GEORGIA
ENVIRONMENTAL SENSITIVITY INDEX METADATA

July 2000

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FILE DESCRIBES: Digital data for 1997 Georgia Environmental Sensitivity Index.

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COMMENTS: Information was developed using the U.S. Federal Geographic Data Committee's Content Standards for Digital Geospatial Metadata, June 8, 1994. The numbering scheme matches the Metadata Standard in order to facilitate referencing definitions of the elements. The items in **bold** are required elements and the others are optional elements. The Spatial Data Transfer Standard (SDTS), ver. 03/92, was referenced to properly identify the geographic entities.

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1.0. IDENTIFICATION INFORMATION

1.1. CITATION

1.1.1. ORIGINATOR:

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington and the Coastal Services Center, Charleston, South Carolina

1.1.2. PUBLICATION DATE:

200007

1.1.4. TITLE:

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Georgia

1.1.5. EDITION:

First

1.1.6. GEOSPATIAL DATA PRESENTATION FORM:

Atlas

1.1.7. SERIES INFORMATION

1.1.7.1. SERIES NAME:

None

1.1.7.2. ISSUE IDENTIFICATION:

Georgia

1.1.8. PUBLICATION INFORMATION

1.1.8.1. PUBLICATION PLACE:

Seattle, Washington

1.1.8.2. PUBLISHER:

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

1.1.9. OTHER CITATION DETAILS:

Prepared by Research Planning, Inc., Columbia, South Carolina for the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington and the Coastal Services Center, Charleston, South Carolina

1.1.11. LARGER WORK CITATION:

None

1.2. DESCRIPTION

1.2.1. ABSTRACT:

This data set comprises the Environmental Sensitivity Index (ESI) maps for the shoreline of Georgia. ESI data characterize estuarine 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

1.2.2. 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

1.3. TIME PERIOD OF CONTENT

1.3.1. TIME PERIOD INFORMATION

1.3.1.3. RANGE OF DATES/TIMES:

The intertidal habitats of Georgia were originally mapped during overflights conducted in the fall of 1984. They were updated onto 1:24,000 U.S. Geological Survey (USGS) topographic maps by an experienced coastal geologist in January 1997 using recent vertical aerial photographs from 1993-1996 at various scales. Portions of the coast were flown in February 1997 to verify the photo-interpretation. The biological and human-use resources data were compiled by regional biologists in 1996 and 1997.

1.4. STATUS

1.4.1. PROGRESS:

Complete

1.4.2. MAINTENANCE AND UPDATE FREQUENCY:

None planned

1.5. SPATIAL DOMAIN

1.5.1. BOUNDING COORDINATES

1.5.1.1. WEST BOUNDING COORDINATE:
-81.750

1.5.1.2. EAST BOUNDING COORDINATE:
-79.102

1.5.1.3. NORTH BOUNDING COORDINATE:
32.250

1.5.1.4. SOUTH BOUNDING COORDINATE:
30.625

1.6 KEYWORDS

1.6.1. THEME

1.6.1.1. THEME KEYWORD THESAURUS:
None

1.6.1.2. THEME KEYWORD:
Sensitivity maps; ESI; coastal resources; oil spill planning; and coastal zone management

1.6.2. PLACE

1.6.2.1. THESAURUS:
None

1.6.2.2. PLACE KEYWORD:
Georgia

1.7. ACCESS CONSTRAINTS:
None

1.8. USE CONSTRAINTS:
DO NOT USE ESI MAPS FOR NAVIGATIONAL PURPOSES.
Besides the above warning, there are no use constraints on these data. Acknowledgment of the publishers and contributing sources listed in 1.11. would be appreciated in products derived from these data

1.11. 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 in Seattle, Washington and NOAA's Coastal Services Center in Charleston, South Carolina

1.13. NATIVE DATA SET ENVIRONMENT:

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO® (version 7.0.3) and ORACLE® RDBMS (version 6.0.36.1.1). The hardware configuration is Hewlett Packard workstations (models 715/50 and 712/80i with 4 X-terminals) with UNIX operating system (HP-UX Release A.09.01). The following files are included in the data set:

biofile.e00	bio_lut.e00	biores.e00
birds.e00	breed.e00	breed_dt.e00
esi.e00	fish.e00	habitats.e00
hydro.e00	index.e00	invert.e00
mgt.e00	m_mammal.e00	nests.e00
offshore.e00	reptiles.e00	seasonal.e00
soc_dat.e00	soc_lut.e00	socecon.e00
sources.e00	species.e00	status.e00

The entire data set is approximately 106 megabytes.

2.0. DATA QUALITY INFORMATION

2.1. ATTRIBUTE ACCURACY

2.1.1. ATTRIBUTE ACCURACY REPORT:

The attribute accuracy is estimated to be "good" given the years of ESI experience, the data input methodology, the quality control review sessions, and the digital logical consistency checks.

2.2. LOGICAL CONSISTENCY REPORT:

The digitization of shoreline types, biological resources, and human-use resources is a complex and highly quality-controlled process. Existing digital shoreline and wetlands data are integrated into a study-wide basemap. In order to facilitate digitizing, the entire study area is split into individual quadrangles using the INDEX coverage. The first layer of information digitized is the ESI shoreline classification. The ESI habitat ranking is compiled onto 1:24,000 USGS topographic quadrangles by a geomorphologist. The hardcopy maps are then digitized and checked, using both on-screen and hardcopy reviews. The edited maps are updated, checked once again for completeness and topological and logical consistency. Any errors in the shoreline classification are updated prior to digitization of the biological and human-use layers. All layers use the shoreline as the geographic reference so that there are no slivers in the geographic coordinates.

The hardcopy biological information is compiled onto 1:24,000 USGS topographic quadrangles by a biological expert using data from regional specialists in the form of maps, tables, charts, written descriptions of wildlife distributions, and personal interviews. Concurrently, digital data sources are imported, projected, checked for quality control, and integrated into the data structure. The hardcopy data are digitized, checked using both digital and on-screen procedures, integrated with existing data, plotted, and sent out for review by the regional specialists. The edited maps are updated, checked once again, and the final product plotted (at approximately 1:50,000 scale). A team of specialists reviews the entire series of maps, checks all data, and makes final edits. The data are then merged to form the study-wide layers. The data merging includes a final quality control check where labels, chains, and polygons are checked for attribute accuracy.

To finalize the data checking process, each coverage is checked using a standardized form by two GIS personnel (a technician and the GIS manager), and each attribute database is checked using several programs that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and ORACLE® to ARC/INFO® consistencies. A final review is made by the GIS manager, where the data are written to tape and the metadata are written.

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

ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and a MARPLOT ESI product are also included on the CDs for ease of use of the ESI data. The database files are also 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. Section 3.0, outlining Spatial Data Organization, refers to the source files in ARC export format only.

2.3. COMPLETENESS REPORT:

Shoreline Habitat Mapping:

The intertidal habitats of Georgia were originally mapped during overflights conducted in the fall of 1984. They were updated onto 1:24,000 USGS topographic maps by an experienced coastal geologist in January 1997 using recent vertical aerial photographs from 1993-96 at various scales. Where appropriate, multiple habitats were delineated for each shoreline segment. Portions of the coast were flown in February 1997 to verify the photo-interpretation. The aerial surveys were carried out using a fixed-wing aircraft, flying at elevations of 500-1000 feet and slow air speed. Prediction of the behavior and persistence of oil on intertidal habitats is based on an understanding of the dynamics of the coastal environments, not just the substrate type and grain size. The vulnerability of a particular habitat is an integration of the following factors:

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

All of these factors are used to determine the relative sensitivity of intertidal habitats. Key to the sensitivity ranking is an understanding of the relationships between: physical processes, substrate, shoreline type, product type, fate and effect, and sediment transport patterns. The intensity of energy expended upon a shoreline by wave action, boat wake, tidal action, 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.

These concepts have been used in the development of the ESI, which ranks shoreline environments as to their relative sensitivity to oil spills, potential biological injury, and ease of cleanup. 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.

Sensitive Biological Resources:

Regional biologists contributed the biological data. These data denote the key biological resources that are most likely at risk in the event of an oil spill. Six major categories, or ELEMENTS, of biological resources were considered during data compilation: birds, fish, habitats / rare plants, invertebrates, marine mammals, and reptiles.

The ELEMENTS generally correspond to the coverage or geographic data layer names. There are also six attribute, or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, that are used to store the complex biological data (Fig. 1). Each biological coverage 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 Georgia this is 36), an element 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.]

The items in BIORES include: RARNUM, SPECIES_ID, CONC, SEASON_ID, G_SOURCE, S_SOURCE, ELEMENT, EL_SPE, and EL_SPE_SEA. SPECIES_ID is the numeric identifier of each species and is unique within each ELEMENT. CONC is the concentration of the species and can be descriptive (LOW, MEDIUM, HIGH, etc.) or an actual count of the number of individuals or nests associated with a polygon or point. SEASON_ID contains a numeric identifier for the unique monthly presence and life history characteristics of each species at a given location. There can be one seasonality record per species, or the same species can have different monthly presence or breeding activities at different sites. When this occurs, a new record with a different SEASON_ID is referenced.

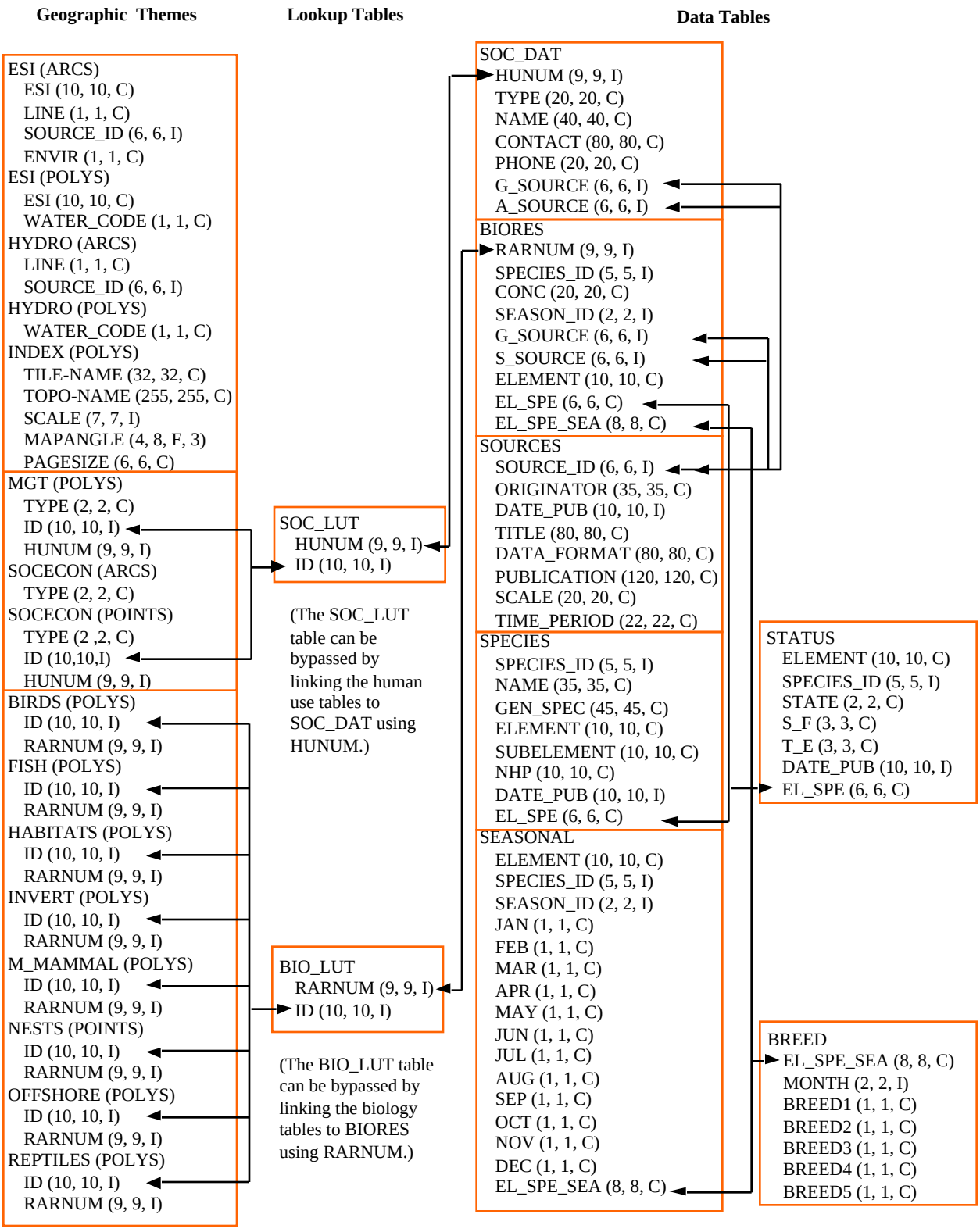

FIGURE 1. Relationship between biology data layers and attribute files.

G_SOURCE contains the SOURCE_ID for geographic information and S_SOURCE contains the SOURCE_ID for seasonality information. Both items link to the SOURCES data table. EL_SPE is a concatenation of ELEMENT and SPECIES_ID and links to other data tables (primarily the SPECIES table) and EL_SPE-SEA is a concatenation of ELEMENT, SPECIES_ID, and SEASON_ID and links to the SEASONAL and BREED data tables.

The SPECIES data table contains the SPECIES_ID (described above), common name (NAME), scientific name (GEN_SPEC), date the list of Natural Heritage Program (NHP) ranks was published (DATE_PUB), biological element (ELEMENT), biological subelement (SUBELEMENT), and the NHP global conservation status rank. The item SUBELEMENT refers to the grouping of the species:

ELEMENT	SUBELEMENT
BIRD	diving
	gull_tern
	raptor
	shorebird
	wading
	waterfowl
FISH	anadromous
	special
MARINE MAMMAL	manatee
	whale
HABITAT	hardbottom
	rare plant
INVERTEBRATE	bivalve
	crab
	gastropod
	shrimp
REPTILE	Turtle

The STATUS data table contains records for each species that is threatened or endangered on state or federal lists. The items include: ELEMENT, SPECIES_ID, STATE (two-letter state abbreviations), S_F (state or federal status), T_E (threatened or endangered status), DATE_PUB, and EL_SPE.

The SEASONAL data table stores the monthly presence of each species where each species is defined as three-character monthly abbreviations. The BIORES table is linked to the SEASONAL table using either the combination of

SPECIES_ID, ELEMENT, and SEASON_ID items, or the item EL_SPE_SEA, which contains the concatenation of these items.

The BREED data table contains the life stage or life history data for each unique combination of ELEMENT, SPECIES_ID, and SEASON_ID (or EL_SPE_SEA), and up to 12 records (corresponding to each month of the year) can have different attributes and therefore separate records. The categories for each element of the items BREED1 through BREED5 are:

ELEMENT	BREED 1	BREED 2	BREED 3	BREED 4	BREED 5
BIRD	nesting	laying	hatching	fledging	
FISH	spawning	outmigration	larvae	juveniles	adults
INVERT	spawning	larvae	mating	juveniles	adults
M_MAMMAL	mating	calving	pupping	molting	
REPTILE	nesting	hatching	internesting		

NOTE: There are no BREED variables for HABITATS.

The SOURCES data table contains metadata for each biological and human-use source listed in the ESI atlas. The items in SOURCES are: SOURCE_ID, ORIGINATOR (author), DATE_PUB (date of publication), TITLE (title of the data set), DATA_FORMAT (digital type, hardcopy maps, etc.), PUBLICATION (additional citation), SCALE (source scale denominator), and TIME_PERIOD (beginning and ending dates of original data collection). The SOURCES data table is linked to all biological and human-use data at the feature-level.

Due to the complexity of the relational database model, the biological data items are post-processed into a flat file format. This file is entitled BIOFILE and it may be used in place of the relational files to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN_SPEC, S_F, T_E, NHP, DATE_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G_SOURCE, S_SOURCE and BREED. All of these items are the same as their counterparts in the individual files described above, except the BREED1–BREED5 items. BREED is a newly generated variable used to link to the BREED_DT file, a modified, more compact version of the aforementioned BREED file. Breed1–Breed5 give a text summary of when each life stage occurs within that polygon. The life stages referred to are the same as those

listed in the previous table. The link to the BIOFILE may be made through BIO_LUT using ID to link to RARNUM, or it may be linked directly to the RARNUM in each of the biology cover's attribute files. As mentioned, BREED_DT is an auxiliary support file 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 file is SOURCES. This is the same as the SOURCES 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 files.

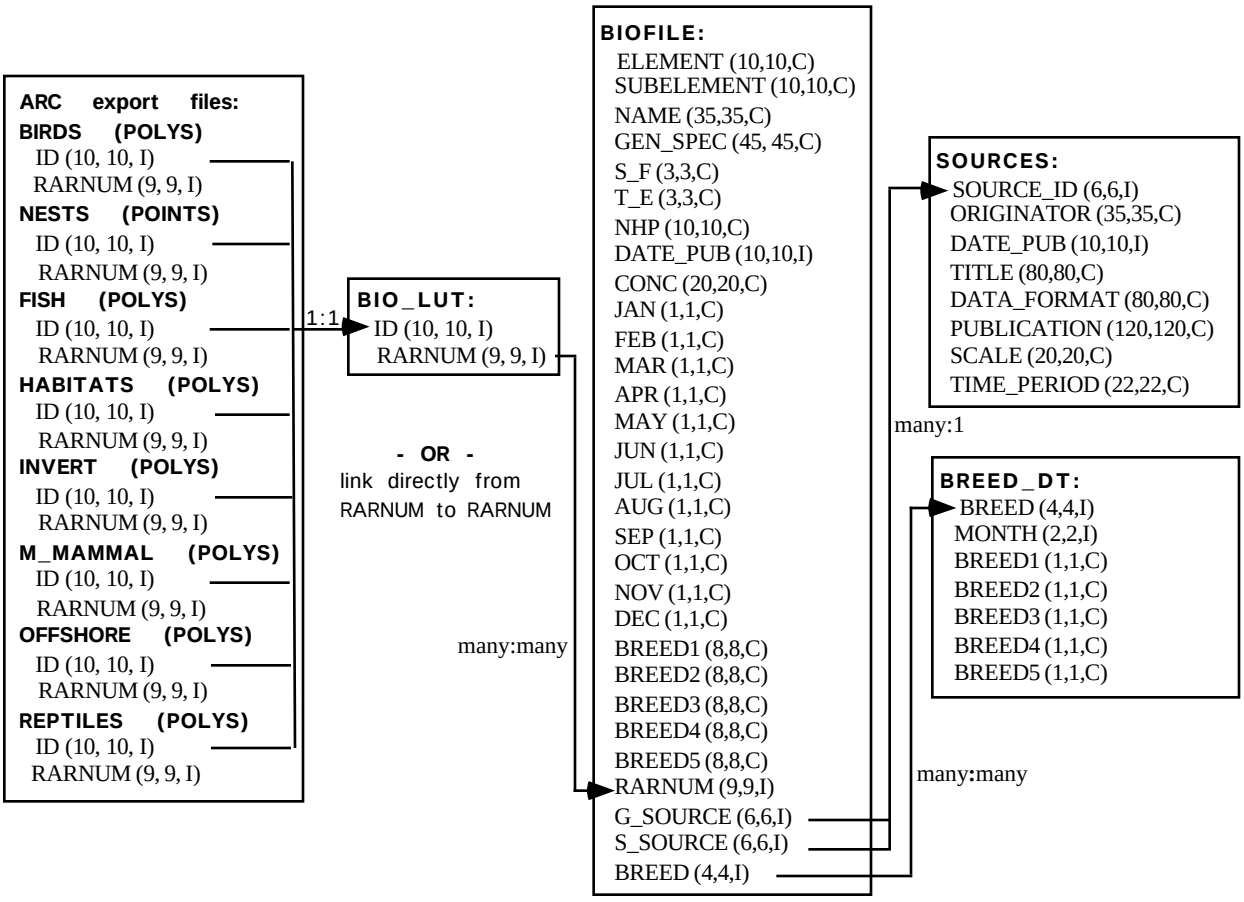

FIGURE 2. Relationship of the BIOFILE to the biological covers and the supplementary BREED_DT and SOURCES data tables.

Human-Use Resources:

Several human-use, or socioeconomic, features are included in ESI atlases. Entity points and complete chains (arcs) are digitized into the data layer SOCECON and managed area polygonal data are stored in the MGT data layer. Both data sets are linked to the data table SOC_DAT using the SOC_LUT lookup table and the items HUNUM and ID. HUNUM is a unique reference number concatenated with the atlas number (36). ID is a concatenation of atlas number (36), element number (SOCECON = 10 and MGT = 11), and unique record number.

All features are attributed using the item SOCECON and identify the type of feature:

Entity Points		**Polygons**	
Feature	**TYPE**	**Feature**	**TYPE**
Access	A2	Marine Sanctuary	MS
Airport	A	National Park	NP
Aquaculture	AQ	Park	P
Beach	B	Wildlife Refuge	WR
Boat Ramp	BR		
Coast Guard	CG		
Commercial Fishing	CF		
Diving	DV		
Hazardous Waste Site	HW		
Historical Site	HS		
Marina	M		
Recreational Fishing	RF		
Water Intake	WI		
Complete Chains			
Feature	**TYPE**		
Bridge	R		
State Border	SB		

The table SOC_DAT contains the human-use number (HUNUM), feature type (TYPE), name of the facility (NAME), contact person (CONTACT), telephone number (PHONE), geographic source (G_SOURCE), and attribute source (A_SOURCE).

2.4. POSITIONAL ACCURACY

2.4.1. HORIZONTAL POSITIONAL ACCURACY

2.4.1.1. HORIZONTAL POSITIONAL ACCURACY REPORT:

The ESI data use USGS 1:24,000 topographic quadrangles as the base map. It is estimated that the ESI has a minimum mapping unit of 50 feet. The biological data sets are developed primarily using regional experts who estimate concentration areas. Unlike shorelines, which maintain relative spatial stability through time, the biological data by nature migrate across the landscape. Therefore, the 1:24,000 USGS quadrangles are used as a base map in gathering the data but the data have "fuzzy" boundaries, which must be understood when utilizing this information.

2.5. LINEAGE

2.5.1. SOURCE INFORMATION:

Coverage or theme name: BIRDS

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Harris, M. Georgia Department of Natural Resources	N/A	Bird Concentration Areas for Coastal Georgia	Expert knowledge	N/A	N/A	1996
Forester, D. and B. Monroe Georgia Department of Natural Resources	N/A	Waterfowl Concentrations and Other Resources for Altamaha WMA	Expert knowledge	N/A	N/A	1996
Winn, B. Georgia Department of Natural Resources	N/A	Bird Concentrations, Bird Seasonalities, and Sea Turtle Areas for Coastal Georgia	Expert knowledge	N/A	N/A	1996

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Mason, G. Georgia Department of Natural Resources	N/A	Sensitive Bird Locations for Coastal Georgia	Expert knowledge	N/A	N/A	1996
Calver, S. U.S. Army Corps of Engineers	N/A	Bird Concentrations Associated with Dredged Material Disposal Sites	Hardcopy maps and expert knowledge	N/A	Varies	1996
McIntyre, K. Little St. Simons Island	N/A	Natural Resources for Little St. Simons Island, GA	Hardcopy maps	N/A	Unknown	1996
Glock, C. U.S. Fish and Wildlife Service	N/A	Resources for Blackbeard Island	Expert knowledge	N/A	N/A	1996
Bjork, J. National Park Service	N/A	Biological and Human-use Features for Cumberland Island National Seashore	Expert knowledge	N/A	N/A	1997
Bowers, J. and D. Edwards Georgia Department of Natural Resources	N/A	Additional Bird Resources for Altamaha WMA	Expert knowledge	N/A	N/A	1997
Robinette, J. U.S. Fish and Wildlife Service	N/A	Various Bird and Other Resources for Coastal Georgia	Expert knowledge	N/A	N/A	1996

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Strange, T. South Carolina Department of Natural Resources	N/A	Waterfowl Habitat for Savannah National Wildlife Refuge	Expert knowledge	N/A	N/A	1995

2.5.1. SOURCE INFORMATION:

Coverage or theme name: ESI

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Research Planning, Inc.	N/A	Overflight/ Photointerpreted maps	Hardcopy maps	N/A	24000	1996
Kelie Cochran	Varies	National Wetlands Inventory	Complex polygons	Georgia Department of Natural Resources, Coastal Resources Division	24000	Varies
Jill Petersen	9,1996	ESI Shoreline Classification (MSRC)	Complex polygons and complete chains	NOAA HAZMAT	24000	1985

2.5.1. SOURCE INFORMATION:

Coverage or theme name: FISH

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Woodward, S. Georgia Department of Natural Resources	N/A	Special Concentration Areas for Red Drum, Spotted Seatrout, Tarpon, and Sheepshead	Expert knowledge	N/A	N/A	1996
Guadagnoli, D. Georgia Department of Natural Resources	N/A	Special Concentration Areas for Shortnose and Atlantic Sturgeon	Expert knowledge	N/A	N/A	1996
Nicholson, N. Georgia Department of Natural Resources	N/A	Inshore Artificial Reefs and Associated Special Concentration Areas for Fish	Expert knowledge	N/A	N/A	1996
Flournoy, P. Georgia Department of Natural Resources	N/A	Special Concentration Areas for Shortnose and Atlantic Surgeon	Expert knowledge	N/A	N/A	1996
Score, D. Gray's Reef National Marine Sanctuary	N/A	Reef Fish Point Surveys for Gray's Reef National Marine Sanctuary	Digital tables	N/A	N/A	1996

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Parker, R.	1994	Video Transect Estimates of Reef Fish Abundance	Digital tables	Fishery Bulletin 92, pp. 787-799	N/A	1994
Score, D. Gray's Reef National Marine Sanctuary	N/A	Sand Bottom Fish for Gray's Reef National Marine Sanctuary	Expert knowledge	N/A	N/A	1996
NOAA SEA Division and Georgia Department of Natural Resources	1996	Estuarine Living Marine Resources Database, and Offshore Fish Distribution by Depth Zone	Digital polygons	Database Contacts: Mark Monaco and Tracy Gill	Varies	1996

2.5.1. SOURCE INFORMATION:

Coverage or theme name: HABITATS

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
McIntyre, K. Little St. Simons Island	N/A	Natural Resources for Little St. Simons Island, GA	Hardcopy maps	N/A	Unknown	1996
Danforth, W.	N/A	Gray's Reef National Marine Sanctuary Side-Scan Sonar Survey	Hardcopy maps	N/A	Unknown	1995

2.5.1. SOURCE INFORMATION:

Coverage or theme name: HYDRO

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Research Planning, Inc.	N/A	Overflight/ Photointerpreted maps	Hardcopy maps	N/A	24000	1996
Kelie Cochran	Varies	National Wetlands Inventory	Complex polygons	Georgia Department of Natural Resources, Coastal Resources Division	24000	Varies
Jill Petersen	9,1996	ESI Shoreline Classification (MSRC)	Complex polygons and complete chains	NOAA HAZMAT	24000	1985
Drury, K.M. Savannah E&P Co.	N/A	Kraft Power Plant Water Intake	Expert knowledge	N/A	N/A	1996

2.5.1. SOURCE INFORMATION:

Coverage or theme name: INDEX

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Research Planning, Inc.	1997	Map index	Complex polygons	NOAA	24000	1997

2.5.1. SOURCE INFORMATION:

Coverage or theme name: INVERT

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Stevens, S. Georgia Department of Natural Resources	N/A	Shellfish Beds, Shellfish Harvest Sites, Beaches and Access for Coastal Georgia	Expert knowledge and hardcopy maps	N/A	Unknown	1996
NOAA SEA Division and Georgia Department of Natural Resources	1996	Estuarine Living Marine Resources Database, and Offshore Fish Distribution by Depth Zone	Digital polygons	Database Contacts: Mark Monaco and Tracy Gill	Varies	1996

2.5.1. SOURCE INFORMATION:

Coverage or theme name: MGT

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
U.S. Fish and Wildlife Service	N/A	Boundary Maps for NWRs in Coastal Georgia	Hardcopy maps	USFWS, Division of Realty, Atlanta, GA	Varies	1980-1995
National Park Service	1971	Fort Pulaski Master Plan	Hardcopy map	N/A	Varies	1968-1971
Sapelo Island NERR	1996	Sapelo Island NERR Management Plan	Hardcopy maps	N/A	Varies	1996

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Georgia Department of Natural Resources, Game and Fish Division	N/A	Wildlife Management Area Maps and Boundaries	Hardcopy maps	N/A	Varies	Varies
Bohne, R. Gray's Reef National Marine Sanctuary	N/A	Human-use and Recreational Features for Gray's Reef National Marine Sanctuary	Expert knowledge	N/A	N/A	1996

2.5.1. SOURCE INFORMATION:

Coverage or theme name: M_MAMMAL

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Zoodsma, B. Georgia Department of Natural Resources	N/A	Manatee Locations for Coastal Georgia	Expert knowledge	N/A	N/A	1996
National Marine Fisheries Service	1994	Designated Critical Habitat for the Northern Right Whale	Hardcopy report and map	Federal Register 59 (106):28793-28808	N/A	1994
Brown, J. National Marine Fisheries Service	N/A	Offshore Distribution of Whales and Sea Turtles	Expert knowledge	N/A	N/A	1996

2.5.1. SOURCE INFORMATION:

Coverage or theme name: NESTS

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
McIntyre, K. Little St. Simons Island	N/A	Natural Resources for Little St. Simons Island, GA	Hardcopy maps	N/A	Unknown	1996
Mason, G. Georgia Department of Natural Resources	N/A	Sensitive Bird Locations for Coastal Georgia	Expert knowledge	N/A	N/A	1996
Robinette, J. U.S. Fish and Wildlife Service	N/A	Various Bird and Other Resources for Coastal Georgia	Expert knowledge	N/A	N/A	1996
Georgia Department of Natural Resources, Coastal Resources Division	N/A	Least Tern Nesting Database	Hardcopy tables	N/A	N/A	1996
Bryan, A.L.	1994	Wood Stork Roost Sites in the Coastal Zone of Georgia and South Carolina in 1994	Hardcopy report and maps	Savannah River Ecology Laboratory, Aiken, SC	24000	1994
Georgia Department of Natural Resources, Coastal Resources Division	N/A	Georgia Bald Eagle Nest Locations	Hardcopy tables	Database Contact: Mike Harris	N/A	1995-1996
Georgia Department of Natural Resources, Coastal Resources Division	N/A	Wood Stork and Wading Bird Colony Surveys, 1995	Hardcopy tables	N/A	N/A	1995

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Georgia Department of Natural Resources, Coastal Resources Division	N/A	Wood Stork and Wading Bird Colony Surveys, 1994	Hardcopy tables	N/A	N/A	1994

2.5.1. SOURCE INFORMATION:

Coverage or theme name: OFFSHORE

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
NOAA SEA Division and Georgia Department of Natural Resources	1996	Estuarine Living Marine Resources Database, and Offshore Fish Distribution by Depth Zone	Digital polygons	Database Contacts: Mark Monaco and Tracy Gill	Varies	1996

2.5.1. SOURCE INFORMATION:

Coverage or theme name: REPTILES

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Winn, B. Gray's Reef National Marine Sanctuary	N/A	Bird Concentrations, Bird Seasonalities, and Sea Turtle Areas for Coastal Georgia	Expert knowledge	N/A	N/A	1996

2.5.1. SOURCE INFORMATION:

Coverage or theme name: SOCECON

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Cave, K. National Park Service	N/A	Human-use Resources for Fort Pulaski National Monument	Expert knowledge	N/A	N/A	1996
Whitted, J. University of Georgia	N/A	Guides to Coastal Fishing in Georgia (by County)	Hardcopy maps	University of Georgia, Marine Extension Service	Unknown	1980-1982
Georgia Department of Natural Resources	1996	Angler's Guide to Maps Georgia Saltwater Fishing Access Sites	Hardcopy maps	Georgia Department of Natural Resources, Coastal Resources Division, Brunswick, GA	Unknown	1996
Caldwell, N.	N/A	Additional Water Intake for the Savannah River	Expert knowledge	N/A	N/A	1997
Walker, R. Skidaway Institute	N/A	Locations and Contacts for Coastal Aquaculture Sites	Expert knowledge	N/A	N/A	1996
Rogers, L. Georgia Department of Natural Resources	N/A	Industrial Water Intake Locations for Coastal Georgia	Expert knowledge	N/A	N/A	1996
Drury, K.M. Savannah E&P Co.	N/A	Kraft Power Plant Water Intake	Expert knowledge	N/A	N/A	1996

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
McIntyre, K. Little St. Simons Island	N/A	Natural Resources for Little St. Simons Island, GA	Hardcopy maps	N/A	Unknown	1996
National Park Service	1971	Fort Pulaski Master Plan	Hardcopy map	N/A	Varies	1968-1971
Georgia Department of Natural Resources	1995	Georgia Offshore Fishing Guide	Hardcopy map	Georgia DNR, Coastal Resources Division, Brunswick, GA	1 in = .5 n m	1995
Sullivan, B.	N/A	Sapelo Island Resources	Expert knowledge	N/A	N/A	1996
Sapelo Island NERR	1996	Sapelo Island NERR Management Plan	Hardcopy maps	N/A	Varies	1996
Glock, C. U.S. Fish and Wildlife Service	N/A	Resources for Blackbeard Island	Expert knowledge	N/A	N/A	1996
Andrew, G. Georgia Depart-ment of Natural Resources	N/A	Coastal Hazardous Waste Sites	Hardcopy maps	N/A	24000	1996
Harris, D.	N/A	CSS Nashville Shipwreck Location	Expert knowledge	N/A	N/A	1996
Georgia Department of Natural Resources, Historic Preservation Division	N/A	Historic Sites Database	Digital point data (ASCII)	Database Contact: Diane Wilson	Unknown	1996
Research Planning, Inc.	N/A	Overflight/ Photointer-preted Maps	Hardcopy maps	N/A	24000	1996

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi-nator	2.5.1.4 Source Time Period
Bohne, R. Gray's Reef National Marine Sanctuary	N/A	Human-Use and Recreational Features for Gray's Reef National Marine Sanctuary	Expert knowledge	N/A	N/A	1996
Main, C. NOAA Coastal Service Center	N/A	Locations of Various Human-use Features for the Georgia Coast	Expert knowledge	N/A	N/A	1997
Bjork, J. National Park Service	N/A	Biological and Human-use Features for Cumberland Island National Seashore	Expert knowledge	N/A	N/A	1997

2.5.2. PROCESS STEP

2.5.2.1. PROCESS DESCRIPTION:

The digitization of ESI, biological resources, and human-use resources is a complex and highly quality controlled process. In order to facilitate digitizing, the entire study area was split into individual quadrangles using the map index coverage. The first layer of information digitized was the shoreline with ESI classification. This layer was created using the Marine Spill Response Corporation (MSRC) ESI shoreline attributes, the U.S. Fish and Wildlife Services' National Wetlands Inventory (NWI) data, and original data interpreted by RPI geologists from aerial photographs and overflight observations. The NWI codes were reclassified to ESI polygon codes (Table 1) and any wetlands falling in water were deleted.

TABLE 1. NWI to ESI conversion.

ESI	NWI DEFINITION	NWI CODE
10A	Estuarine, intertidal, emergent wetland	E2EM
10B	Riverine, tidal, emergent wetland	R1EM
	Riverine, lower perennial, emergent wetland	R2EM
	Lacustrine, littoral, emergent wetland	L2EM
	Palustrine, emergent wetland	PEM
10C	Estuarine, intertidal, forested wetland	E2FO
	Palustrine, forested wetland	PFO
10D	Estuarine, intertidal, scrub-shrub	E2SS
	Palustrine, scrub-shrub	PSS

The digital shoreline was attributed with the MSRC data, updated with fieldwork, checked for completeness, topological and logical consistency, and edited for any errors using the original overflight maps. Any errors in the shoreline classification were updated prior to digitization of the biological and human-use layers. All data use the shoreline as the geographic reference so that there are no slivers in the geographic layers. The biological information was compiled onto 1:24,000 USGS topographic quadrangles by NOAA personnel and an in-house RPI expert using the data from regional specialists in the form of verbal discussions, maps, tables, charts, and written descriptions of wildlife distributions. Concurrently, all digital data were imported, merged into the spatial data structure, and checked for completeness. The hardcopy data were digitized, merged with existing digital data, checked using both digital and on-screen procedures, plotted, checked by the biological expert, edited to remove any errors, and plotted for review by the regional specialists. The reviewed maps were updated on the

computer, checked once again, and plotted at final map scale. A team of specialists reviewed the entire series of maps, checked all data, and made final edits. The data were merged to form the study-wide layers that are described in this document. The data merging included a final quality control check where topological consistency, rules for geography, and database to geography were checked and validated for all relationships.

2.5.2.3. PROCESS DATE:
199702-199706

2.5.2.6. PROCESS CONTACT

2.5.2.6.1. CONTACT PERSON PRIMARY

2.5.2.6.1.1. CONTACT PERSON:
Jill Petersen

2.5.2.6.1.2. CONTACT ORGANIZATION:
NOAA, Office of Response and Restoration

2.5.2.6.3. CONTACT POSITION:
GIS Manager

2.5.2.6.4. CONTACT ADDRESS

2.5.2.6.4.1. ADDRESS TYPE:
Physical Address

2.5.2.6.4.2. ADDRESS:
7600 Sand Point Way N.E.

2.5.2.6.4.3. CITY:
Seattle

2.5.2.6.4.4. STATE OR PROVINCE:
WA

2.5.2.6.4.5. POSTAL CODE:
98115-6349

2.5.2.6.5. CONTACT VOICE TELEPHONE:
(206) 526-6944

2.5.2.6.7. CONTACT FACSIMILE TELEPHONE:
(206) 526-6329

2.5.2.6.8. CONTACT ELECTRONIC MAIL ADDRESS:
jill_petersen@hazmat.noaa.gov.us

3.0. SPATIAL DATA ORGANIZATION INFORMATION

3.2. DIRECT SPATIAL REFERENCE METHOD:

Vector

3.3. POINT AND VECTOR OBJECT INFORMATION

3.3.1. SDTS TERMS DESCRIPTION:

3.3.1.1. SDTS POINT AND VECTOR OBJECT TYPE, and

3.3.1.2. POINT AND VECTOR OBJECT COUNT:

Theme	Universe Polygon	GT-Polygons	Area Points	Complete Chains	Line Segments	Label Points	Entity Points	Nodes
BIRDS	1	304	304	385	60,616			364
ESI	1	14,714	14,714	26,862	1,075,410			21,923
FISH	1	756	756	1,666	248,945			1,383
HABITATS	1	11	11	23	6,255			23
HYDRO	1	1,914	1,914	5,517	381,125	174		5,493
INDEX	1	38	38	107	107			71
INVERT	1	698	698	1,517	245,984			1,282
MGT	1	62	62	98	24,867			95
M_MAMMAL	1	134	134	239	53,342			239
NESTS							159	
OFFSHORE	1	7	7	39	11,418			35
REPTILES	1	42	42	71	18,679			65
SOCECON				63	1,633		676	495

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4.0. SPATIAL REFERENCE INFORMATION

4.1. HORIZONTAL COORDINATE SYSTEM DEFINITION

4.1.1. GEOGRAPHIC

4.1.1.1. LATITUDE RESOLUTION:

0.00005

4.1.1.2. LONGITUDE RESOLUTION:

0.00005

4.1.1.3. GEOGRAPHIC COORDINATE UNITS:

Decimal Degrees

4.1.4. GEODETIC MODEL

4.1.4.1. HORIZONTAL DATUM NAME:

North American Datum of 1927

4.1.4.2. ELLIPSOID NAME:

Clark 1866

4.1.4.3. SEMI-MAJOR AXIS:

6,378,206.4

4.1.4.4. DENOMINATOR OF FLATTENING RATIO:

294.98

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5.0. ENTITY AND ATTRIBUTE INFORMATION

5.1. DETAILED DESCRIPTION: BIO_LUT

Lookup table to link biology coverages to the BIORES data table.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
Attributes	RARNUM	integer
	ID	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:
RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:
An identifier that links the BIO_LUT table to the BIORES table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
ID

5.1.2.2. ATTRIBUTE DEFINITION:
An identifier that links the biology coverages to the BIO_LUT table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

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5.1. DETAILED DESCRIPTION: BIOFILE

The data table BIOFILE is a flat file format that provides all of the biology attributes contained in the relational data tables when used in conjunction with the supplementary tables BREED_DT and SOURCES.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
Attributes	ELEMENT	character
	SUBELEMENT	character
	NAME	character
	GEN_SPEC	character
	S_F	character
	T_E	character
	NHP	character
	DATE_PUB	integer
	CONC	character
	JAN	character
	FEB	character
	MAR	character
	APR	character
	MAY	character
	JUN	character
	JUL	character
	AUG	character
	SEP	character
	OCT	character
	NOV	character
	DEC	character
	BREED1	character
	BREED2	character
	BREED3	character
	BREED4	character
	BREED5	character
	RARNUM	integer
	G_SOURCE	integer
	S_SOURCE	integer
	BREED	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ELEMENT

5.1.2.2. ATTRIBUTE DEFINITION:

Major categories of biological data

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
BIRD	Birds
FISH	Fish
HABITAT	Habitats and Rare Plants
INVERT	Invertebrates
M_MAMMAL	Marine Mammals
REPTILE	Reptiles and Amphibians

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

SUBELEMENT

5.1.2.2. ATTRIBUTE DEFINITION:

Species subgroup

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

anadromous
bivalve
crab
diving
gastropod
gull_tern
hardbottom
manatee
raptor

ENUMERATED DOMAIN VALUE:

rare plant
shorebird
shrimp
special
turtle
wading
waterfowl
whale

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

NAME

5.1.2.2. ATTRIBUTE DEFINITION:

Species common name

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

American avocet
American coot
American eel
American kestrel
American oyster (eastern)
American oystercatcher
American shad
American swallow-tailed kite
American wigeon
Anhinga
Atlantic croaker
Atlantic menhaden
Atlantic sharpnose shark
Atlantic spadefish
Atlantic sturgeon
Bald eagle

ENUMERATED DOMAIN VALUE:

Bar jack
Bay anchovy
Belted sandfish
Black drum
Black duck
Black seabass
Black skimmer
Black tern
Black-bellied plover
Black-crowned night heron
Black-necked stilt
Blue angelfish
Blue crab
Blue-winged teal
Blueback herring
Bluefish
Bonapartes gull
Brown pelican
Brown shrimp
Buff-breasted sandpiper
Bufflehead
Canvasback
Caspian tern
Cattle egret
Cobia
Cocoa damselfish
Common moorhen
Common snipe
Coopers hawk
Cubbyu
Dense-flowered groundsel-tree
Double-crested cormorant
Dowitcher
Dunlin
Endangered anadromous fish
Endangered passerine bird
Endangered raptor
Endangered wading bird
Fin whale

ENUMERATED DOMAIN VALUE:

Forsters tern
Gadwall
Gag grouper
Glossy ibis
Gopher tortoise
Grass shrimp
Gray snapper
Great barracuda
Great blue heron
Great egret
Greater amberjack
Greater scaup
Greater yellowlegs
Green sea turtle
Green-backed heron
Green-winged teal
Gull-billed tern
Gulls
Hardbottom reef
Hardbottom reef ledge
Hardhead catfish
Herring gull
Hickory shad
Hogchoker
Hooded merganser
Humpback whale
Inshore lizardfish
Kemps ridley sea turtle
Killdeer
King mackerel
Knobbed whelk
Ladyfish
Laughing gull
Least sandpiper
Least tern
Leatherback sea turtle
Lesser scaup
Lesser yellowlegs
Little blue heron

ENUMERATED DOMAIN VALUE:

Loggerhead sea turtle
Longspine porgy
Mackerel scad
Mallard
Marbled godwit
Merlin
Mottled duck
Mummichog
Northern harrier
Northern pintail
Northern right whale
Northern shoveler
Osprey
Pearly razorfish
Pectoral sandpiper
Peep
Peregrine falcon
Pied-billed grebe
Pinfish
Pink shrimp
Piping plover
Purple gallinule
Pygmy sperm whale
Quahog spp. (hard clam)
Rare community
Rare fish
Rare frog
Rare lizard
Rare passerine bird
Rare raptor
Rare rodent
Rare salamander
Rare shorebird
Rare tern
Rare terrestrial plant
Rare wading bird
Rare wetland/aquatic plant
Red drum
Red knot

ENUMERATED DOMAIN VALUE:

Red porgy
Red-shouldered hawk
Red-tailed hawk
Redhead
Ring-billed gull
Ring-necked duck
Round scad
Royal tern
Ruddy duck
Ruddy turnstone
Sand perch
Sanderling
Sandwich tern
Scamp grouper
Seatrout (weakfish)
Semipalmated plover
Semipalmated sandpiper
Sharp-shinned hawk
Sheepshead
Shortnose sturgeon
Silver perch
Slippery dick
Snowy egret
Solitary sandpiper
Southern flounder
Southern kingfish (whiting)
Southern stingray
Spanish mackerel
Spot
Spotfin butterflyfish
Spottail pinfish
Spotted sandpiper
Spotted seatrout
Star drum
Stilt sandpiper
Striped anchovy
Striped bass
Striped mullet
Summer flounder

ENUMERATED DOMAIN VALUE:

Tarpon
Terns
Threatened rodent
Threatened tern
Threatened terrestrial plant
Threatened turtle
Threatened wetland/aquatic plant
Tomtate
Tricolored heron
Upland sandpiper
Wading birds
Waterfowl
West Indian manatee
Western sandpiper
Whimbrel
White ibis
White shrimp
White-rumped sandpiper
Willet
Wilsons phalarope
Wilsons plover
Wood duck
Wood stork
Yellow jack
Yellow-crowned night heron
Yellowlegs

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

GEN_SPEC

5.1.2.2. ATTRIBUTE DEFINITION:

Species scientific name

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Accipiter cooperii
Accipiter striatus
Acipenser brevirostrum
Acipenser oxyrhynchus
Actitis macularia
Aix sponsa
Alosa aestivalis
Alosa mediocris
Alosa sapidissima
Anas acuta
Anas americana
Anas clypeata
Anas crecca
Anas discors
Anas fulvigula
Anas platyrhynchos
Anas rubripes
Anas strepera
Anchoa hepsetus
Anchoa mitchilli
Anguilla rostrata
Anhinga anhinga
Archosargus probatocephalus
Ardea herodias
Arenaria interpres
Arius felis
Aythya affinis
Aythya americana
Aythya collaris
Aythya marila
Aythya valisineria
Baccharis glomeruliflora
Bairdiella chrysoura
Balaenoptera physalus
Bartramia longicauda
Brevoortia tyrannus
Bubulcus ibis
Bucephala albeola
Busycon carica

ENUMERATED DOMAIN VALUE:

Buteo jamaicensis
Buteo lineatus
Butorides striatus
Calidris alba
Calidris alpina
Calidris canutus
Calidris fusciollis
Calidris himantopus
Calidris mauri
Calidris melanotos
Calidris minutilla
Calidris pusilla
Calidris spp.
Callinectes sapidus
Caranx bartholomaei
Caranx ruber
Caretta caretta
Casmerodius albus
Catoptrophorus semipalmatus
Centropristis striata
Chaetodipterus faber
Chaetodon ocellatus
Charadrius melodus
Charadrius semipalmatus
Charadrius vociferus
Charadrius wilsonia
Chelonia mydas
Chlidonias niger
Circus cyaneus
Crassostrea virginica
Cynoscion nebulosus
Cynoscion regalis
Dasyatis americana
Decapterus macarellus
Decapterus punctatus
Dermochelys coriacea
Diplectrum formosum
Diplodus holbrooki
Egretta caerulea

ENUMERATED DOMAIN VALUE:

Egretta thula
Egretta tricolor
Elanoides forficatus
Elops saurus
Equetus umbrosus
Eubalaena glacialis
Eudocimus albus
Falco columbarius
Falco peregrinus
Falco sparverius
Fulica americana
Fundulus heteroclitus
Gallinago gallinago
Gallinula chloropus
Gopherus polyphemus
Haematopus palliatus
Haemulon aurolineatum
Haliaeetus leucocephalus
Halichoeres bivittatus
Hemipteronotus novacula
Himantopus mexicanus
Holacanthus bermudensis
Kogia breviceps
Lagodon rhomboides
Larus argentatus
Larus atricilla
Larus delawarensis
Larus philadelphia
Leiostomus xanthurus
Lepidochelys kempii
Limnodromus spp.
Limosa fedoa
Lophodytes cucullatus
Lutjanus griseus
Megalops atlanticus
Megaptera novaeangliae
Menticirrhus americanus
Mercenaria spp.
Micropogonias undulatus

ENUMERATED DOMAIN VALUE:

Morone saxatilis
Mugil cephalus
Mycteria americana
Mycteroperca microlepis
Mycteroperca phenax
Numenius phaeopus
Nyctanassa violacea
Nycticorax nycticorax
Oxyura jamaicensis
Pagrus pagrus
Palaemonetes sp.
Pandion haliaetus
Paralichthys dentatus
Paralichthys lethostigma
Pelecanus occidentalis
Penaeus aztecus
Penaeus duorarum
Penaeus setiferus
Phalacrocorax auritus
Plegadis falcinellus
Pluvialis squatarola
Podilymbus podiceps
Pogonias cromis
Pomacentrus variabilis
Pomatomus saltatrix
Porphyrula martinica
Rachycentron canadum
Recurvirostra americana
Rhizoprionodon terraenovae
Rynchops niger
Sciaenops ocellatus
Scomberomorus cavalla
Scomberomorus maculatus
Seriola dumerili
Serranus subligarius
Sphyraena barracuda
Steganopus tricolor
Stellifer lanceolatus
Stenotomus caprinus

ENUMERATED DOMAIN VALUE:

Sterna antillarum
Sterna caspia
Sterna fosteri
Sterna maxima
Sterna nilotica
Sterna sandvicensis
Synodus foetens
Trichechus manatus
Trinectes maculatus
Tringa flavipes
Tringa melanaleuca
Tringa solitaria
Tringa spp.
Tryngites subruficollis

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

S_F

5.1.2.2. ATTRIBUTE DEFINITION:

State and Federal status

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
F	Federally listed
S	State listed
S/F	State and Federally listed

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

USFWS

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

T_E

5.1.2.2. ATTRIBUTE DEFINITION:

Threatened and endangered status

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
E	State endangered
E/E	Endangered on Federal and State lists
E/T	Endangered on State list and threatened on Federal list
T	State threatened
T/E	Threatened on State list and endangered on Federal list
T/T	Threatened on Federal and State lists

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

USFWS

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

NHP

5.1.2.2. ATTRIBUTE DEFINITION:

Natural Heritage Program global conservation status ranking (see Master, 1991, Conservation Biology, 5:559-563, for full definitions)

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NHP

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
G1	Critically imperiled
G2?	Imperiled, inexact rank
G3	Vulnerable
G4	Apparently secure
G5	Secure

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
NHP

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
ordinal

5.1.2.1. ATTRIBUTE LABEL:
DATE_PUB

5.1.2.2. ATTRIBUTE DEFINITION:
Date of NHP listing

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

31998
91995

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
CONC

5.1.2.2. ATTRIBUTE DEFINITION:
Relative or actual count of a species concentration at a specific location. Field is blank if no data are available.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
JAN

5.1.2.2. ATTRIBUTE DEFINITION:

Present in January

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

FEB

5.1.2.2. ATTRIBUTE DEFINITION:

Present in February

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

MAR

5.1.2.2. ATTRIBUTE DEFINITION:

Present in March

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

APR

5.1.2.2. ATTRIBUTE DEFINITION:

Present in April

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

MAY

5.1.2.2. ATTRIBUTE DEFINITION:

Present in May

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

JUN

5.1.2.2. ATTRIBUTE DEFINITION:

Present in June

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
JUL

5.1.2.2. ATTRIBUTE DEFINITION:
Present in July

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
AUG

5.1.2.2. ATTRIBUTE DEFINITION:
Present in August

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

SEP

5.1.2.2. ATTRIBUTE DEFINITION:

Present in September

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

OCT

5.1.2.2. ATTRIBUTE DEFINITION:

Present in October

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

NOV

5.1.2.2. ATTRIBUTE DEFINITION:

Present in November

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

DEC

5.1.2.2. ATTRIBUTE DEFINITION:

Present in December

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED1

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage textual summary where:
if ELEMENT = BIRD then BREED1 = nesting;
if ELEMENT = FISH then BREED1 = spawning;
if ELEMENT = INVERT then BREED1 = spawning;
if ELEMENT = REPTILE then BREED1 = nesting;
if ELEMENT = M_MAMMAL then BREED1 = mating

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
XXX-XXX	3 character abbreviation of start and end month of breed1 activities
-	Not Occurring
N/A	No breed1 activities for this element

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED2

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage textual summary where:
if ELEMENT = BIRD then BREED2 = laying;
if ELEMENT = FISH then BREED2 = outmigration;
if ELEMENT = INVERT then BREED2 = larvae;
if ELEMENT = REPTILE then BREED2 = hatching;
if ELEMENT = M_MAMMAL then BREED2 = calving

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
XXX-XXX	3 character abbreviation of start and end month of breed2 activities
-	Not Occurring
N/A	No breed2 activities for this element

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED3

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage textual summary where:
if ELEMENT = BIRD then BREED3 = hatching;
if ELEMENT = FISH then BREED3 = larvae;
if ELEMENT = INVERT then BREED3 = mating;
if ELEMENT = REPTILE then BREED3 = internesting;
if ELEMENT = M_MAMMAL then BREED3 = pupping

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
XXX-XXX	3 character abbreviation of start and end month of breed3 activities
-	Not Occurring
N/A	No breed3 activities for this element

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED4

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage textual summary where:
if ELEMENT = BIRD then BREED4 = fledging;
if ELEMENT = FISH then BREED4 = juveniles;
if ELEMENT = INVERT then BREED4 = juveniles;
if ELEMENT = M_MAMMAL then BREED4 = molting

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
XXX-XXX	3 character abbreviation of start and end month of breed4 activities
-	Not Occurring
N/A	No breed4 activities for this element

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED5

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage textual summary where:
if ELEMENT = FISH then BREED5 = adults;
if ELEMENT = INVERT then BREED5 = adults;

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
XXX-XXX	3 character abbreviation of start and end month of breed5 activities
-	Not Occurring
N/A	No breed5 activities for this element

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:

An identifier that links directly back to the biological data layers or to the BIO_LUT lookup table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

G_SOURCE

5.1.2.2. ATTRIBUTE DEFINITION:

Geographic source identifier that links to the flat file's supplementary data table SOURCES

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
S_SOURCE

5.1.2.2. ATTRIBUTE DEFINITION:
Seasonality source identifier that links to the flat file's supplementary data table SOURCES

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
BREED

5.1.2.2. ATTRIBUTE DEFINITION:

Breed identifier that links to the flat file's supplementary data table BREED_DT that allows searches of breeding activities by month.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: BIORES

The data table BIORES contains the attributes necessary for linking to several spatial data layers and other data tables.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
Attributes	RARNUM	integer
	SPECIES_ID	integer
	CONC	character
	SEASON_ID	integer
	G_SOURCE	integer
	S_SOURCE	integer
	ELEMENT	character
	EL_SPE	character
	EL_SPE_SEA	character

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:

An identifier that links to the BIO_LUT table and directly back to the biology coverages

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:
SPECIES_ID

5.1.2.2. ATTRIBUTE DEFINITION:
Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained by NOAA

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
CONC

5.1.2.2. ATTRIBUTE DEFINITION:
Relative or actual count of a species concentration at a specific location. Field is blank if no data is available

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
SEASON_ID

5.1.2.2. ATTRIBUTE DEFINITION:
A link from the BIORES table to the seasonality table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
G_SOURCE

5.1.2.2. ATTRIBUTE DEFINITION:
Geographic source identifier that links to the SOURCES data table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
S_SOURCE

5.1.2.2. ATTRIBUTE DEFINITION:
Seasonality source identifier that links to the SOURCES data table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

ELEMENT

5.1.2.2. ATTRIBUTE DEFINITION:

Major categories of biological data

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
BIRD	Birds
FISH	Fish
HABITAT	Habitats and Rare Plants
INVERT	Invertebrates
M_MAMMAL	Marine Mammals
REPTILE	Reptiles and Amphibians

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

EL_SPE

5.1.2.2. ATTRIBUTE DEFINITION:
Concatenation of the first character of the ELEMENT and the SPECIES_ID that provides a link to the SPECIES table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
EL_SPE_SEA

5.1.2.2. ATTRIBUTE DEFINITION:
Concatenation of the first character of the ELEMENT, the SPECIES_ID, and the SEASON_ID that provides a link to the SEASONAL table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

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5.1. DETAILED DESCRIPTION: BIRDS

The data layer BIRDS contains the polygons with bird species. Although a separate NESTS coverage exists for bird point data, nesting sites depicted as polygonal features are found in the BIRDS data layer. Birds are divided into several species subgroups based on taxonomy, morphology, behavior, and oil spill vulnerability and sensitivity. BIRD species were included either because of their likelihood of impact by an oil spill, or their special protection status as threatened or endangered.

Waterfowl, diving birds (e.g., pelicans, cormorants, etc.), and pelagic birds (e.g., gannets and shearwaters) are usually at greatest risk during oil spills, because they spend nearly all of their time on the water surface, and/or because they become partially or entirely immersed while feeding. Waterfowl can also be contaminated through contact with oiled wetland vegetation. Wading birds are usually at slightly lesser risk, primarily because they become oiled mainly on the legs and bill while wading for prey. Wading bird feathers and upper body parts can be more extensively contaminated, however, by contact with oiled vegetation. Shorebirds usually avoid oil, but may be impacted by loss of feeding areas or intertidal prey, particularly during important migration periods. Gulls may be at risk because they are often attracted to and will prey on sick or injured prey. This behavior may result in oiling of feathers and the ingestion of oil. Terns are additionally at risk when they dive for prey. Raptors may also prey on oiled or injured species and thus may be contaminated themselves or ingest oil. Osprey may additionally be oiled while diving for fish. Passerine birds are typically not at great risk during spills; however, response activities can disturb nesting or damage coastal habitat for these species. Passerine birds of concern during spills include threatened or endangered species, especially if they nest near the shoreline or in wetland habitats such as marshes.

The following BIRDS species are found in the Georgia ESI atlas:

SPECIES ID	NAME
8	Double-crested cormorant
16	Mallard
17	Northern pintail
18	Green-winged teal
20	Northern shoveler

SPECIES ID	NAME
21	Canvasback
22	Greater scaup
23	Lesser scaup
26	Bufflehead
34	American coot
38	Herring gull
40	Ring-billed gull
42	Bonaparte's gull
52	Wilson's phalarope
54	Great blue heron
55	Whimbrel
56	Spotted sandpiper
58	Greater yellowlegs
59	Lesser yellowlegs
60	Red knot
61	Pectoral sandpiper
62	Least sandpiper
63	Dunlin
66	Western sandpiper
67	Sanderling
69	Semipalmated plover
70	Killdeer
71	Black-bellied plover
73	Ruddy turnstone
76	Bald eagle
77	Osprey
86	Least tern
87	Little blue heron
88	Great egret
89	Snowy egret
90	Black-crowned night heron
91	Glossy ibis
93	Cattle egret
94	Tricolored heron
97	Green-backed heron
98	Laughing gull
107	Peregrine falcon
115	White ibis
118	Brown pelican
120	Yellow-crowned night heron
121	Anhinga
124	Redhead
132	Wood stork
133	Black skimmer

SPECIES ID	NAME
134	Gull-billed tern
135	Sandwich tern
136	Caspian tern
137	Royal tern
138	Forster's tern
141	American avocet
142	Black-necked stilt
148	Ruddy duck
152	American oystercatcher
153	Piping plover
154	Wilson's plover
155	Willet
156	Semipalmated sandpiper
162	Gadwall
169	American wigeon
179	Pied-billed grebe
180	Ring-necked duck
181	Northern harrier
182	American kestrel
186	Black duck
190	Blue-winged teal
191	Wood duck
192	Common moorhen
193	Black tern
196	Common snipe
198	Hooded merganser
210	Marbled godwit
211	Mottled duck
212	Purple gallinule
213	Stilt sandpiper
214	Solitary sandpiper
218	Red-shouldered hawk
219	Sharp-shinned hawk
220	Merlin
221	Coopers hawk
223	Upland sandpiper
230	Red-tailed hawk
238	White-rumped sandpiper
280	American swallow-tailed kite
284	Buff-breasted sandpiper
286	Dowitcher
290	Peep
293	Yellowlegs
1,001	Gulls

SPECIES ID	NAME
1,003	Waterfowl
1,004	Wading birds
1,008	Terns

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
GT-Polygons	ID	integer
	RARNUM	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the BIO_LUT table. ID is a concatenation of atlas number (36), element number (1), and record number. ID values of 9999 are holes in polygons and do not contain information.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:

An identifier that links directly to the BIORES table or the flat format BIOFILE table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: BREED

The data table BREED identifies the life stages and abundances, by month, for each species.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
Attributes	EL_SPE_SEA	character
	MONTH	integer
	BREED1	character
	BREED2	character
	BREED3	character
	BREED4	character
	BREED5	character

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

EL_SPE_SEA

5.1.2.2. ATTRIBUTE DEFINITION:

Concatenation of the first character of the ELEMENT, SPECIES_ID, and SEASON_ID. Links to BIORES and SEASONAL data tables. If a species has any different monthly presence or breeding activity, a new seasonality record is used to accommodate the variable nature of the species across the study area

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

MONTH

5.1.2.2. ATTRIBUTE DEFINITION:

Two-digit integer corresponding to the calendar month. Can have up to 12 records to account for each month of the year

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1	January
2	February
3	March
4	April
5	May
6	June
7	July
8	August
9	September
10	October
11	November
12	December

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED1

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage information where:
if EL_SPE_SEA contains "B" then BREED1 = nesting;
if EL_SPE_SEA contains "F" then BREED1 = spawning;
if EL_SPE_SEA contains "I" then BREED1 = spawning;
if EL_SPE_SEA contains "R" then BREED1 = nesting;
if EL_SPE_SEA contains "M" then BREED1 = mating
There are no breeding activities for the HABITAT element

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
N	Not occurring
Y	Occurring

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
BREED2

5.1.2.2. ATTRIBUTE DEFINITION:
Species' breeding or life stage information where:
if EL_SPE_SEA contains "B" then BREED2 = laying;
if EL_SPE_SEA contains "F" then BREED2 = outmigration;
if EL_SPE_SEA contains "I" then BREED2 = larvae;
if EL_SPE_SEA contains "R" then BREED2 = hatching;
if EL_SPE_SEA contains "M" then BREED2 = calving
There are no breeding activities for the HABITAT element

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
N	Not occurring
Y	Occurring

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
BREED3

5.1.2.2. ATTRIBUTE DEFINITION:
Species' breeding or life stage information where:
if EL_SPE_SEA contains "B" then BREED3 = hatching;
if EL_SPE_SEA contains "F" then BREED3 = larvae;
if EL_SPE_SEA contains "I" then BREED3 = mating;
if EL_SPE_SEA contains "R" then BREED3 = internesting;

if EL_SPE_SEA contains “M” then BREED3 = pupping
There are no breeding activities for the HABITAT element

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
N	Not occurring
Y	Occurring

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
BREED4

5.1.2.2. ATTRIBUTE DEFINITION:
Species’ breeding or life stage information where:
if EL_SPE_SEA contains “B” then BREED4 = fledging;
if EL_SPE_SEA contains “F” then BREED4 = juvenile;
if EL_SPE_SEA contains “I” then BREED4 = juvenile;
if EL_SPE_SEA contains “M” then BREED4 = molting
There are no breeding activities for the HABITAT element

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
N	Not occurring
Y	Occurring

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED5

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage information where:
if EL_SPE_SEA contains "F" then BREED5 = adults;
if EL_SPE_SEA contains "I" then BREED5 = adults
There are no breeding activities for the HABITAT element

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
N	Not occurring
Y	Occurring

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: BREED_DT

The data table BREED _DT is a supplement to the flat format BIOFILE that allows searches to be conducted for life stage activities by month. This is a condensed version of the BREED table where multiple species of the same element may link to the same BREED_DT records. (There are no breeding activities for the HABITAT element.)

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
Attributes	BREED	integer
	MONTH	integer
	BREED1	character
	BREED2	character
	BREED3	character
	BREED4	character
	BREED5	character

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

BREED

5.1.2.2. ATTRIBUTE DEFINITION:

An integer value that links from the BIOFILE to the BREED_DT table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

MONTH

5.1.2.2. ATTRIBUTE DEFINITION:

Two-digit integer corresponding to the calendar month. Each month is listed whether any special life activity is occurring or not.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1	January
2	February
3	March
4	April
5	May
6	June
7	July
8	August
9	September
10	October
11	November
12	December

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED1

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage information where:
if EL_SPE_SEA contains "B" then BREED1 = nesting;
if EL_SPE_SEA contains "F" then BREED1 = spawning;
if EL_SPE_SEA contains "I" then BREED1 = spawning;
if EL_SPE_SEA contains "R" then BREED1 = nesting;
if EL_SPE_SEA contains "M" then BREED1 = mating

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
N	Not occurring
Y	Occurring
-	No Breed1 activity for this element

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED2

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage information where:
if EL_SPE_SEA contains "B" then BREED2 = laying;
if EL_SPE_SEA contains "F" then BREED2 = outmigration;
if EL_SPE_SEA contains "I" then BREED2 = larvae;
if EL_SPE_SEA contains "R" then BREED2 = hatching;
if EL_SPE_SEA contains "M" then BREED2 = calving

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
N	Not occurring
Y	Occurring
-	No Breed1 activity for this element

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED3

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage information where:
if EL_SPE_SEA contains "B" then BREED3 = hatching;
if EL_SPE_SEA contains "F" then BREED3 = larvae;
if EL_SPE_SEA contains "I" then BREED3 = mating;
if EL_SPE_SEA contains "R" then BREED3 = internesting;
if EL_SPE_SEA contains "M" then BREED3 = pupping

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
N	Not occurring
Y	Occurring
-	No Breed1 activity for this element

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED4

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage information where:
if EL_SPE_SEA contains "B" then BREED4 = fledging;
if EL_SPE_SEA contains "F" then BREED4 = juveniles;
if EL_SPE_SEA contains "I" then BREED4 = juveniles;
if EL_SPE_SEA contains "M" then BREED4 = molting

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
N	Not occurring
Y	Occurring
-	No Breed1 activity for this element

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED5

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage information where:
if EL_SPE_SEA contains "F" then BREED5 = adults;
if EL_SPE_SEA contains "I" then BREED5 = adults;

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
N	Not occurring
Y	Occurring
-	No Breed1 activity for this element

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: ESI

The data layer ESI contains arc (Complete Chains) and polygonal (GT-Polygons) features for the ESI shoreline classification and is based on *Environmental Sensitivity Index Guidelines, Version 2.0* (Halls, J., J. Michel, S. Zengel, and J. Dahlin, 1996, Hazardous Materials Response and Assessment Division, NOAA). The ESI classification was performed in February 1997.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
Complete Chain	ESI	character
	LINE	character
	SOURCE_ID	integer
	ENVIR	character
GT-Polygons	ESI	character
	WATER_CODE	character

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ESI

5.1.2.2. ATTRIBUTE DEFINITION:

The intertidal habitats of Georgia were originally mapped during overflights conducted in the fall of 1984. They were updated onto 1:24,000 USGS topographic maps by an experienced coastal geologist in January 1997 using a set of vertical aerial photographs from late 1993-1996. Where appropriate, multiple habitats were delineated for each shoreline segment. Portions of the coast were flown in February 1997 to verify the photo-interpretation. The aerial surveys were carried out using fixed-wing aircraft flying at elevations of 500-1,000 feet and slow air speed.

Prediction of the behavior and persistence of oil on intertidal habitats is based on an understanding of the dynamics of the coastal environments, not just the substrate type and grain size. The sensitivity of a particular intertidal habitat is an integration of the following factors:

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

All of these factors are used to determine the relative sensitivity of intertidal habitats. Key to the sensitivity ranking is an understanding of the relationships between: physical processes, substrate, shoreline type, product type, fate and effect, and sediment transport patterns. 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.

These concepts have been used in the development of the ESI, which ranks shoreline environments as to their relative sensitivity to oil spills, potential biological injury, and ease of cleanup. 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. A comprehensive shoreline habitat ranking system has been developed for the entire U.S. The shoreline habitats present in Georgia are listed below in order of increasing sensitivity to spilled oil.

1B) Exposed, Solid Man-made Structures
3A) Fine- to Medium-grained Sand Beaches
3B) Scarps and Steep Slopes in Sand
6A) Gravel Beaches
6B) Riprap
7) Exposed Tidal Flats
8A) Sheltered Scarps in Mud
8B) Sheltered, Solid Man-made Structures

8C) Sheltered Riprap
9A) Sheltered Tidal Flats
9B) Vegetated Low Riverine Banks
10A) Salt- and Brackish-water Marshes
10B) Freshwater Marshes
10C) Swamps
10D) Scrub-Shrub Wetlands

The item ESI contains values according to the ESI ranking of the shorelines and polygons. The ESI rankings progress from low to high susceptibility to oil spills. The Georgia shoreline types are listed below. In many cases, the shorelines are also ranked with multiple codes, such as 10/7. The first number is the most landward shoreline type, salt marsh, with exposed tidal flats being the shoreline type closest to the water. ESI polygons for wetlands (ESI = 10) were derived from NWI data.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1B	Exposed, Solid Man-made Structures
1B/3A	Exposed, Solid Man-made Structures/Fine- to Medium-grained Sand Beaches
1B/6B	Exposed, Solid Man-made Structures/Riprap
1B/6B/3A	Exposed, Solid Man-made Structures/Riprap/Fine- to Medium-grained Sand Beaches
1B/6B/10A	Exposed, Solid Man-made Structures/Riprap/Salt and Brackish-water Marshes
1B/7	Exposed, Solid Man-made Structures/Exposed Tidal Flats
1B/9A	Exposed, Solid Man-made Structures/Sheltered Tidal Flats
1B/10A	Exposed, Solid Man-made Structures/Salt and Brackish-water Marshes
1B/10A/9A	Exposed, Solid Man-made Structures/Salt and Brackish-water Marshes/Sheltered Tidal Flats
3A	Fine- to Medium-grained Sand Beaches
3A/6A	Fine- to Medium-grained Sand Beaches/Gravel Beaches
3A/6B	Fine- to Medium-grained Sand Beaches/Riprap

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
3A / 7	Fine- to Medium-grained Sand Beaches / Exposed Tidal Flats
3B	Scarps and Steep Slopes in Sand
3B / 3A	Scarps and Steep Slopes in Sand / Fine- to Medium-grained Sand Beaches
3B / 6A	Scarps and Steep Slopes in Sand / Gravel Beaches
3B / 6B	Scarps and Steep Slopes in Sand / Riprap
3B / 9A	Scarps and Steep Slopes in Sand / Sheltered Tidal Flats
3B / 10A	Scarps and Steep Slopes in Sand / Salt and Brackish-water Marshes
6A	Gravel Beaches
6B	Riprap
6B / 3A	Riprap / Fine- to Medium-grained Sand Beaches
6B / 7	Riprap / Exposed Tidal Flats
6B / 10A	Riprap / Salt and Brackish-water Marshes
7	Exposed Tidal Flats
8A	Sheltered Scarps in Mud
8A / 3A	Sheltered Scarps in Mud / Fine- to Medium-grained Sand Beaches
8B	Sheltered, Solid Man-made Structures
8B / 9A	Sheltered, Solid Man-made Structures / Sheltered Tidal Flats
8B / 10A	Sheltered, Solid Man-made Structures / Salt and Brackish-water Marshes
8C	Sheltered Riprap
9A	Sheltered Tidal Flats
9B	Vegetated Low Riverine Banks
9B / 9A	Vegetated Low Riverine Banks / Sheltered Tidal Flats
10A	Salt and Brackish-water Marshes
10A / 3A	Salt and Brackish-water Marshes / Fine- to Medium-grained Sand Beaches
10A / 3A / 7	Salt and Brackish-water Marshes / Fine- to Medium-grained Sand Beaches / Exposed Tidal Flats
10A / 3A / 9A	Salt and Brackish-water Marshes / Fine- to Medium-grained Sand Beaches / Sheltered Tidal Flats
10A / 6A	Salt and Brackish-water Marshes / Gravel Beaches
10A / 6A / 3A	Salt and Brackish-water Marshes / Gravel Beaches / Fine- to Medium-grained Sand Beaches

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
10A / 6A / 7	Salt and Brackish-water Marshes / Gravel Beaches / Exposed Tidal Flats
10A / 6A / 9A	Salt and Brackish-water Marshes / Gravel Beaches / Sheltered Tidal Flats
10A / 6B	Salt and Brackish-water Marshes / Riprap
10A / 7	Salt and Brackish-water Marshes / Exposed Tidal Flats
10A / 8A	Salt and Brackish-water Marshes / Sheltered Scarps in Mud
10A / 9A	Salt and Brackish-water Marshes / Sheltered Tidal Flats
10A / 9A / 7	Salt and Brackish-water Marshes / Sheltered Tidal Flats / Exposed Tidal Flats
10B	Freshwater Marshes
10B / 7	Freshwater Marshes / Exposed Tidal Flats
10B / 9A	Freshwater Marshes / Sheltered Tidal Flats
10C	Swamps
10C / 9A	Swamps / Sheltered Tidal Flats
10D	Scrub-Shrub Wetlands
10D / 3A	Scrub-Shrub Wetlands / Fine- to Medium-grained Sand Beaches
10D / 3A / 7	Scrub-Shrub Wetlands / Fine- to Medium-grained Sand Beaches / Exposed Tidal Flats
10D / 6A	Scrub-Shrub Wetlands / Gravel Beaches
10D / 9A	Scrub-Shrub Wetlands / Sheltered Tidal Flats
10D / 10A	Scrub-Shrub Wetlands / Salt and Brackish-water Marshes
U	Unranked

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

ordinal

5.1.2.1. ATTRIBUTE LABEL:

LINE

5.1.2.2. ATTRIBUTE DEFINITION:

Type of geographic feature

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
B	Breakwater
F	Flat
H	Hydrography or stream features
I	Index
M	Marsh
S	Shoreline

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

SOURCE_ID

5.1.2.2. ATTRIBUTE DEFINITION:

Data source for the ESI

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1	NWI shoreline with MSRC attributes
2	RPI overflight
5	Digitized from scanned topos

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

ENVIR

5.1.2.2. ATTRIBUTE DEFINITION:

Regional environment

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
E	Estuarine

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

WATER_CODE

5.1.2.2. ATTRIBUTE DEFINITION:

Specifies a polygon as either water or land

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
L	Land
W	Water

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: FISH

The data layer FISH contains polygons for fish species.

Fish species in this coverage include selected estuarine-dependent, anadromous, and marine species. Species of commercial, recreational, ecological, or conservation interest are emphasized. This coverage includes general fish distribution by estuary and salinity zone. Outside the estuaries, nearshore marine species are also depicted from the outer shoreline to the 10-meter depth contour. Fish distribution data by estuarine salinity zone and offshore depth range were compiled by NOAA's Strategic Environmental Assessments Division, under the Estuarine Living Marine Resources (ELMR) program, with data and expert knowledge contributed by the Georgia Department of Natural Resources (GA DNR). In addition to the ELMR fish distribution data, special concentration areas for selected species were also mapped, based on expert source information from GA DNR. Special concentration areas include things such as known high concentration areas, spawning sites, important juvenile nursery areas, wintering sites, etc. Special concentration areas were mapped for shortnose sturgeon, Atlantic sturgeon, red drum, spotted seatrout, tarpon, and sheepshead. In addition to fish distribution and special concentration areas, fish were mapped by bottom habitat for Gray's Reef National Marine Sanctuary, using sources and knowledge provided by sanctuary staff. A variety of reef-associated and other offshore fish were linked with three major habitats: hardbottom reef, hardbottom reef ledges, and sand bottoms.

The following FISH species are found in the Georgia ESI atlas:

SPECIES ID	NAME
65	Bluefish
86	Blueback herring
87	American shad
95	Mummichog
98	American eel
101	Shortnose sturgeon
102	Atlantic sturgeon
104	Striped bass
105	Hickory shad
107	Spotted seatrout
108	Summer flounder

SPECIES ID	NAME
109	Red drum
110	Black seabass
111	Southern flounder
113	Bay anchovy
115	Atlantic menhaden
116	Striped mullet
117	Pinfish
119	Silver perch
121	Spot
122	Black drum
123	Atlantic croaker
124	Southern kingfish (whiting)
126	King mackerel
127	Spanish mackerel
131	Great barracuda
134	Cobia
137	Sheepshead
138	Seatrout (weakfish)
140	Ladyfish
143	Tarpon
273	Star drum
287	Hardhead catfish
290	Striped anchovy
302	Gag grouper
306	Gray snapper
310	Atlantic spadefish
318	Atlantic sharpnose shark
343	Yellow jack
344	Bar jack
345	Spotfin butterflyfish
346	Mackerel scad
347	Round scad
348	Spottail pinfish
349	Cubbyu
350	Tomtate
351	Slippery dick
352	Blue angelfish
354	Scamp grouper
355	Red porgy
356	Greater amberjack
357	Belted sandfish
358	Cocoa damselfish
359	Longspine porgy
360	Sand perch

SPECIES ID	NAME
361	Pearly razorfish
362	Southern stingray
363	Inshore lizardfish
366	Hogchoker

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
GT-Polygons	ID	integer
	RARNUM	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:
ID

5.1.2.2. ATTRIBUTE DEFINITION:
A unique identifier that links to the BIO_LUT table. ID is a concatenation of atlas number (36), element number (2), and record number. ID values of 9999 are holes in polygons and do not contain information.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:
An identifier that links directly to the BIORES table or the flat format BIOFILE table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: HABITATS

The data layer HABITATS contains polygons for protected / rare plants and hardbottom reef habitats associated with the Gray's Reef National Marine Sanctuary.

The following HABITATS species are found in the Georgia ESI atlas:

SPECIES ID	NAME
225	Dense-flowered groundsel-tree
252	Hardbottom reef ledge
253	Hardbottom reef

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
GT-Polygons	ID	integer
	RARNUM	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:
ID

5.1.2.2. ATTRIBUTE DEFINITION:
A unique identifier that links to the BIO_LUT table. ID is a concatenation of atlas number (36), element number (3), and record number. ID values of 9999 are holes in polygons and do not contain information.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:

An identifier that links directly to the BIORES table or the flat format BIOFILE table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: HYDRO

The data layer HYDRO contains polygonal water and land features as well as linear features for rivers and streams.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
GT-Polygons	WATER_CODE	character
Complete Chains	LINE	character
	SOURCE_ID	integer

The LINE, SOURCE_ID, and WATER_CODE attributes are the same as in the ESI data layer. The HYDRO data layer contains all annotation used in producing the atlas. The annotation features are categorized into three subclasses in order to simplify the mapping and quality control procedures: geog or geographic features, soc or socio-economic features, and hydro or water features.

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

WATER_CODE

5.1.2.2. ATTRIBUTE DEFINITION:

Specifies a polygon as either water or land

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
L	Land
W	Water

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

LINE

5.1.2.2. ATTRIBUTE DEFINITION:

Type of geographic feature

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
B	Breakwater
H	Hydrography or stream features
I	Index
S	Shoreline

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

SOURCE_ID

5.1.2.2. ATTRIBUTE DEFINITION:

Data source for the ESI

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1	NWI shoreline with MSRC attributes
2	RPI overflight
5	Digitized from scanned topos

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: INDEX

The data layer INDEX contains the map or polygon boundaries for each map in the atlas.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
GT-Polygons	TILE-NAME	character
	TOPO-NAME	character
	SCALE	integer
	MAPANGLE	floating point
	PAGESIZE	character

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

TILE-NAME

5.1.2.2. ATTRIBUTE DEFINITION:

The TILE-NAME contains the map number according to the specified layout of the atlas. During the map production process, the value of TILE-NAME is plotted on the map product to order the maps in a coherent manner. The values for each polygon are unique and range from 1 through 38

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

TOPO-NAME

5.1.2.2. ATTRIBUTE DEFINITION:

USGS 1:24,000 topographic map name. Some polygons straddle two or more maps and all map names are included in this attribute. The date (latest/revised) of the USGS maps are also included in this field

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

ALTAMAHA SOUND, GA (1993)
BLADEN, GA (1993)
BRUNSWICK EAST, GA (1993)
BRUNSWICK WEST, GA (1993)
BURROUGHS, GA (1988)
CABRETTA INLET, GA (1993)
CUMBERLAND ISLAND NORTH, GA (1993)
CUMBERLAND ISLAND SOUTH, GA (1994)
DARIEN, GA (1993)
DOBOY SOUND, GA (1993)
DOVER BLUFF, GA (1993)
EULONIA, GA (1980)
FERNANDINA BEACH, FL-GA (1992)
FORT PULASKI, GA-SC (1978)
GARDEN CITY, GA (1980)
GRAY'S REEF
GROSS, FL-GA (1993)
HARRIETTS BLUFF, GA (1994)
ISLE OF HOPE, GA (1988)
JEKYLL ISLAND, GA (1993)
KINGSLAND NE, GA (1993)
LIMEHOUSE, SC-GA (1980)
LIMERICK SE, GA (1988)
OAK LEVEL, GA (1983)
PORT WENTWORTH, GA-SC (1980)
RACCOON KEY, GA (1985)
RIDGEVILLE, GA (1993)
SAPELO SOUND, GA (1979)
SAVANNAH, GA-SC (1978)
SEA ISLAND, GA (1993)
SEABROOK, GA (1979)
SHELLMAN BLUFF, GA (1985)
ST. CATHERINES SOUND, GA (1983)
ST. MARY, GA-FL (1993)
TYBEE ISLAND SOUTH, GA (1983)

TYBEE ISLAND NORTH, GA-SC (1978)
WASSAW SOUND, GA (1978)
WAVERLY, GA (1993)
WOODBINE, GA (1993)

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
SCALE

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

35,000
50,000
56,000

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
MAPANGLE

5.1.2.2. ATTRIBUTE DEFINITION:
MAPANGLE contains a value to rotate the final map product so that it is situated straight up and down

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

-0.099
-0.067
-0.033
0.000
0.033
0.098

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

0.099
0.100
0.162
0.163
0.164
0.165
0.224
0.225
0.226
0.227
0.228
0.229
0.288
0.289
0.290
0.291
0.292
0.352
0.354
0.355
0.357

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

PAGESIZE

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

11,17

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: INVERT

The data layer INVERT contains polygons for macro-invertebrate species including shellfish. Species in this coverage include selected estuarine-dependent and marine species, with emphasis on species of commercial, recreational, and ecological interest. This coverage includes general shellfish distribution by estuary and salinity zone. Outside the estuaries, nearshore marine distributions are also depicted from the outer shoreline to the 10-meter depth contour. Shellfish data by estuarine salinity zone and offshore depth range were compiled by NOAA's SEA Division, under the Estuarine Living Marine Resources (ELMR) program, with data and expert knowledge contributed by the Georgia Department of Natural Resources (GA DNR). In addition to the ELMR distribution data, specific sessile shellfish locations were mapped within recreational and commercial harvest areas identified on maps provided by GA DNR. Sessile shellfish depicted in this manner include American oyster and quahog (hard clam).

The following INVERT species are found in the Georgia ESI atlas:

SPECIES ID	NAME
4	Pink shrimp
43	American oyster (eastern)
47	Knobbed whelk
49	Blue crab
50	White shrimp
51	Brown shrimp
97	Grass shrimp
100	Quahog spp. (hard clam)

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
GT-Polygons	ID	integer
	RARNUM	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the BIO_LUT table. ID is a concatenation of atlas number (36), element number (7), and record number. ID values of 9999 are holes in polygons and do not contain information.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:

An identifier that links directly to the BIORES table or the flat format BIOFILE table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: MGT

The data layer MGT contains the managed area polygons.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
GT-Polygons	TYPE	character
	ID	integer
	HUNUM	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

TYPE

5.1.2.2. ATTRIBUTE DEFINITION:

Identifies polygons with a socioeconomic, or human-use, feature. This attribute allows direct access to the type of feature instead of linking to the more detailed SOC_DAT table.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
MS	Marine Sanctuary
NP	National Park
P	Park
WR	Wildlife Refuge

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the SOC_LUT table. ID is a concatenation of atlas number (36), element number (11), and record number

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

HUNUM

5.1.2.2. ATTRIBUTE DEFINITION:

An identifier that links directly to the SOC_DAT table.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: M_MAMMAL

The data layer M_MAMMAL contains complex polygons for marine mammals, including manatees and whales. Bottlenose dolphins are not included in this atlas due to widespread abundance and an assumed low-sensitivity to spills. Bottlenose dolphins are likely to be present throughout nearly all estuarine and nearshore waters of the study area. Though not threatened or endangered, bottlenose dolphins are protected under the Marine Mammal Protection Act, as are all marine mammals.

Manatees areas depicted in this coverage are limited to known high-use areas which may be occupied in warmer months. In general, seasonal manatee high-use areas may include estuaries, rivers, and tidal creeks. Manatees in these areas may feed on *Spartina* and algae growing in shallow areas or on floating objects. In addition to direct spill impacts, spill responders, especially vessel operators, should be aware of manatee concentration areas, including locations where slow or idle boat speeds are posted for manatee protection.

Whales depicted in this coverage are largely restricted to a seasonal calving and juvenile area for the Northern right whale, which has been listed as Designated Critical Habitat by the National Marine Fisheries Service (NMFS) under the Endangered Species Act. This area roughly extends from the mouth of the Altamaha River, Georgia to Jacksonville, Florida (from the Atlantic shoreline to 15 nautical miles offshore), and from Jacksonville to Sebastian Inlet, Florida (from the Atlantic shoreline to 5 nautical miles offshore). Additional whale data for several species are also included for the offshore area encompassed by Gray's Reef National Marine Sanctuary. In general, offshore whale distributions are described as follows: Northern right whale, 0-30 miles offshore; humpback whale, 0-30 miles offshore; pygmy sperm whale, 5-200 miles offshore; and fin whale, 5-200 miles offshore. The data layer M_MAMMAL contains the dolphin marine mammal polygons. Bottlenose dolphins are likely to be present throughout the study area, in nearly all estuarine and nearshore waters of the Atlantic. Dolphins are only depicted, however, in specific locations where known calving or nursery concentrations occur. There may be many such areas that are not known, so areas depicted in the atlas should not be considered the only areas where calving and nursery activities occur.

The following M_MAMMAL species are found in the Georgia ESI atlas:

SPECIES ID	NAME
10	West Indian manatee
11	Fin whale
13	Humpback whale
18	Pygmy sperm whale
81	Northern right whale

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
GT-Polygons	ID	integer
	RARNUM	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the BIO_LUT table. ID is a concatenation of atlas number (36), element number (4), and record number. ID values of 9999 are holes in polygons and do not contain information.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:

An identifier that links directly to the BIORES table or the flat format BIOFILE table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: NESTS

The data layer NESTS contains entity points representing bird nesting sites and similar point features, such as roost sites, where nesting does not take place. Point features for diving birds, wading birds, terns, shorebirds and raptors are included in this coverage. Additional nesting sites represented as polygons are included in the BIRDS data layer.

Nesting sites are important during spills because feeding or foraging areas may be concentrated in the vicinity of nest sites or colonies, eggs and young birds can be particularly sensitive to oil contamination, and nests and/or nesting birds can be sensitive to human disturbance during spill response or other activities. It is important to note that the eggs and young of tree-nesting birds, and even nests removed from an immediate spill area, may still be at risk during spills if adults bring oil back to the nests on their feet or bodies. In addition to bird and nest contamination, if oiled habitat, decreased prey abundance, or disturbance cause adult birds to change foraging areas or patterns, nesting success may also be impaired. Non-nesting point data included in this atlas mainly emphasize roosting sites for the endangered wood stork and associated wading birds. Similar to nesting colonies, foraging areas may be concentrated in the vicinity of roost sites, and human disturbance could also effect these areas.

The following species are found in the NESTS coverage of the Georgia ESI atlas:

SPECIES ID	NAME
54	Great blue heron
76	Bald eagle
77	Osprey
86	Least tern
88	Great egret
89	Snowy egret
93	Cattle egret
121	Anhinga
132	Wood stork
154	Wilson's plover
1,004	Wading birds

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
Entity Points	ID	integer
	RARNUM	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:
ID

5.1.2.2. ATTRIBUTE DEFINITION:
A unique identifier that links to the BIO_LUT table. ID is a concatenation of atlas number (36), element number (5), and record number.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:
An identifier that links directly to the BIORES table or the flat format BIOFILE table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: OFFSHORE

The data layer OFFSHORE contains polygons for offshore fish and invertebrate species by depth zone. Species of commercial, recreational, and ecological interest are emphasized. This coverage includes general fish and invertebrate offshore distribution by four depth zones: 0-10 meters (m); 10-20 m; 20-50 m; and 50-200 m. Note that fish and invertebrates from the 0-10 m depth zone are also duplicated in the FISH and INVERT coverages. Several species (e.g., gag grouper, gray snapper, Atlantic spadefish) in this coverage are structure-oriented and so would not occur throughout the depth zone indicated, but instead occur around bottom structure, such as reefs, within the depth zones indicated. In addition, the depth range of individual species may only include part of certain depth zones, not necessarily the entire zone. The offshore fish and invertebrate distribution data were compiled by NOAA's Strategic Environmental Assessments Division, in consultation with the Georgia Department of Natural Resources.

The following OFFSHORE species are found in the Georgia ESI atlas:

	SPECIES ID	NAME
FISH	65	Bluefish
	86	Blueback herring
	87	American shad
	98	American eel
	102	Atlantic sturgeon
	105	Hickory shad
	107	Spotted seatrout
	108	Summer flounder
	109	Red drum
	110	Black seabass
	111	Southern flounder
	113	Bay anchovy
	115	Atlantic menhaden
	116	Striped mullet
	117	Pinfish
	119	Silver perch
	121	Spot
	122	Black drum
	123	Atlantic croaker
	124	Southern kingfish (whiting)
	126	King mackerel
	127	Spanish mackerel
	134	Cobia

	SPECIES ID	NAME
	137	Sheepshead
	138	Seatrout (weakfish)
	140	Ladyfish
	143	Tarpon
	273	Star drum
	287	Hardhead catfish
	290	Striped anchovy
	302	Gag grouper
	310	Atlantic spadefish
	318	Atlantic sharpnose shark
	366	Hogchoker
INVERTEBRATES	4	Pink shrimp
	47	Knobbed whelk
	49	Blue crab
	50	White shrimp
	51	Brown shrimp
	100	Quahog spp. (hard clam)

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
GT-Polygons	ID	integer
	RARNUM	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the BIO_LUT table. ID is a concatenation of atlas number (36), element number (8), and record number. ID values of 9999 are holes in polygons and do not contain information.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:

An identifier that links directly to the BIORES table or the flat format BIOFILE table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: REPTILES

The data layer REPTILES contains the polygons with reptile species. Reptiles depicted in this coverage include sea turtles and the gopher tortoise. American alligators are not included in the data due to widespread abundance and assumed low sensitivity to spills. Alligators can occur throughout freshwater and estuarine habitats in Georgia, particularly in wetlands, coastal rivers, ponds, and impoundments. Sea turtle areas displayed on the maps are limited to nesting beaches, and several well known in-water concentration areas. Sea turtle nesting beaches include sand beach areas where sea turtles come ashore to nest. In addition to nesting locations and the few in-water areas depicted, loggerhead, green, Kemp's ridley, and leatherback sea turtles can occur throughout the coastal, estuarine, and marine waters of Georgia. All sea turtles are protected as threatened or endangered species.

The following REPTILES species are found in the Georgia ESI atlas:

SPECIES ID	NAME
2	Green sea turtle
4	Kemp's ridley sea turtle
5	Leatherback sea turtle
6	Loggerhead sea turtle
21	Gopher tortoise

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
GT-Polygons	ID	integer
	RARNUM	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:
ID

5.1.2.2. ATTRIBUTE DEFINITION:
A unique identifier that links to the BIO_LUT table. ID is a concatenation of atlas number (36), element number (6), and record number. ID values of 9999 are holes in polygons and do not contain information.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:
An identifier that links directly to the BIORES table or the flat format BIOFILE table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1. DETAILED DESCRIPTION: SEASONAL

The data table SEASONAL specifies the month when each species is present.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
Attributes	ELEMENT	character
	SPECIES_ID	integer
	SEASON_ID	integer
	JAN	character
	FEB	character
	MAR	character
	APR	character
	MAY	character
	JUN	character
	JUL	character
	AUG	character
	SEP	character
	OCT	character
	NOV	character
	DEC	character
	EL_SPE_SEA	character

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ELEMENT

5.1.2.2. ATTRIBUTE DEFINITION:

Major categories of biological data

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
BIRD	Birds
FISH	Fish
HABITAT	Habitats and Rare Plants
INVERT	Invertebrates
M_MAMMAL	Marine Mammals
REPTILE	Reptiles and Amphibians

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
SPECIES_ID

5.1.2.2. ATTRIBUTE DEFINITION:
Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained by NOAA

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
SEASON_ID

5.1.2.2. ATTRIBUTE DEFINITION:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location. There can be one seasonality record per species, or the same species can have different monthly presence or breeding activities at different sites. When this occurs, a new record with a different SEASON_ID is referenced

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
JAN

5.1.2.2. ATTRIBUTE DEFINITION:
Present in January. Only FISH and INVERT have quantitative values

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
FEB

5.1.2.2. ATTRIBUTE DEFINITION:
Present in February. Only FISH and INVERT have quantitative values

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

MAR

5.1.2.2. ATTRIBUTE DEFINITION:

Present in March. Only FISH and INVERT have quantitative values

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

APR

5.1.2.2. ATTRIBUTE DEFINITION:

Present in April. Only FISH and INVERT have quantitative values

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

MAY

5.1.2.2. ATTRIBUTE DEFINITION:

Present in May. Only FISH and INVERT have quantitative values

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
JUN

5.1.2.2. ATTRIBUTE DEFINITION:
Present in June. Only FISH and INVERT have quantitative values

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
JUL

5.1.2.2. ATTRIBUTE DEFINITION:
Present in July. Only FISH and INVERT have quantitative values

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

AUG

5.1.2.2. ATTRIBUTE DEFINITION:

Present in August. Only FISH and INVERT have quantitative values

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

SEP

5.1.2.2. ATTRIBUTE DEFINITION:

Present in September. Only FISH and INVERT have quantitative values

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

OCT

5.1.2.2. ATTRIBUTE DEFINITION:

Present in October. Only FISH and INVERT have quantitative values

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
NOV

5.1.2.2. ATTRIBUTE DEFINITION:
Present in November. Only FISH and INVERT have quantitative values

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant
X	Present
	(blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
DEC

5.1.2.2. ATTRIBUTE DEFINITION:
Present in December. Only FISH and INVERT have quantitative values

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
2	Rare
3	Common
4	Abundant
5	Highly abundant

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
X	Present (blank) Not present

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
EL_SPE_SEA

5.1.2.2. ATTRIBUTE DEFINITION:
Concatenation of the first character of the ELEMENT, the SPECIES_ID, and the SEASON_ID that provides a link from the BIORES table to the BREED table.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1. DETAILED DESCRIPTION: SOC_DAT

The data table SOC_DAT contains the human-use attributes and links to the data layers MGT and SOCECON either directly, using HUNUM, or through the unique ID, using SOC_LUT.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
Attributes	HUNUM	integer
	TYPE	character
	NAME	character
	CONTACT	character
	PHONE	character
	G_SOURCE	integer
	A_SOURCE	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

HUNUM

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the SOC_LUT lookup table or directly back to the MGT or SOCECON coverages

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique link

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

TYPE

5.1.2.2. ATTRIBUTE DEFINITION:

Identifies the feature type

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
ACCESS	Access
AIRPORT	Airport
AQUACULTURE	Aquaculture Site
BEACH	Recreational Beach
BOAT RAMP	Boat Ramp
COAST GUARD	Coast Guard
COMMERCIAL FISHING	Commercial Fishing
DIVING	Diving Site
HAZARDOUS WASTE SITE	Hazardous Waste Site
HISTORICAL SITE	Historical Site
MARINA	Marina
MARINE SANCTUARY	Marine Sanctuary
NATIONAL PARK	National Park
PARK	Park
RECREATIONAL FISHING	Recreational Fishing
WATER INTAKE	Water Intake
WILDLIFE REFUGE	Wildlife Refuge

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

NAME

5.1.2.2. ATTRIBUTE DEFINITION:

The feature name

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Access
Altamaha State Waterfowl Management Area
Aquaculture Site
Ardsley Park - Chatham Cresent Historic District
Beach
Beach Access
Bethesa Home for Boys
Blackbeard Island National Wildlife Refuge
Brunswick Old Town
Brunswick Old Town Historic District
Brunswick Wood Preserving
Cassel S Store
Central Georgia Railroad
Central of Georgia Depot and Trainshed
Central of Georgia Railway Company Shop
Charity Hospital
Coast Guard Station
Cockspur Light
Cord Asendorf House
Crawfish Farm
Crooked River State Park
CSS Georgia (Ironclad)
CSS Nashville Shipwreck
Cumberland Island National Seashore
Dantignac House
Diving
Drouillard-Maupas House
Eden Field
Evelyn Plantation
Faith Chapel
Federal Building and U.S. Courthouse
First Bryan Baptist Church
Fort Frederica National Monument
Fort Jackson

ENUMERATED DOMAIN VALUE:

Fort King George
Fort King George State Historic Site
Fort McAllister
Fort McAllister State Historic Park
Fort Morris
Fort Pulaski
Fort Pulaski National Monument
Fort Screven Historic District
Fort Screven Batteries
Georgia (Ironclad RAM)
Glynco Jetport
Gray's Reef National Marine Sanctuary
Green-Meldrim House
Hamilton Plantation Slave Cabins
Harris Neck National Wildlife Refuge
Hercules Landfill
Hill Hall at Savannah State College
Historical Site
HOFWYL - Broadfield Plantation SHS
HOFWYL - Broadfield Plantation
Hog Hammock Community Quahog Farm
Horton-Dubignon House, Brewery Ruins
Hunter Army Airfield
Impoundment Intakes
Isaiah Davenport House
Isle of Hope Historic District
Jekyll Island Airport
Jekyll Island Club
Juliette Gordon Low Birthplace
Kraft Power Plant
Landing Strip
Laurel Grove-North Cemetery
Laurel Grove-South Cemetery
LCP Chemicals

ENUMERATED DOMAIN VALUE:

Lighthouse
Massie Common School House
McKinnon Airport
Mickve Israel Synagogue
Mulberry Grove Site
Nicholsonville Baptist Church
Oliver Sturges House
Ossabaw Island State Wildlife Management Area
Owens-Thomas House
Paper/Pulp Mill
Power Plant
R.J. Reynolds State Wildlife Refuge
Recreational Beach
Recreational Fishing
Rheem Manufacturing Company
Richmond Hill State Wildlife Management Area
Riverside Power Plant
Rockefeller Cottage
Saffold Field
Sapelo Island NERR
Savannah Industrial and Domestic Water
Savannah Municipal Airport
Savannah National Wildlife Refuge
Savannah Victorian Historic District
Shellfish Harvest
Shrimp/Clam Aquaculture
Shrimping
Skidaway Island State Park
Slotin Building
Soft Shell Crab Aquaculture
St. Catherines Island
St. Johns Church
St. Marys Airport
St. Philip AME Church

ENUMERATED DOMAIN VALUE:

St. Simons Lighthouse and Lighthouse Keep
Stone Savannah River Paper/Pulp Mill
Telfair Academy
The Ridge
Tybee Light
U.S. Custom House
Vernon Square-Columbus Square Historic District
W.B. Hodgson Hall, Georgia Historical
Wassaw National Wildlife Refuge
Water Intake
Wild Horn
William Scarbough House
William Washington Gorden House
Wolf Island National Wildlife Refuge
Wormsloe Plantation
Wormsloe Plantation State Historic Site

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

CONTACT

5.1.2.2. ATTRIBUTE DEFINITION:

Contact person

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

PHONE

5.1.2.2. ATTRIBUTE DEFINITION:
Telephone number

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
G_SOURCE

5.1.2.2. ATTRIBUTE DEFINITION:
Geographic source identifier that links to the SOURCES data table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique link

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
A_SOURCE

5.1.2.2. ATTRIBUTE DEFINITION:
Attribute source identifier that links to the SOURCES data table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique link

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: SOC_LUT

Lookup table to link SOC_DAT to SOCECON and MGT data layers.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
Attributes	HUNUM	integer
	ID	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:
HUNUM

5.1.2.2. ATTRIBUTE DEFINITION:
A unique identifier that links SOCECON and MGT to the SOC_DAT data table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
ID

5.1.2.2. ATTRIBUTE DEFINITION:
A unique identifier that links SOC_LUT to the SOCECON and MGT data layers

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

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5.1. DETAILED DESCRIPTION: SOCECON

The data layer SOCECON contains the entity points and complete chains for the human-use data.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
Complete Chains	TYPE	character
Entity Points	TYPE	character
	ID	integer
	HUNUM	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

TYPE

5.1.2.2. ATTRIBUTE DEFINITION:

Identifies a line or point with a socioeconomic, or human-use, feature. This attribute allows direct access to the type of feature instead of linking to the more detailed SOC_DAT table.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
A	Airport
A2	Access
AQ	Aquaculture
B	Beach
BR	Boat Ramp
CF	Commercial Fishing
CG	Coast Guard
DV	Diving
HS	Historical Site
HW	Hazardous Waste Site
M	Marina
R	Bridge (chain)
RF	Recreational Fishing
SB	State Border (chain)
WI	Water Intake

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
ID

5.1.2.2. ATTRIBUTE DEFINITION:
A unique identifier that links to the SOC_LUT table. ID is a concatenation of atlas number (36), element number (10), and record number.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
HUNUM

5.1.2.2. ATTRIBUTE DEFINITION:
An identifier that links directly to the SOC_DAT table.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1. DETAILED DESCRIPTION: SOURCES

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

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
Attributes	SOURCE_ID	integer
	ORIGINATOR	character
	DATE_PUB	integer
	TITLE	character
	DATA_FORMAT	character
	PUBLICATION	character
	SCALE	character
	TIME_PERIOD	character

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

SOURCE_ID

5.1.2.2. ATTRIBUTE DEFINITION:

Source identifier that links to G_SOURCE, S_SOURCE, and A_SOURCE found in the BIORES, BIOFILE and SOC_DAT tables

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:
ORIGINATOR

5.1.2.2. ATTRIBUTE DEFINITION:
Author of the data set

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
DATE_PUB

5.1.2.2. ATTRIBUTE DEFINITION:
Date of data collection or publication

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	The first two integers are the month and the last four are the year. If month is unknown, only the four-digit year is entered

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
TITLE

5.1.2.2. ATTRIBUTE DEFINITION:
Title of the source data set or document

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Originator who provided data, or RPI for personal interviews with resource experts

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
DATA_FORMAT

5.1.2.2. ATTRIBUTE DEFINITION:
The format of the source data set

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Digital Point Data (ASCII)
Digital Polygons
Digital Tables
Expert Knowledge
Expert Knowledge and Hardcopy Maps
Hardcopy Maps
Hardcopy Maps and Expert Knowledge
Hardcopy Report and Maps
Hardcopy Tables

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
PUBLICATION

5.1.2.2. ATTRIBUTE DEFINITION:
Additional citation information

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
SCALE

5.1.2.2. ATTRIBUTE DEFINITION:
Source scale denominator

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
ordinal

5.1.2.1. ATTRIBUTE LABEL:
TIME_PERIOD

5.1.2.2. ATTRIBUTE DEFINITION:
Date(s) of data collection

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1. DETAILED DESCRIPTION: SPECIES

The data table SPECIES identifies all species used in the ESI atlas.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
Attributes	SPECIES_ID	integer
	NAME	character
	GEN_SPEC	character
	ELEMENT	character
	SUBELEMENT	character
	NHP	character
	DATE_PUB	integer
	EL_SPE	character

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

SPECIES_ID

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

NAME

5.1.2.2. ATTRIBUTE DEFINITION:

Species common name

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

American avocet
American coot
American eel
American kestrel
American oyster (eastern)
American oystercatcher
American shad
American swallow-tailed kite
American wigeon
Anhinga
Atlantic croaker
Atlantic menhaden
Atlantic sharpnose shark
Atlantic spadefish
Atlantic sturgeon
Bald eagle
Bar jack
Bay anchovy
Belted sandfish
Black drum
Black duck
Black seabass
Black skimmer
Black tern
Black-bellied plover
Black-crowned night heron
Black-necked stilt
Blue angelfish
Blue crab
Blue-winged teal
Blueback herring
Bluefish

ENUMERATED DOMAIN VALUE:

Bonapartes gull
Brown pelican
Brown shrimp
Buff-breasted sandpiper
Bufflehead
Canvasback
Caspian tern
Cattle egret
Cobia
Cocoa damselfish
Common moorhen
Common snipe
Coopers hawk
Cubbyu
Dense-flowered groundsel-tree
Double-crested cormorant
Dowitcher
Dunlin
Endangered anadromous fish
Endangered passerine bird
Endangered raptor
Endangered wading bird
Fin whale
Forsters tern
Gadwall
Gag grouper
Glossy ibis
Gopher tortoise
Grass shrimp
Gray snapper
Great barracuda
Great blue heron
Great egret
Greater amberjack
Greater scaup
Greater yellowlegs
Green sea turtle
Green-backed heron

ENUMERATED DOMAIN VALUE:

Green-winged teal
Gull-billed tern
Gulls
Hardbottom reef
Hardbottom reef ledge
Hardhead catfish
Herring gull
Hickory shad
Hogchoker
Hooded merganser
Humpback whale
Inshore lizardfish
Kemps ridley sea turtle
Killdeer
King mackerel
Knobbed whelk
Ladyfish
Laughing gull
Least sandpiper
Least tern
Leatherback sea turtle
Lesser scaup
Lesser yellowlegs
Little blue heron
Loggerhead sea turtle
Longspine porgy
Mackerel scad
Mallard
Marbled godwit
Merlin
Mottled duck
Mummichog
Northern harrier
Northern pintail
Northern right whale
Northern shoveler
Osprey

ENUMERATED DOMAIN VALUE:

Pearly razorfish
Pectoral sandpiper
Peep
Peregrine falcon
Pied-billed grebe
Pinfish
Pink shrimp
Piping plover
Purple gallinule
Pygmy sperm whale
Quahog spp. (hard clam)
Rare community
Rare fish
Rare frog
Rare lizard
Rare passerine bird
Rare raptor
Rare rodent
Rare salamander
Rare shorebird
Rare tern
Rare terrestrial plant
Rare wading bird
Rare wetland / aquatic plant
Red drum
Red knot
Red porgy
Red-shouldered hawk
Red-tailed hawk
Redhead
Ring-billed gull
Ring-necked duck
Round scad
Royal tern
Ruddy duck
Ruddy turnstone
Sand perch

ENUMERATED DOMAIN VALUE:

Sanderling
Sandwich tern
Scamp grouper
Seatrout (weakfish)
Semipalmated plover
Semipalmated sandpiper
Sharp-shinned hawk
Sheepshead
Shortnose sturgeon
Silver perch
Slippery dick
Snowy egret
Solitary sandpiper
Southern flounder
Southern kingfish (whiting)
Southern stingray
Spanish mackerel
Spot
Spotfin butterflyfish
Spottail pinfish
Spotted sandpiper
Spotted seatrout
Star drum
Stilt sandpiper
Striped anchovy
Striped bass
Striped mullet
Summer flounder
Tarpon
Terns
Threatened rodent
Threatened tern
Threatened terrestrial plant
Threatened turtle
Threatened wetland/aquatic plant
Tomtate
Tricolored heron

ENUMERATED DOMAIN VALUE:

Upland sandpiper
Wading birds
Waterfowl
West Indian manatee
Western sandpiper
Whimbrel
White ibis
White shrimp
White-rumped sandpiper
Willet
Wilsons phalarope
Wilsons plover
Wood duck
Wood stork
Yellow jack
Yellow-crowned night heron
Yellowlegs

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

GEN_SPEC

5.1.2.2. ATTRIBUTE DEFINITION:

Species scientific name

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Accipiter cooperii
Accipiter striatus
Acipenser brevirostrum
Acipenser oxyrhynchus
Actitis macularia

ENUMERATED DOMAIN VALUE:

Aix sponsa
Alosa aestivalis
Alosa mediocris
Alosa sapidissima
Anas acuta
Anas americana
Anas clypeata
Anas crecca
Anas discors
Anas fulvigula
Anas platyrhynchos
Anas rubripes
Anas strepera
Anchoa hepsetus
Anchoa mitchilli
Anguilla rostrata
Anhinga anhinga
Archosargus probatocephalus
Ardea herodias
Arenaria interpres
Arius felis
Aythya affinis
Aythya americana
Aythya collaris
Aythya marila
Aythya valisineria
Baccharis glomeruliflora
Bairdiella chrysoura
Balaenoptera physalus
Bartramia longicauda
Brevoortia tyrannus
Bubulcus ibis
Bucephala albeola
Busycon carica
Buteo jamaicensis
Buteo lineatus
Butorides striatus

ENUMERATED DOMAIN VALUE:

Calidris alba
Calidris alpina
Calidris canutus
Calidris fusciollis
Calidris himantopus
Calidris mauri
Calidris melanotos
Calidris minutilla
Calidris pusilla
Calidris spp.
Callinectes sapidus
Caranx bartholomaei
Caranx ruber
Caretta caretta
Casmerodius albus
Catoptrophorus semipalmatus
Centropristis striata
Chaetodipterus faber
Chaetodon ocellatus
Charadrius melodus
Charadrius semipalmatus
Charadrius vociferus
Charadrius wilsonia
Chelonia mydas
Chlidonias niger
Circus cyaneus
Crassostrea virginica
Cynoscion nebulosus
Cynoscion regalis
Dasyatis americana
Decapterus macarellus
Decapterus punctatus
Dermochelys coriacea
Diplectrum formosum
Diplodus holbrooki
Egretta caerulea
Egretta thula

ENUMERATED DOMAIN VALUE:

Egretta tricolor
Elanoides forficatus
Elops saurus
Equetus umbrosus
Eubalaena glacialis
Eudocimus albus
Falco columbarius
Falco peregrinus
Falco sparverius
Fulica americana
Fundulus heteroclitus
Gallinago gallinago
Gallinula chloropus
Gopherus polyphemus
Haematopus palliatus
Haemulon aurolineatum
Haliaeetus leucocephalus
Halichoeres bivittatus
Hemipteronotus novacula
Himantopus mexicanus
Holacanthus bermudensis
Kogia breviceps
Lagodon rhomboides
Larus argentatus
Larus atricilla
Larus delawarensis
Larus philadelphia
Leiostomus xanthurus
Lepidochelys kempii
Limnodromus spp.
Limosa fedoa
Lophodytes cucullatus
Lutjanus griseus
Megalops atlanticus
Megaptera novaeangliae
Menticirrhus americanus
Mercenaria spp.

ENUMERATED DOMAIN VALUE:

Micropogonias undulatus
Morone saxatilis
Mugil cephalus
Mycteria americana
Mycteroperca microlepis
Mycteroperca phenax
Numenius phaeopus
Nyctanassa violacea
Nycticorax nycticorax
Oxyura jamaicensis
Pagrus pagrus
Palaemonetes sp.
Pandion haliaetus
Paralichthys dentatus
Paralichthys lethostigma
Pelecanus occidentalis
Penaeus aztecus
Penaeus duorarum
Penaeus setiferus
Phalacrocorax auritus
Plegadis falcinellus
Pluvialis squatarola
Podilymbus podiceps
Pogonias cromis
Pomacentrus variabilis
Pomatomus saltatrix
Porphyrula martinica
Rachycentron canadum
Recurvirostra americana
Rhizoprionodon terraenovae
Rynchops niger
Sciaenops ocellatus
Scomberomorus cavalla
Scomberomorus maculatus
Seriola dumerili
Serranus subligarius
Sphyraena barracuda

ENUMERATED DOMAIN VALUE:

Steganopus tricolor
Stellifer lanceolatus
Stenotomus caprinus
Sterna antillarum
Sterna caspia
Sterna fosteri
Sterna maxima
Sterna nilotica
Sterna sandvicensis
Synodus foetens
Trichechus manatus
Trinectes maculatus
Tringa flavipes
Tringa melanaleuca
Tringa solitaria
Tringa spp.
Tryngites subruficollis

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

ELEMENT

5.1.2.2. ATTRIBUTE DEFINITION:

Biological element

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
BIRD	Birds
FISH	Fish
HABITAT	Habitats and Rare Plants
INVERT	Invertebrates
M_MAMMAL	Marine Mammals
REPTILE	Reptiles and Amphibians

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

SUBELEMENT

5.1.2.2. ATTRIBUTE DEFINITION:

Species subgroup

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

anadromous
bivalve
crab
diving
gastropod
gull_tern
hardbottom
manatee
raptor
rare plant
shorebird
shrimp
special
turtle
wading
waterfowl
whale

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

NHP

5.1.2.2. ATTRIBUTE DEFINITION:

Natural Heritage Program global ranking

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NHP

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
G1	Critically imperiled
G2?	Imperiled, inexact rank
G3	Vulnerable
G4	Apparently secure
G5	Secure

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NHP

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

ordinal

5.1.2.1. ATTRIBUTE LABEL:

DATE_PUB

5.1.2.2. ATTRIBUTE DEFINITION:

Date of NHP listing

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
0	Not listed by NHP
121996	Date of NHP list

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

EL_SPE

5.1.2.2. ATTRIBUTE DEFINITION:

Concatenation of the first character of the ELEMENT and the SPECIES_ID, which provides the link from the BIORES table.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: STATUS

The data table STATUS identifies the species that are listed as either threatened or endangered on state or federal lists.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
Attributes	ELEMENT	character
	SPECIES_ID	integer
	STATE	character
	S_F	character
	T_E	character
	DATE_PUB	integer
	EL_SPE	character

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ELEMENT

5.1.2.2. ATTRIBUTE DEFINITION:

Major categories of biological data

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
BIRD	Birds
FISH	Fish
HABITAT	Habitats and Rare Plants
INVERT	Invertebrates
M_MAMMAL	Marine Mammals
REPTILE	Reptiles and Amphibians

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:
SPECIES_ID

5.1.2.2. ATTRIBUTE DEFINITION:
Numeric identifier for each species and is unique within each element and refers to a nationwide ESI species list maintained by NOAA

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
STATE

5.1.2.2. ATTRIBUTE DEFINITION:
Two-letter state abbreviation

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
GA	Georgia

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:

S_F

5.1.2.2. ATTRIBUTE DEFINITION:

State and Federal status

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
F	Federally listed
S	State listed
S/F	State and Federally listed

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

USFWS

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

T_E

5.1.2.2. ATTRIBUTE DEFINITION:

Threatened and endangered status

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
E	State endangered
E/E	Endangered on Federal and State lists
E/T	Endangered on State list and threatened on Federal list
T	State threatened
T/E	Threatened on State list and endangered on Federal list
T/T	Threatened on Federal and State lists

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

USFWS

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
DATE_PUB

5.1.2.2. ATTRIBUTE DEFINITION:
Date of NHP listing

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

51996

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
EL_SPE

5.1.2.2. ATTRIBUTE DEFINITION:
Concatenation of the first character of the ELEMENT and the SPECIES_ID, which provides the link from the BIORES and SPECIES tables

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1-N	Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

6.0. DISTRIBUTION INFORMATION

6.1. DISTRIBUTOR

6.1.1. CONTACT PERSON PRIMARY

6.1.1.1. CONTACT PERSON:

John Kaperick

6.1.1.2. CONTACT ORGANIZATION:

NOAA, Office of Response and Restoration

6.1.4. CONTACT ADDRESS

6.1.4.1. ADDRESS TYPE:

Physical Address

6.1.4.2. ADDRESS:

7600 Sand Point Way N.E.

6.1.4.3. CITY:

Seattle

6.1.4.4. STATE OR PROVINCE:

WA

6.1.4.5. POSTAL CODE:

98115-6349

6.1.5. CONTACT VOICE TELEPHONE:

(206) 526-6400

6.1.7. CONTACT FACSIMILE TELEPHONE:

(206) 526-6329

6.2. RESOURCE DESCRIPTION:

ESI Atlas for Georgia

6.3. 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.

6.5. CUSTOM ORDER PROCESS

Contact NOAA for distribution options (see 6.1.1.).

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7.0. METADATA REFERENCE INFORMATION

7.1. METADATA DATE:
200007

7.2. METADATA REVIEW DATE:
200007

7.4. METADATA CONTACT

7.4.1. CONTACT PERSON PRIMARY

7.4.1.1. CONTACT PERSON:
Jill Petersen

7.4.1.2. CONTACT ORGANIZATION:
NOAA, Office of Response and Restoration

7.4.3. CONTACT POSITION:
GIS Manager

7.4.4. CONTACT ADDRESS

7.4.4.1. ADDRESS TYPE:
Physical Address

7.4.4.2. ADDRESS:
7600 Sand Point Way N.E.

7.4.4.3. CITY:
Seattle

7.4.4.4. STATE OR PROVINCE:
Washington

7.4.4.5. POSTAL CODE:
98115-6349

7.4.5. CONTACT VOICE TELEPHONE:
(206) 526-6944

7.4.7. CONTACT FACSIMILE TELEPHONE:
(206) 526-6329

7.4.8. CONTACT ELECTRONIC MAIL ADDRESS:
jill_petersen@hazmat.noaa.gov.us

7.5. METADATA STANDARD NAME:
Content Standards for Digital Geospatial Metadata

7.6. METADATA STANDARD VERSION:
19940608

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