribute_Label: BREED4

   Attribute_Definition:

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

   Attribute_Definition_Source: Research Planning, Inc.

   Attribute_Domain_Values:

    Enumerated_Domain:

     Enumerated_Domain_Value: Y

     Enumerated_Domain_Value_Definition: Life-history stage or activity present

     Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

   Attribute_Domain_Values:

    Enumerated_Domain:

     Enumerated_Domain_Value: N

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

     Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

   Attribute_Domain_Values:

    Enumerated_Domain:

     Enumerated_Domain_Value: -

     Enumerated_Domain_Value_Definition:

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

     Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

 Attribute:

  Attribute_Label: BREED5

  Attribute_Definition:

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

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

 Enumerated_Domain:

  Enumerated_Domain_Value: Y

  Enumerated_Domain_Value_Definition: Life-history stage or activity present

  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

 Enumerated_Domain:

  Enumerated_Domain_Value: N

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

  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

 Enumerated_Domain:

  Enumerated_Domain_Value: -

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

  Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

 Entity_Type:

  Entity_Type_Label: SOURCES

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

  Entity_Type_Definition_Source: Research Planning, Inc.

 Attribute:

  Attribute_Label: SOURCE_ID

  Attribute_Definition:
Source identifier that links records in the SOURCES data table to the items
G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and
S_SOURCE in the BIORES table; and SOURCE_ID in the ESI, 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, 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 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, Hemicaranx sp.; 631, Bigeye scad, Selar crumenopthalmus; 702, Grunt, Haemulon spp.; 704, Barracudas, Sphyraena 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, Mullets, 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
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    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:

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> *Source_Currentness_Reference:* DATE OF COMMUNICATION
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> *Source_Citation_Abbreviation:* NONE
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> *Source_Contribution:* FISH INFORMATION

Source_Information:

> *Source_Citation:*
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> > > *Originator:* PORTER, VAL (GUAM DAWR)
> > >
> > > *Publication_Date:* 2005
> > >
> > > *Title:* DISTRIBUTION OF SENSITIVE RESOURCES ON GUAM
> > >
> > > *Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE
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Source_Information:

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> > > *Originator:* RICHMOND, BOB (UNIVERSITY OF HAWAII [UH], HONOLULU)
> > >
> > > *Publication_Date:* 2005
> > >
> > > *Title:* DISTRIBUTION OF SENSITIVE MARINE RESOURCES ON GUAM
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> > > *Geospatial_Data_Presentation_Form:* EXPERT KNOWLEDGE
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> > > *Other_Citation_Details:* UNPUBLISHED
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> *Source_Contribution:* FISH INFORMATION

Source_Information:

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> > *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
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> *Type_of_Source_Media:* PERSONAL COMMUNICATION
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> *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 = internesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

    Enumerated_Domain:

        Enumerated_Domain_Value: Y

        Enumerated_Domain_Value_Definition: Life-history stage or activity present

        Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

    Enumerated_Domain:

        Enumerated_Domain_Value: N

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

        Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

    Enumerated_Domain:

        Enumerated_Domain_Value: -

        Enumerated_Domain_Value_Definition:

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

        Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED4

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

    Enumerated_Domain:

        Enumerated_Domain_Value: Y

        Enumerated_Domain_Value_Definition: Life-history stage or activity present

        Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

    Enumerated_Domain:

        Enumerated_Domain_Value: N

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

        Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

    Enumerated_Domain:

        Enumerated_Domain_Value: -

        Enumerated_Domain_Value_Definition:

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

        Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED5

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

    Enumerated_Domain:

        Enumerated_Domain_Value: Y

        Enumerated_Domain_Value_Definition: Life-history stage or activity present

        Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

    Enumerated_Domain:

        Enumerated_Domain_Value: N

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

        Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

    Enumerated_Domain:

        Enumerated_Domain_Value: -

        Enumerated_Domain_Value_Definition:

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

        Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

    Entity_Type:

        Entity_Type_Label: SOURCES

        Entity_Type_Definition:

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

        Entity_Type_Definition_Source: Research Planning, Inc.

    Attribute:

        Attribute_Label: SOURCE_ID

        Attribute_Definition:

            Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID in the ESI, 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, 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 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 = internesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.
    Attribute_Definition_Source: Research Planning, Inc.
    Attribute_Domain_Values:
        Enumerated_Domain:
            Enumerated_Domain_Value: Y
            Enumerated_Domain_Value_Definition: Life-history stage or activity present
            Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
    Attribute_Domain_Values:
        Enumerated_Domain:
            Enumerated_Domain_Value: N
            Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
            Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
    Attribute_Domain_Values:
        Enumerated_Domain:
            Enumerated_Domain_Value: -
            Enumerated_Domain_Value_Definition:
                Breed category not used or not appropriate for record(s) in question
            Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
    Attribute_Label: BREED4
    Attribute_Definition:

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

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

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

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

Detailed_Description:
Entity_Type:
    Entity_Type_Label: SOURCES

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:
> Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID in the ESI, 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 10:27:49 2006

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, 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 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 [GEPA])
            Publication_Date: 2005
            Title: BIRDS, HABITATS, REPTILES, AND
            SOCIOECONOMICFEATURES 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 = internesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.

    Attribute_Definition_Source: Research Planning, Inc.

    Attribute_Domain_Values:

        Enumerated_Domain:

            Enumerated_Domain_Value: Y

            Enumerated_Domain_Value_Definition: Life-history stage or activity present

            Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

    Attribute_Domain_Values:

        Enumerated_Domain:

            Enumerated_Domain_Value: N

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

            Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

    Attribute_Domain_Values:

        Enumerated_Domain:

            Enumerated_Domain_Value: -

            Enumerated_Domain_Value_Definition:

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

            Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

    Attribute_Label: BREED4

    Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

    Enumerated_Domain:

        Enumerated_Domain_Value: Y

        Enumerated_Domain_Value_Definition: Life-history stage or activity present

        Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

    Enumerated_Domain:

        Enumerated_Domain_Value: N

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

        Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

    Enumerated_Domain:

        Enumerated_Domain_Value: -

        Enumerated_Domain_Value_Definition:

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

        Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

    Attribute_Label: BREED5

    Attribute_Definition:

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

    Attribute_Definition_Source: Research Planning, Inc.

    Attribute_Domain_Values:

        Enumerated_Domain:

            Enumerated_Domain_Value: Y

            Enumerated_Domain_Value_Definition: Life-history stage or activity present

            Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

    Attribute_Domain_Values:

        Enumerated_Domain:

            Enumerated_Domain_Value: N

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

            Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

    Attribute_Domain_Values:

        Enumerated_Domain:

            Enumerated_Domain_Value: -

            Enumerated_Domain_Value_Definition:

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

            Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

    Entity_Type:

        Entity_Type_Label: SOURCES

        Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:

Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID in the ESI, 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 = internesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.
 Attribute_Definition_Source: Research Planning, Inc.
 Attribute_Domain_Values:
  Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED4

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED5

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOURCES

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:

Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID in the ESI, 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 10:32:28 2006

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
            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 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, 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 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

ARCHIPELAGO PREP BY VISUAL INTERPRET
  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 [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: 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: 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: 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) Divison 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 = internesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED4

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED5

Attribute_Definition:

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

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

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

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOURCES

Entity_Type_Definition:

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

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:

Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID in the ESI, 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 10:34:57 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

Geographic Themes **Lookup Tables** **Data Tables**

ESI (LINES)
ESI (10, 10, C)
LINE (1, 1, C)
SOURCE_ID (6, 6, I)
ENVIR (1, 1, C)
ESI (POLYS)
ESI (10, 10, C)
WATER_CODE (1, 1, C)
ENVIR (1, 1, C)
WETLANDS (POLYS)
ESI (10, 10, C)
SOURCE_ID (6, 6, I)
ENVIR (1, 1, C)
HYDRO (LINES)
LINE (1, 1, C)
SOURCE_ID (6, 6, I)
HYDRO (POLYS)
WATER_CODE (1, 1, C)
INDEX (POLYS)
TILE-NAME (32, 32, C)
TOPO-NAME (255, 255, C)
SCALE (7, 7, I)
MAPANGLE (4, 8, F, 3)
PAGESIZE (11, 11, C)

MGT (POLYS)
TYPE (2, 2, C)
ID (10, 10, I)
HUNUM (9, 9, I)
SOCECON (POINTS)
TYPE (2, 2, C)
ID (10,10,I)
HUNUM (9, 9, I)
VESSELS (POINTS)
INCIDENTID (4, 4, I)
GROUPID (4, 4, I)
ISLAND (7, 7, C)
LOCATION (34, 34, C)
NOAASURVEY (3, 3, C)
VESSELNAME (31, 31, C)
VESSELTYPE (16, 16, C)

BENTPT (POINTS)
TYPE (6, 6, C)
BIRDS (POLYS)
ID (10, 10, I)
RARNUM (9, 9, I)
FISH (POLYS)
ID (10, 10, I)
RARNUM (9, 9, I)
HABITATS (POLYS)
ID (10, 10, I)
RARNUM (9, 9, I)
INVERT (POLYS)
ID (10, 10, I)
RARNUM (9, 9, I)
M_MAMMAL (POLYS)
ID (10, 10, I)
RARNUM (9, 9, I)
REPTILES (POLYS)
ID (10, 10, I)
RARNUM (9, 9, I)

SOC_LUT
HUNUM (9, 9, I)
ID (10, 10, I)

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

Links to Incident ID in the NOAA Abandoned Vessel Inventory database

BIO_LUT
RARNUM (9, 9, I)
ID (10, 10, I)

(The BIO_LUT table can be bypassed by linking the biology tables to BIORES using RARNUM.)

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

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

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

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

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

STATUS
ELEMENT (10, 10, C)
SPECIES_ID (5, 5, I)
STATE (2, 2, C)
COUNTRY (3, 3, C)
S (1, 1, C)
F (1, 1, C)
I (1, 1, C)
S_DATE (10, 10, I)
F_DATE (10, 10, I)
I_DATE (10, 10, I)
EL_SPE (6, 6, C)

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