

UPPER COAST OF TEXAS
ENVIRONMENTAL SENSITIVITY INDEX
METADATA

Prepared By:

Research Planning, Inc.
1121 Park Street
Columbia, South Carolina 29201 USA

FILE DESCRIBES: Digital data for 1995 Upper Coast of Texas Environmental Sensitivity Index. Data were compiled and digitized at Research Planning, Inc., Columbia, South Carolina.

FILE CREATED BY: Joanne N. Halls, Ph.D.
Director, GIS Department
Research Planning, Inc.
Post Office Box 328
Columbia, SC 29202
Phone: (803) 256-7322
FAX: (803) 254-6445
email: joanne@researchplanning.com

FILE CREATED ON: 19970325

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 Meta Data 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, ver. 03/92, was referenced to properly identify the geographic entities.

TABLE OF CONTENTS

	Page
1.0. IDENTIFICATION INFORMATION.....	1
1.1. Citation.....	1
1.2. Description.....	2
1.3. Time Period of Content.....	2
1.4. Status.....	2
1.5. Spatial Domain.....	2
1.6. Keywords.....	3
1.7. Access Constraints.....	3
1.8. Use Constraints.....	3
1.11. Data Set Credit.....	3
1.13. Native Data Set Environment.....	4
2.0. DATA QUALITY INFORMATION.....	5
2.1. Attribute Accuracy.....	5
2.2. Logistical Consistency Report.....	5
2.3. Completeness Report.....	6
Shoreline Habitat Mapping.....	6
Sensitive Biological Resources.....	7
Human Use Resources.....	10
2.4. Positional Accuracy.....	11
2.5. Lineage.....	11
2.5.1. Source Information: BIRDS.....	11
Source Information: CITYLIM.....	13
Source Information: ESL.....	13
Source Information: ESIP.....	14
Source Information: FISH.....	15
Source Information: HABITATS.....	16
Source Information: HYDRO.....	17
Source Information: INDEX.....	18
Source Information: MGT.....	18
Source Information: M_MAMMAL.....	18
Source Information: NESTS.....	19
Source Information: NURSERY.....	20
Source Information: OYSTERS.....	21
Source Information: REPTILES.....	21
Source Information: ROADS.....	22
Source Information: ROOKERY.....	23
Source Information: SEAGRASS.....	23
Source Information: SHELLFSH.....	24
Source Information: SOCECON.....	25
Source Information: T_MAMMAL.....	27

TABLE OF CONTENTS (continued)

	Page
3.0. SPATIAL DATA ORGANIZATION INFORMATION	31
3.2. Direct Spatial Reference Method.....	31
3.3. Point and Vector Object Information.....	31
4.0. SPATIAL REFERENCE INFORMATION.....	33
4.1. Horizontal Coordinate System Definition.....	33
5.0. ENTITY AND ATTRIBUTE INFORMATION.....	35
5.1. Detailed Description: BIRDS	35
Detailed Description: CITYLIM.....	39
Detailed Description: ESL.....	41
Detailed Description: ESIP	49
Detailed Description: FISH	51
Detailed Description: HABITATS.....	55
Detailed Description: HYDRO.....	59
Detailed Description: INDEX.....	63
Detailed Description: MGT.....	67
Detailed Description: M_MAMMAL.....	69
Detailed Description: NESTS	71
Detailed Description: NURSERY	73
Detailed Description: OYSTERS	75
Detailed Description: REPTILES.....	77
Detailed Description: ROADS.....	79
Detailed Description: ROOKERY.....	81
Detailed Description: SEAGRASS.....	83
Detailed Description: SHELLFSH.....	85
Detailed Description: SOCECON.....	87
Detailed Description: T_MAMMAL	89
6.0. DISTRIBUTION INFORMATION.....	91
6.1. Distributor	91
6.2. Resource Description.....	91
6.3. Distribution Liability.....	91
6.5. Custom Order Process.....	91
7.0. METADATA REFERENCE INFORMATION.....	93
7.1. Metadata Date	93
7.2. Metadata Review Date.....	93
7.4. Metadata Contact.....	93
7.5. Metadata Standard Name	93
7.6. Metadata Standard Version.....	93

LIST OF FIGURES

	Page
1 Relationships between data layers, lookup tables, and data tables.....	8

1.0. IDENTIFICATION INFORMATION**1.1. CITATION****1.1.1. ORIGINATOR:**

National Oceanic and Atmospheric Administration (NOAA), Office of Ocean Resources Conservation and Assessment, Seattle, Washington 98115; and Research Planning, Inc., 1121 Park Street, Post Office Box 328, Columbia, South Carolina 29202

1.1.2. PUBLICATION DATE:

199511

1.1.4. TITLE:

Sensitivity of Coastal Environments and Wildlife to Spilled Oil:
Upper Coast of Texas

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:

Upper Coast of Texas

1.1.8. PUBLICATION INFORMATION**1.1.8.1. PUBLICATION PLACE:**

Seattle, Washington

1.1.8.2. PUBLISHER:

NOAA, Office of Ocean Resources Conservation and Assessment

1.1.9. OTHER CITATION DETAILS:

Prepared by Research Planning, Inc. (RPI), Columbia, South Carolina for the Hazardous Materials Response and Assessment Division, National Oceanic and Atmospheric Administration, Seattle, Washington and the Texas General Land Office (GLO)

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 Upper Coast of Texas. ESI data characterize coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats; sensitive biological resources; and human-use resources

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 were mapped during aerial and ground surveys conducted in June 1994. The biological and human use resources data were compiled by regional biologists in 1994. The dates for these data vary and are documented in Section 2.5.1

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:

-95.75

1.5.1.2. EAST BOUNDING COORDINATE:

-93.625

1.5.1.3. NORTH BOUNDING COORDINATE:

30.125

1.5.1.4. SOUTH BOUNDING COORDINATE:

28.625

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:

Upper coast of Texas, from Christmas Point at the south end
of the Galveston Bay system to the Texas-Louisiana border,
up the Neches River to Beaumont, and up the Sabine River
to the city of Orange

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 this data.

Acknowledgment of NOAA and other contributing sources would be
appreciated in products derived from these data

1.11. DATA SET CREDIT:

This project was supported jointly by NOAA's Hazardous Materials Response
and Assessment Division, Robert Pavia, Project Manager, and Lee Smith of
the Texas GLO.

All of the biological data included on these maps were provided by David
Bezanson of GLO, who collected the information from numerous people
throughout Texas.

At RPI, Jeffrey Dahlin was the project biologist and Joanne Halls was responsible for the collection of data and automation of the maps. Shoreline mapping was conducted by Jacqueline Michel and Miles O. Hayes. E. Lee Diveley, III digitized and organized the GIS data and William Holton produced the final maps.

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) and ORACLE RDBMS (version 6.0.36.1.1). The hardware configuration is Hewlett Packard workstations (models 715/50 and 712/80 with 4 X-terminals) with UNIX operating system (HP-UX Release A.09.01). The following files are included in the data set:

birds.e00	biores.e00	citylim.e00
esi.e00	esip.e00	fish.e00
habitats.e00	hydro.e00	index.e00
m_mammal.e00	mgt.e00	nests.e00
nursery.e00	oysters.e00	pnts_lut.e00
poly_lut.e00	reptiles.e00	roads.e00
rookery.e00	seagrass.e00	seasonal.e00
shellfish.e00	soc_data.e00	soc_lut.e00
socecon.e00	species.e00	t_mammal.e00

The entire data set is approximately 50 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 compilation of ESI atlases includes stringent geographic and attribute quality control. All data are entered into standardized databases which must meet the national consistency in species names and other seasonal and reproductive qualities. Geographically, all appropriate data use the shoreline as a reference, which means the ESI classification and placement of the shoreline is performed prior to adding human-use and biological data. The first layer of information digitized is the ESI shoreline. Any errors in the shoreline classification are updated prior to digitization of the biological and human-use layers. Upon completion of digitization, the data are checked for completeness and topological and logical consistency and then plotted and checked by the mapping geologists. Unlike other ESI atlases, the Upper Coast of Texas atlas contains human-use and biological data which all came from digital data sets provided by the Texas GLO. Integrating this digital data into the ESI data structure included checks for attribute and geographic consistency. For instance, many slivers between the shoreline and other entities were removed and many boundaries were edge-matched.

The data were digitized, checked using both digital and on-screen procedures, plotted, and sent out for review by the regional specialists. The edited maps were updated, checked once again, and the final product plotted (at approximately 1:50,000 scale). A team of specialists reviewed the entire series of maps, checked all data, and made final edits. The data were then merged to form the atlas-wide layers. The data merging included a final quality control check where labels, chains, and polygons were checked for attribute accuracy.

There were edge-matching problems in some of the data due to the original source information. These data were not compiled specifically for this project and it was determined to be economically and operationally prohibitive to fix these edge-matching problems.

To finalize the data checking process, each coverage was checked using a standardized form by two GIS personnel (a technician and the GIS manager), and each attribute database was checked using several programs which 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 was made by the GIS manager and programs were run to generate the unique IDs and associated lookup tables.

2.3. **COMPLETENESS REPORT:**

Shoreline Habitat Mapping:

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 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.

Sensitive Biological Resources:

Regional biologists compiled 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, shellfish, habitats, mammals, and reptiles.

Each element corresponds to a data layer or geographic theme. There are three attribute tables, BIORES, SEASONAL, and SPECIES, that are used to store the complex biological data (Fig. 1). Each biological coverage (BIRDS, FISH, HABITATS, M_MAMMAL, NESTS, OYSTERS, REPTILES, ROOKERY, SEAGRASS, SHELLFSH, and T_MAMMAL) is linked to the Biological Resources table (BIORES) using the lookup tables POLY_LUT and PNTS_LUT. The item ID on the data layer is linked to ID in the lookup tables. The item RARNUM in the lookup tables is linked to RARNUM in the BIORES table. The value of RARNUM is determined for each unique combination of SPECIES_ID, SEASON_ID, and CONC. The items in BIORES are: RARNUM; SPECIES_ID; CONC; SEASON_ID; G_SOURCE; S_SOURCE; and ELEMENT. 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 LOW, MEDIUM, or HIGH, or an actual count of the numbers of species present in the polygon. SEASON_ID contains a numeric value according to the monthly presence of the species. Usually, there is one seasonality per species, but occasionally the same species has different monthly presence or breeding activity. When this occurs, a new record with a different seasonality is referenced. The G_SOURCE and S_SOURCE items are used to indicate geographic and seasonality sources for each species in the database. However, these data were not available for publication of this atlas.

The SEASONAL table stores the monthly presence of each species and the characteristics of the presence (life history information). The BIORES table is linked to the SEASONAL table using the SPECIES_ID, ELEMENT, and SEASON_ID items. The categories of the variables BREED1 through BREED5 for each ELEMENT are:

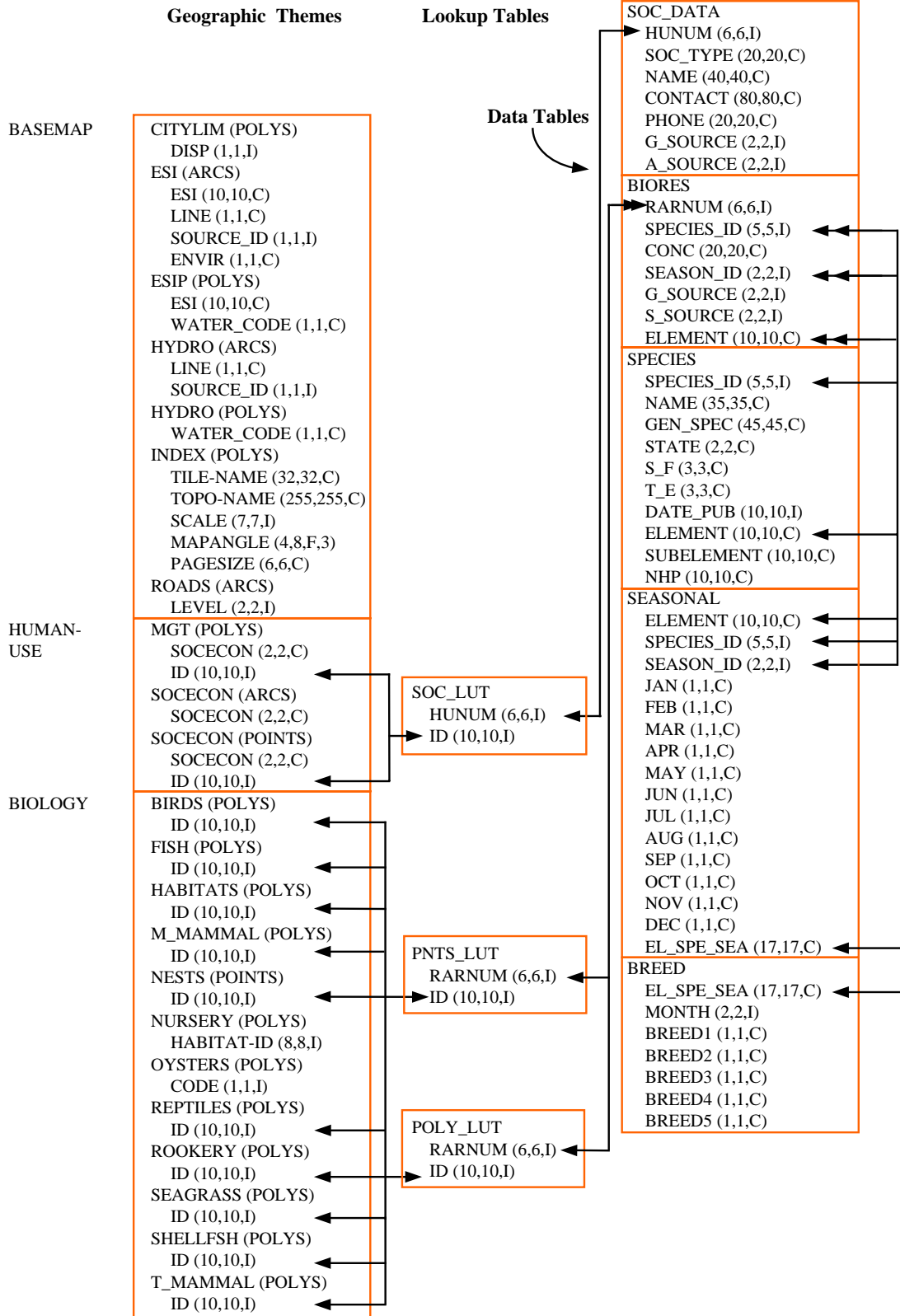


FIGURE 1. Relationships between data layers, lookup tables, and data tables.

ELEMENT	BREED 1	BREED 2	BREED 3	BREED 4	BREED 5
BIRD	nesting	laying	hatching	fledging	
FISH	spawning	outmigration	larvae	juvenile	adult
M_MAMMAL	mating	calving	pupping	molting	
REPTILE	nesting	hatching	internesting		
SHELLFISH	spawning	larvae	mating	juvenile	adult

NOTE: There are no BREED variables for HABITATS.

The SPECIES table contains the species identification number (SPECIES_ID), common name (NAME), the scientific name (GEN_SPEC), the two-letter state code for listed species (STATE), the state and federal status (S_F), the threatened or endangered status (T_E), the date of the state or federal list (DATE_PUB), the species element (ELEMENT), the species sub-group (SUBELEMENT), and the global rank of the species as defined by the Natural Heritage Program (NHP). The item SUBELEMENT refers to the grouping of the species. The SUBELEMENTS, by ELEMENT, included in this atlas are:

ELEMENT	SUBELEMENT
BIRD	diving
	gull_tern
	passerine
	pelagic
	raptor
	shorebird
	wading
	waterfowl
FISH	anadromous
	special
HABITAT	submerged aquatic vegetation
	shrub
M_MAMMAL	dolphin
REPTILE	alligator
	amphibian
	snake
	turtle
SHELLFISH	clam
	crab
	gastropod

	oyster
	shrimp
T_MAMMAL	mustelid

Human Use Resources:

Several human-use, or socio-economic, features are included in this ESI atlas. Entity points and complete chains (arcs) are digitized into the coverage SOCECON and managed land polygonal data are stored in the MGT coverage. Both data sets are linked to the database SOC_DATA using the lookup table SOC_LUT and items ID and RARNUM.

ENTITY POINTS (.PAT)		COMPLETE CHAINS (.AAT)		POLYGONS (.PAT)	
Item	Type	Item	Type	Item	Type
SOCECON	C	SOCECON	C	SOCECON	C
ID	I			ID	I

Complete chains and entity points are digitized and attributed in the SOCECON items and may contain:

Entity Points		Polygons	
Feature	SOCECON	Feature	SOCECON
Access	A2	Beach	B
Airport	A	Indian Reservation	IR
Aquaculture	AQ	International Border	IB
Archaeological Site	AS	Marine Sanctuary	MS
Boat Ramp	BR	National Park	NP
Campground	CP	Regional or State Park	P
Coast Guard	CG	Wildlife Refuge	WR
Commercial Fishing	CF		
Diving	DV	Complete Chains	
Ferry	F	Feature	SOCECON
Factory	F2	Beach	B
Hoist	H	Indian Reservation	IR
Helipad	HP	International Border	IB
Historical Site	HS	Marine Sanctuary	MS
Lock and Dam	LD	National Park	NP
Log Storage	LS	Pipeline	P
Marina	M	Regional or State Park	P
Mining	MZ	Wildlife Refuge	WR
Oil Facilities	OF		
Platform	PF		
Recreational Fishing	RF		
Subsistence	S		
Well	W		
Water Intake	WI		

The table SOC_DATA contains the link to the SOC_LUT resource at risk number (RARNUM), the feature type (SOC_TYPE), the name of the facility (NAME), the person or organization (CONTACT), the telephone number (PHONE), the geographic source (G_SOURCE), and the attribute source (A_SOURCE). G_SOURCE and A_SOURCE were not compiled in this atlas, but the items remain in order to keep the integrity of the data structure.

2.4. POSITIONAL ACCURACY

2.4.1. HORIZONTAL POSITIONAL ACCURACY

2.4.1.1. HORIZONTAL POSITIONAL ACCURACY REPORT:

The ESI data uses 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:

Data layer 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
Smith, Lee, Texas General Land Office	1995	Species - 1 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995

UPPER COAST OF TEXAS METADATA

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
Smith, Lee, Texas General Land Office	1995	Species - 2 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 3 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 4 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	SABPASS Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - Lower Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from inquiries to USFWS, NMFS, GLO, National Audubon Society, and others	24000	1993-1995

2.5.1. SOURCE INFORMATION:

Data layer or theme name: CITYLIM

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
Smith, Lee, Texas General Land Office	1995	CITYLIMITS	Digital, poly	Digitized by GLO	Unknown	Unknown

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
Smith, Lee, Texas General Land Office	1979	NWI 79	Digital, poly	USFWS digitized from aerial photography	40000	1979
Smith, Lee, Texas General Land Office	1983	NWI 83	Digital, poly	USFWS digitized from aerial photography	40000	1983
Handley, Larry, National Biological Survey	1988	NWI 88	Digital, poly	Unknown	40000	Unknown
Smith, Lee, Texas General Land Office	1989	NWI 89	Digital, poly	USFWS digitized from aerial photography	40000	1988
Hayes, Miles O., Research Planning, Inc. and Bill White, Texas Bureau of Economic Geology	1995	ESI Shoreline Classification	Air photos	None	Unknown	1995
Research Planning, Inc.	1995	ESI Shoreline Classification	Hardcopy	USGS 7.5 minute quadrangles	24000	Various

2.5.1. SOURCE INFORMATION:

Data layer or theme name: ESIP

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
Smith, Lee, Texas General Land Office	1979	NWI 79	Digital, poly	USFWS digitized from aerial photography	40000	1979
Smith, Lee, Texas General Land Office	1983	NWI 83	Digital, poly	USFWS digitized from aerial photography	40000	1983
Handley, Larry, National Biological Survey	1988	NWI 88	Digital, poly	Unknown	40000	Unknown
Smith, Lee, Texas General Land Office	1989	NWI 89	Digital, poly	USFWS digitized from aerial photography	40000	1988
Hayes, Miles O., Research Planning, Inc. and Bill White, Texas Bureau of Economic Geology	1995	ESI Shoreline Classification	Air photos	None	Unknown	1995
Research Planning, Inc.	1995	ESI Shoreline Classification	Hardcopy	USGS 7.5 minute quadrangles	24000	Various

2.5.1. SOURCE INFORMATION:

Data layer 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
Smith, Lee, Texas General Land Office	1995	Species - 1 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 2 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 3 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 4 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	SABPASS Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - Lower Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO based on inquiries to TPWD, USFWS biologists	Unknown	1993-1995

2.5.1. SOURCE INFORMATION:

Data layer 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
Smith, Lee, Texas General Land Office	1995	Species - 1 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 2 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 3 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 4 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - Lower Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1995

2.5.1. SOURCE INFORMATION:

Data layer 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
Smith, Lee, Texas General Land Office	1979	NWI 79	Digital, poly	USFWS digitized from aerial photography	40000	1979
Smith, Lee, Texas General Land Office	1983	NWI 83	Digital, poly	USFWS digitized from aerial photography	40000	1983
Handley, Larry, National Biological Survey	1988	NWI 88	Digital, poly	Unknown	40000	Unknown
Smith, Lee, Texas General Land Office	1989	NWI 89	Digital, poly	USFWS digitized from aerial photography	40000	1988
Hayes, Miles O., Research Planning, Inc. and Bill White, Texas Bureau of Economic Geology	1995	ESI Shoreline Classification	Air photos	None	Unknown	1995
Research Planning, Inc.	1995	ESI Shoreline Classification	Hardcopy	USGS 7.5 minute quadrangles	24000	Various
Smith, Lee, Texas General Land Office	Unknown	NAMES24	Digital, label points	Digitized by GLO from USGS Geographic Names Information Service	24000	Unknown

2.5.1. SOURCE INFORMATION:

Data layer 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.	1995	INDEX	Digital, poly	Generated from USGS latitude/longitude coordinates	24000	Various

2.5.1. SOURCE INFORMATION:

Data layer 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
Smith, Lee, Texas General Land Office	Unknown	PARKS	Digital, poly	Digitized by GLO from deeds and hardcopy maps	24000 mostly	1994
Smith, Lee, Texas General Land Office	Unknown	COASTPRES Texas Coastal Preserves	Digital, poly	Digitized by GLO from hardcopy maps	24000	1993

2.5.1. SOURCE INFORMATION:

Data layer 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
Smith, Lee, Texas General Land Office	1995	Species - 1 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995

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
Smith, Lee, Texas General Land Office	1995	Species - 2 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 3 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 4 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - Lower Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from inquiries to field personnel	24000	1993-1995

2.5.1. SOURCE INFORMATION:

Data layer 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
Smith, Lee, Texas General Land Office	1995	Texas Natural Heritage Program Data	Digital, point	Digitized by TPWD from hardcopy maps	24000	1993-1995

2.5.1. SOURCE INFORMATION:

Data layer or theme name: NURSERY

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
Smith, Lee, Texas General Land Office	1995	Species - 1 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 2 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 3 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 4 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	SABPASS Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995

2.5.1. SOURCE INFORMATION:

Data layer or theme name: OYSTERS

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
Smith, Lee, Texas General Land Office	1995	Oysters–Shellfish Habitat Areas	Digital, poly	Eric Powell, Texas A&M University	24000	1987
Smith, Lee, Texas General Land Office	1995	Oysters2–Shellfish Habitat Areas	Digital, poly	Eric Powell, Texas A&M University	24000	1987

2.5.1. SOURCE INFORMATION:

Data layer 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
Smith, Lee, Texas General Land Office	1995	Species - 1 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 2 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 3 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995

UPPER COAST OF TEXAS METADATA

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
Smith, Lee, Texas General Land Office	1995	Species - 4 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - Lower Texas Coastal Habitat Priority Areas	Digital, poly	Inquiries to field personnel	24000	1995

2.5.1. SOURCE INFORMATION:

Data layer or theme name: ROADS

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
Smith, Lee, Texas General Land Office	1993	TXDSTRDS	Digital, arc, anno	Texas Department of Transportation	40000	1992

2.5.1. SOURCE INFORMATION:

Data layer or theme name: ROOKERY

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
Smith, Lee, Texas General Land Office	1995	Colonial Waterbird Data	Digital, poly	Digitized by GLO from hardcopy and Texas Colonial Waterbird Survey	24000	1991-1992: Tabular Data 1980: Spatial Data

2.5.1. SOURCE INFORMATION:

Data layer or theme name: SEAGRASS

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
Smith, Lee, Texas General Land Office	1995	Seagrass	Digital, poly, arc	Digitized by GLO from hardcopy reports published by USFWS biologists	Unknown	1987

2.5.1. SOURCE INFORMATION:

Data layer or theme name: SHELLFSH

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
Smith, Lee, Texas General Land Office	1995	Species - 1 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 2 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 3 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 4 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	SABPASS Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - Lower Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO based on inquiries to USFWS, TPWD, etc. personnel	24000	1995

2.5.1. SOURCE INFORMATION:

Data layer 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
Smith, Lee, Texas General Land Office	1995	AIRPORTS	Digital, points	U.S. Geological Survey DLG's	100000	1980-1984
Smith, Lee, Texas General Land Office	1995	ACCESSES	Digital, points	Digitized by GLO from inquiries to local entities, Marine Spill Response Corp.	100000	1995
Smith, Lee, Texas General Land Office	1995	COAST GUARD	Digital, points	Digitized by GLO from U.S. Coast Guard data	100000	1994
Smith, Lee, Texas General Land Office	1995	INTAKES1	Digital, points	Digitized by Texas General Land Office from Texas Natural Resource Conservation hard copies	100000	1994
Smith, Lee, Texas General Land Office	1995	MARINAS	Digital, points	Digitized by Texas General Land Office from inquiries to each marina	100000	1994
Smith, Lee, Texas General Land Office	1995	RAMPSTWPD (BOAT RAMPS)	Digital, points	Digitized by TPWD from coordinate data	24000	1995
Smith, Lee, Texas General Land Office	1995	RAMPACCESS (HOIST)	Digital, points	Digitized by GLO from Marine Spill Response Corp. coordinates	100000	1993
Smith, Lee, Texas General Land Office	1995	REFUGES	Digital, poly	Digitized by USFWS	24000	1992

UPPER COAST OF TEXAS METADATA

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
Smith, Lee, Texas General Land Office	1995	Species - 1 Texas Coastal Habitat Priority Areas (Commercial and Recreational Fishing Areas)	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 2 Texas Coastal Habitat Priority Areas (Commercial and Recreational Fishing Areas)	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	PARKS	Digital, poly	Digitized by TPWD	24000	
Smith, Lee, Texas General Land Office	1995	Species - 3 Texas Coastal Habitat Priority Areas (Commercial and Recreational Fishing Areas)	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 4 Texas Coastal Habitat Priority Areas (Commercial and Recreational Fishing Areas)	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995

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
Smith, Lee, Texas General Land Office	1995	SABPASS Texas Coastal Habitat Priority Areas (Commercial and Recreational Fishing Areas)	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - Lower Texas Coastal Habitat Priority Areas (Commercial and Recreational Fishing Areas)	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1995

2.5.1. SOURCE INFORMATION:

Data layer or theme name: T_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
Smith, Lee, Texas General Land Office	1995	Species - 1 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 2 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995

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
Smith, Lee, Texas General Land Office	1995	Species - 3 Texas Coastal Habitat Priority Areas	Digital, poly	Digitized by GLO from Texas Parks and Wildlife Department hard copies	24000	1993-1995
Smith, Lee, Texas General Land Office	1995	Species - 4 Texas Coastal Habitat Priority Areas	Digital, poly	Inquiries to field personnel	24000	1993-1995

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 a map index coverage. The first layer of information digitized is the ESI. Upon completion of digitization, the data is checked for completeness, topological and logical consistency, and then plotted and checked by the overflight/field specialists. All data use the shoreline as the geographic reference so that there are no slivers in the geographic layers. The biological and human-use information was obtained from Texas GLO in digital ARC/INFO® coverages. The data were integrated to the GIS data structure, checked using both digital and on-screen procedures, plotted, and sent out for review by the regional specialists. The edited 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 which are described in this document. The data merging includes a final quality control

check where topological consistency, rules for geography, and database to geography are checked and reported to the GIS manager. The data were not completely edge-matched between map products due to economical and methodological constraints.

2.5.2.3. PROCESS DATE:

199409

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 HMRAD

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.

Bin C15700

2.5.2.6.4.3. CITY:

Seattle

2.5.2.6.4.4. STATE OR PROVINCE:

W A

2.5.2.6.4.5. POSTAL CODE:

98115

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

This page intentionally left blank

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	599	599	1,331	68,578			897
CITYLIM	1	144	144	352	57,996			287
ESI				6,661	221,870			9,453
ESIP	1	7,315	7,315	8,325	399,464			7,790
FISH	1	515	515	1,144	61,008			780
HABITATS	1	298	298	432	23,448			341
HYDRO	1	3,776	3,776	5,123	353,842	1,590		4,447
INDEX	1	51	51	113	143			63
MGT	1	37	37	72	19,010			67
M_MAMMAL	1	27	27	58	7,649			44
NESTS							170	
NURSERY	1	914	914	2,112	56,704			1,370
OYSTERS	1	3,056	3,056	4,659	47,944			3,617
REPTILES	1	288	288	653	27,087			430
ROADS				113,714	292,483	14,191		80,832
ROOKERY	1	24	24	24	568			72
SEAGRASS	1	47	47	51	5,131			49
SHELLFSH	1	684	684	1,540	61,289			1,015
SOCECON				46	18,996		432	59
T_MAMMAL	1	61	61	139	8,408			94

This page intentionally left blank

4.0. SPATIAL REFERENCE INFORMATION**4.1. HORIZONTAL COORDINATE SYSTEM DEFINITION****4.1.2. PLANAR****4.1.2.1. MAP PROJECTION****4.1.2.1.1. MAP PROJECTION NAME:**

ALBERS CONICAL EQUAL AREA

4.1.2.1.1.2. MAP PROJECTION PARAMETERS :**1st STANDARD PARALLEL:**

28.00

2nd STANDARD PARALLEL:

35.00

LONGITUDE OF CENTRAL**MERIDIAN:**

-100.00

LATITUDE OF PROJECTION ORIGIN:

31.0

FALSE EASTING:

0

FALSE NORTHING:

0

4.1.2.4. PLANAR COORDINATE INFORMATION**4.1.2.4.1. PLANAR COORDINATE ENCODING METHOD:**

Coordinate Pair

4.1.2.4.2. COORDINATE REPRESENTATION:**4.1.2.4.2.1. ABSCISSA RESOLUTION:**

50 feet

4.1.2.4.2.2. ORDINATE RESOLUTION:

50 feet

4.1.4. GEODETIC MODEL**4.1.4.1. HORIZONTAL DATUM NAME:**

North American Datum of 1927

4.1.4.2. ELLIPSOID NAME:

Clarke, 1866

4.1.4.3. SEMI-MAJOR AXIS:

6,378,206.4

4.1.4.4. DENOMINATOR OF FLATTENING RATIO:

294.98

This page intentionally left blank

5.0. ENTITY AND ATTRIBUTE INFORMATION

5.1. DETAILED DESCRIPTION: BIRDS

This data layer contains the polygons with bird species.

5.1.1. ENTITY TYPES:

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

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier which links to the POLY_LUT table. The POLY_LUT is a lookup table with two attributes: ID and RARNUM. ID is a concatenation of atlas number (13), element number (1), and record number. ID values of zero are holes in polygons and do not contain information. In the lookup table, the value of RARNUM is determined for each unique combination of ELEMENT, SPECIES_ID, SEASON_ID, and CONC and links to the biology table, BIORES. The items in BIORES are: RARNUM, ELEMENT, SPECIES_ID, CONC, SEASON_ID, G_SOURCE and S_SOURCE. 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 LOW, MEDIUM, or HIGH, or an actual count of the numbers of species present in the polygon. SEASON_ID contains a numeric value according to the monthly presence of the species. Usually, there is one seasonality per species, but occasionally the same species has different monthly presence or breeding activity. When this occurs, a new record with a different seasonality is referenced. G_SOURCE and S_SOURCE are not used in this atlas but are included to maintain data structure integrity with other ESI atlases.

The following BIRDS species are found in the Upper Coast of Texas ESI atlas:

SPECIES ID	NAME
1	Common loon
6	Eared grebe
12	Canada goose
14	White-fronted goose
15	Snow goose
16	Mallard
17	Northern pintail
18	Green-winged teal
20	Northern shoveler
21	Canvasback
22	Greater scaup
23	Lesser scaup
24	Common goldeneye
26	Bufflehead
32	Common merganser
33	Red-breasted merganser
34	American coot
54	Great blue heron
55	Whimbrel
59	Lesser yellowlegs
60	Red knot
63	Dunlin
64	Short-billed dowitcher
66	Western sandpiper
67	Sanderling
71	Black-bellied plover
73	Ruddy turnstone
76	Bald eagle
77	Osprey
79	Cormorant
86	Least tern
87	Little blue heron
88	Great egret
89	Snowy egret
90	Black-crowned night heron
93	Cattle egret
94	Tricolored heron
97	Green-backed heron
98	Laughing gull
107	Peregrine falcon
115	White ibis

SPECIES ID	NAME
116	Roseate spoonbill
118	Brown pelican
119	Magnificent frigatebird
120	Yellow-crowned night heron
124	Redhead
125	Clapper rail
131	White-tailed kite
132	Wood stork
133	Black skimmer
134	Gull-billed tern
135	Sandwich tern
136	Caspian tern
137	Royal tern
138	Forster's tern
139	Snowy plover
141	American avocet
142	Black-necked stilt
148	Ruddy duck
149	White-faced ibis
150	Black rail
152	American oystercatcher
153	Piping plover
154	Wilson's plover
155	Willet
156	Semipalmated sandpiper
162	Gadwall
163	Reddish egret
168	Olivaceous cormorant
169	American wigeon
172	Sandhill crane
173	American white pelican
178	Least bittern
179	Pied-billed grebe
180	Ring-necked duck
181	Northern harrier
184	King rail
185	American bittern
187	Virginia rail
188	Sora rail
189	Yellow rail
190	Blue-winged teal
191	Wood duck
192	Common moorhen
193	Black tern

SPECIES ID	NAME
196	Common snipe
198	Hooded merganser
209	Long-billed curlew
211	Mottled duck
218	Red-shouldered hawk
220	Merlin
222	Barred owl
230	Red-tailed hawk
241	Franklin's gull
271	Rails
272	Teals
273	Geese
280	Swallow-tailed kite
1,001	Gulls
1,002	Shorebirds
1,003	Waterfowl
1,004	Wading birds
1,005	Raptors
1,006	Diving birds
1,008	Terns
1,011	Migratory songbirds
1,012	Neotropical migrants

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Texas GLO

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE
DEFINITION SOURCE:**

Texas GLO

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: CITYLIM

The data layer CITYLIM contains polygonal (GT-Polygons) features for the incorporated areas within the Upper Coast of Texas.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>GT-Polygons</u>	DISP integer

5.1.2. ATTRIBUTES:**5.1.2.1. ATTRIBUTE LABEL:**

DISP

5.1.2.2. ATTRIBUTE DEFINITION:

The item DISP contains values for discriminating between incorporated areas from other lands, such as holes or water.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Texas GLO

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

0	Unincorporated area
1	Incorporated area
2	Submerged area within incorporated area

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Texas GLO

This page intentionally left blank

5.1. DETAILED DESCRIPTION: ESI

The data layer ESI contains arc (Complete Chains) features for the ESI shoreline classification. The classification of the features is based upon *Guidelines for Developing Digital Environmental Sensitivity Index Atlases and Data-bases* (Michel, J. and J. Dahlin, 1993, Hazardous Materials Response and Assessment Division, NOAA). The ESI classification was performed 20-26 October 1992.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>Complete Chain</u>	ESI character
	LINE character
	SOURCE_ID integer
	ENVIR character

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ESI

5.1.2.2. ATTRIBUTE DEFINITION:

The item ESI contains values according to the ESI ranking of the shorelines. The ESI rankings progress from low to high susceptibility to oil spills. The Upper Coast of Texas shoreline types are listed below. In many cases, the shorelines are 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.

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	Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal
1/3A	Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal/Fine-grained Sand Beaches
1/5	Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal/Mixed Sand and Gravel (Shell) Beaches

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1/5/6B	Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal/Mixed Sand and Gravel (Shell) Beaches/Exposed Riprap Structures
1/6B	Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal/Exposed Riprap Structures
1/6B/1	Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal/Exposed Riprap Structures/ Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal
1/6B/3A	Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal/Exposed Riprap Structures/ Fine-grained Sand Beaches
1/8A	Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal/Sheltered Solid Man-made Structures
1/10A	Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal/Salt and Brackish Water Marshes
1/10A/6B	Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal/Salt and Brackish Water Marshes/Exposed Riprap Structures
2A	Scarps and Steep Slopes in Clay
2A/1	Scarps and Steep Slopes in Clay/Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal
2A/3A	Scarps and Steep Slopes in Clay/Fine-grained Sand Beaches
2A/5	Scarps and Steep Slopes in Clay/Mixed Sand and Gravel (Shell) Beaches
2A/6A	Scarps and Steep Slopes in Clay/Gravel (Shell) Beaches
2A/6B	Scarps and Steep Slopes in Clay/Exposed Riprap Structures
2A/7	Scarps and Steep Slopes in Clay/Exposed Tidal Flats
2A/10A	Scarps and Steep Slopes in Clay/Salt and Brackish Water Marshes
2A/10B	Scarps and Steep Slopes in Clay/Freshwater Marshes
2A/10C	Scarps and Steep Slopes in Clay/Freshwater Swamps
3A	Fine-grained Sand Beaches
3A/1	Fine-grained Sand Beaches/Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal
3A/6B	Fine-grained Sand Beaches/Exposed Riprap Structures
3A/7	Fine-grained Sand Beaches/Exposed Tidal Flats

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
3A/10A	Fine-grained Sand Beaches/Salt and Brackish Water Marshes
3A/10C	Fine-grained Sand Beaches/Freshwater Swamps
3B	Scarps and Steep Slopes in Sand
3B/1	Scarps and Steep Slopes in Sand/Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal
3B/3A	Scarps and Steep Slopes in Sand/Fine-grained Sand Beaches
3B/5	Scarps and Steep Slopes in Sand/Mixed Sand and Gravel (Shell) Beaches
3B/6A	Scarps and Steep Slopes in Sand/Gravel (Shell) Beaches
3B/10A	Scarps and Steep Slopes in Sand/Salt and Brackish Water Marshes
3B/10C	Scarps and Steep Slopes in Sand/Freshwater Swamps
5	Mixed Sand and Gravel (Shell) Beaches
5/1	Mixed Sand and Gravel (Shell) Beaches/Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal
5/2B	Mixed Sand and Gravel (Shell) Beaches/Wave-cut Clay Platforms
5/3A	Mixed Sand and Gravel (Shell) Beaches/Fine-grained Sand Beaches
5/6B	Mixed Sand and Gravel (Shell) Beaches/Exposed Riprap Structures
5/9	Mixed Sand and Gravel (Shell) Beaches/Sheltered Tidal Flats
5/10A	Mixed Sand and Gravel (Shell) Beaches/Salt and Brackish Water Marshes
5/10A/2B	Mixed Sand and Gravel (Shell) Beaches/Salt and Brackish Water Marshes/Wave-cut Clay Platforms
6A	Gravel (Shell) Beaches
6A/1	Gravel (Shell) Beaches/Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal
6A/2A	Gravel (Shell) Beaches/Scarps and Steep Slopes in Clay
6A/3A/1	Gravel (Shell) Beaches/Fine-grained Sand Beaches/Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal
6A/10A	Gravel (Shell) Beaches/Salt and Brackish Water Marshes
6B	Exposed Riprap Structures
6B/1	Exposed Riprap Structures/Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal
6B/3A	Exposed Riprap Structures/Fine-grained Sand Beaches

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
6B/3B	Exposed Riprap Structures/Scarps and Steep Slopes in Sand
6B/5	Exposed Riprap Structures/Mixed Sand and Gravel (Shell) Beaches
6B/7	Exposed Riprap Structures/Exposed Tidal Flats
6B/10A	Exposed Riprap Structures/Salt and Brackish Water Marshes
7	Exposed Tidal Flats
7/3A	Exposed Tidal Flats/Fine-grained Sand Beaches
7/10A	Exposed Tidal Flats/Salt and Brackish Water Marshes
7/10A/6A	Exposed Tidal Flats/Salt and Brackish Water Marshes/Gravel (Shell) Beaches
8A	Sheltered Solid Man-made Structures
8A/3A	Sheltered Solid Man-made Structures/Fine-grained Sand Beaches
8A/6A	Sheltered Solid Man-made Structures/Gravel (Shell) Beaches
8A/8B	Sheltered Solid Man-made Structures/Sheltered Riprap Structures
8B	Sheltered Riprap Structures
8B/8A	Sheltered Riprap Structures/Sheltered Solid Man-made Structures
8B/10A	Sheltered Riprap Structures/Salt and Brackish Water Marshes
8C	Sheltered Scarps
8C/1	Sheltered Scarps/Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal
8C/3A	Sheltered Scarps/Fine-grained Sand Beaches
8C/5	Sheltered Scarps/Mixed Sand and Gravel (Shell) Beaches
8C/6A	Sheltered Scarps/Gravel (Shell) Beaches
8C/8A	Sheltered Scarps/Sheltered Solid Man-made Structures
8C/8B	Sheltered Scarps/Sheltered Riprap Structures
8C/9	Sheltered Scarps/Sheltered Tidal Flats
8C/10A	Sheltered Scarps/Salt and Brackish Water Marshes
8C/10A/5	Sheltered Scarps/Salt and Brackish Water Marshes/Mixed Sand and Gravel (Shell) Beaches
8C/10B	Sheltered Scarps/Freshwater Marshes
8C/10C	Sheltered Scarps/Freshwater Swamps
9	Sheltered Tidal Flats
9/6B	Sheltered Tidal Flats/Exposed Riprap Structures
9/10A	Sheltered Tidal Flats/Salt and Brackish Water Marshes

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
10A	Salt and Brackish Water Marshes
10A/1	Salt and Brackish Water Marshes/Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal
10A/2A	Salt and Brackish Water Marshes/Scarps and Steep Slopes in Clay
10A/2B	Salt and Brackish Water Marshes/Wave-cut Clay Platforms
10A/3A	Salt and Brackish Water Marshes/Fine-grained Sand Beaches
10A/3A/2B	Salt and Brackish Water Marshes/Fine-grained Sand Beaches/Wave-cut Clay Platforms
10A/3A/10A	Salt and Brackish Water Marshes/Fine-grained Sand Beaches/Salt and Brackish Water Marshes
10A/3B	Salt and Brackish Water Marshes/Scarps and Steep Slopes in Sand
10A/5	Salt and Brackish Water Marshes/Mixed Sand and Gravel (Shell) Beaches
10A/5/2B	Salt and Brackish Water Marshes/Mixed Sand and Gravel (Shell) Beaches/Wave-cut Clay Platforms
10A/6A	Salt and Brackish Water Marshes/Gravel (Shell) Beaches
10A/6A/2A	Salt and Brackish Water Marshes/Gravel (Shell) Beaches/Scarps and Steep Slopes in Clay
10A/6A/2B	Salt and Brackish Water Marshes/Gravel (Shell) Beaches/Wave-cut Clay Platforms
10A/6A/10A	Salt and Brackish Water Marshes/Gravel (Shell) Beaches/Salt and Brackish Water Marshes
10A/6B	Salt and Brackish Water Marshes/Exposed Riprap Structures
10A/6B/1	Salt and Brackish Water Marshes/Exposed Riprap Structures/Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal
10A/7	Salt and Brackish Water Marshes/Exposed Tidal Flats
10A/7/3A	Salt and Brackish Water Marshes/Exposed Tidal Flats/Fine-grained Sand Beaches
10A/7/5	Salt and Brackish Water Marshes/Exposed Tidal Flats/Mixed Sand and Gravel (Shell) Beaches
10A/8A	Salt and Brackish Water Marshes/Sheltered Solid Man-made Structures
10A/8B	Salt and Brackish Water Marshes/Sheltered Riprap Structures

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
10A/8B/9	Salt and Brackish Water Marshes/Sheltered Riprap Structures/Sheltered Tidal Flats
10A/8C	Salt and Brackish Water Marshes/Sheltered Scarps
10A/8C/10A	Salt and Brackish Water Marshes/Sheltered Scarps/Salt and Brackish Water Marshes
10A/9	Salt and Brackish Water Marshes/Sheltered Tidal Flats
10A/9/10A	Salt and Brackish Water Marshes/Sheltered Tidal Flats/Salt and Brackish Water Marshes
10A/10C	Salt and Brackish Water Marshes/Freshwater Swamps
10B	Freshwater Marshes (Herbaceous Vegetation)
10B/1	Freshwater Marshes/Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal
10B/3A	Freshwater Marshes/Fine-grained Sand Beaches
10B/8C	Freshwater Marshes/Sheltered Scarps
10B/9	Freshwater Marshes/Sheltered Tidal Flats
10B/10C	Freshwater Marshes/Freshwater Swamps
10C	Freshwater Swamps (Woody Vegetation)
10C/1	Freshwater Swamps/Exposed Walls and Other Solid Structures made of Concrete, Wood, or Metal
10C/2A	Freshwater Swamps/Scarps and Steep Slopes in Clay
10C/3A	Freshwater Swamps/Fine-grained Sand Beaches
10C/5	Freshwater Swamps/Mixed Sand and Gravel (Shell) Beaches
10C/7	Freshwater Swamps/Exposed Tidal Flats
10C/8A	Freshwater Swamps/Sheltered Solid Man-made Structures
10C/8C	Freshwater Swamps/Sheltered Scarps
10C/9	Freshwater Swamps/Sheltered Tidal Flats
10C/10A	Freshwater Swamps/Salt and Brackish Water Marshes
10C/10B	Freshwater Swamps/Freshwater Marshes

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc. and Texas Bureau of Economic Geology

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

ordered

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:**

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:**

0	Digital
1	Overflight
3	Table Digitization from USGS Quadrangle
4	Edge-matching
5	Digitized Off Scanned USGS Topos
6	NWI

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE
DEFINITION SOURCE:**

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

ENVIR

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:**

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. DETAILED DESCRIPTION: ESIP

The data layer ESIP contains polygonal (GT-Polygons) features for the shoreline sensitivity classification. The classification of the features is based upon *Guidelines for Developing Digital Environmental Sensitivity Index Atlases and Data-bases* (Michel, J. and J. Dahlin, 1993, Hazardous Materials Response and Assessment Division, NOAA). The ESI classification was performed 20-26 October 1992.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>GT-Polygons</u>	ESI character WATER_CODE character

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ESI

5.1.2.2. ATTRIBUTE DEFINITION:

The item ESI contains values according to the ESI ranking of the shorelines. The ESI rankings progress from low to high susceptibility to oil spills. The Upper Coast of Texas shoreline types are listed below.

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:
7	Exposed Tidal Flats
10A	Salt and Brackish Water Marshes
10B	Freshwater Marshes (Herbaceous Vegetation)
10C	Freshwater Swamps (Woody Vegetation)

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

ordered

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:**

U	Unclassified
L	Land

**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: FISH

The data layer FISH contains the polygons with fish species.

5.1.1. ENTITY TYPES:

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

5.1.2. ATTRIBUTES:**5.1.2.1. ATTRIBUTE LABEL:**

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier which links to the POLY_LUT lookup table. The lookup table has two attributes: ID and RARNUM. ID is a concatenation of atlas number (13), element number (2), and record number. ID values of zero are holes in polygons and do not contain information. In the lookup table, the value of RARNUM is determined for each unique combination of ELEMENT, SPECIES_ID, SEASON_ID, and CONC and links to the biology table, BIORES. The items in BIORES are: RARNUM, ELEMENT, SPECIES_ID, CONC, SEASON_ID, G_SOURCE and S_SOURCE. 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 LOW, MEDIUM, or HIGH. SEASON_ID contains a numeric value according to the monthly presence of the species. Usually, there is one seasonality per species, but occasionally the same species has different monthly presence or breeding activity. When this occurs, a new record with a different seasonality is referenced. G_SOURCE and S_SOURCE are not used in this atlas but are included to maintain data structure integrity with other ESI atlases.

The following FISH species are found in the Upper Coast of Texas ESI atlas:

SPECIES ID	NAME
103	Threadfin shad
104	Striped bass
107	Spotted seatrout
109	Red drum
111	Southern flounder
113	Bay anchovy
114	Florida pompano
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
137	Sheepshead
142	Crevalle jack
143	Tarpon
145	White perch
163	Gizzard shad
173	White mullet
179	Largemouth bass
182	Bluegill
200	Blue catfish
201	Channel catfish
202	White crappie
213	Gulf menhaden
214	Gulf kingfish
215	Sand seatrout
217	Gafftopsail catfish
268	Silver seatrout
269	Gulf killifish
270	Longnose killifish
271	Inland silverside
273	Star drum
274	Sheepshead minnow
275	Least puffer
280	Sunfish
281	Seatrout
282	Mullet
283	Killifish
284	Flounder

SPECIES ID	NAME
287	Hardhead catfish
306	Gray snapper
317	Bull shark
331	Sharks

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Texas GLO

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE
DEFINITION SOURCE:**

Texas GLO

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

This page intentionally left blank

5.1. DETAILED DESCRIPTION: HABITATS

The data layer HABITATS contains the polygons with plant species.

5.1.1. ENTITY TYPES:

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

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier which links to the POLY_LUT table. The POLY_LUT is a lookup table with two attributes: ID and RARNUM. ID is a concatenation of atlas number (13), element number (3), and record number. ID values of zero are holes in polygons and do not contain information. In the look up table, the value of RARNUM is determined for each unique combination of ELEMENT, SPECIES_ID, SEASON_ID, and CONC and links to the biology table, BIORES. The items in BIORES are: RARNUM, ELEMENT, SPECIES_ID, CONC, SEASON_ID, G_SOURCE and S_SOURCE. 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 LOW, MEDIUM, or HIGH. SEASON_ID contains a numeric value according to the monthly presence of the species. Usually, there is one seasonality per species, but occasionally the same species has different monthly presence or breeding activity. When this occurs, a new record with a different seasonality is referenced. G_SOURCE and S_SOURCE are not used in this atlas but are included to maintain data structure integrity with other ESI atlases.

The following HABITATS species are found in the Upper Coast of Texas ESI atlas:

SPECIES ID	NAME
41	Scirpus-like rush
78	Turtle grass
79	Shoal grass
80	Widgeon grass
82	Southern naiad
83	Water celery
84	Dwarf seagrass
85	Seagrass
86	Alligatorweed
87	Arrowhead
88	Bald cypress
89	Banana water lily
91	Bull-tongue
92	Bulrush
93	California bulrush
94	Cattail
96	Common reed
97	Cordgrass
98	Cutgrass
100	Glasswort
101	High-tide bush
102	Maliciae
103	Olney's three-square
104	Palmetto
105	Pondweed
106	Rushes
107	Salt grass
108	Salt marsh bulrush
109	Salt meadow cordgrass (wiregrass)
110	Saltwort
111	Seashore paspalum
112	Smooth cordgrass
113	Spike-rushes
114	Sundews
115	Tupelo
116	Water lotus
118	White water lily
119	Giant cutgrass (Southern wild rice)

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Texas GLO

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE

DEFINITION SOURCE:

Texas GLO

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

This page intentionally left blank

5.1. DETAILED DESCRIPTION: HYDRO

The data layer HYDRO contains polygonal water and land features as well as all annotation used in creating the atlas.

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

The LINE, SOURCE_ID, and WATER_CODE attributes are the same as in the ESI coverage. This coverage contains all annotation used in producing the atlas.

5.1.2. ATTRIBUTES:**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:
I	Index for map/quad boundary
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:**

0	Digital
---	---------

**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:

The WATER_CODE attributes contain L for land and W for water. This coverage 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.

5.1.2.3. 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:**

W	Water
L	Land
U	Unclassified

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE
DEFINITION SOURCE:**

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>Label Points</u>	SOC GEOG HYDRO

5.1.2. ATTRIBUTES:**5.1.2.1. ATTRIBUTE LABEL:**

SOC

5.1.2.2. ATTRIBUTE DEFINITION:

The subclass SOC contains cemeteries, parks, wildlife management areas, town names, and other human-use or socioeconomic features. There are 750 features in this atlas.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Texas GLO

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

GEOG

5.1.2.2. ATTRIBUTE DEFINITION:

The GEOG subclass contains geographic place names such as islands, points, and ridges. There are 201 features in this atlas.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Texas GLO

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

HYDRO

5.1.2.2. ATTRIBUTE DEFINITION:

The HYDRO subclass contains hydrology annotations such as bayous, creeks, rivers, and oceans. There are 639 features in this atlas.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE
DEFINITION SOURCE:**

Texas GLO

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: INDEX

The data layer INDEX contains the map boundaries for each quad/map in the atlas.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>GT-Polygons</u>	TILE-NAME character
	TOPO-NAME character
	SCALE integer
	MAPANGLE fraction
	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 51.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

ordered

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.

ANAHUAC, TEX. (1974)
BACLIFF, TEX. (1993)
BEAUMONT EAST, TEX. (1974)
BIG HILL BAYOU, TEX. (1974)
BROWN CEDAR CUT, TEX. (1973)
CAPLEN, TEX. (1974)
CEDAR LAKES EAST, TEX. (1974)
CEDAR LAKES WEST, TEX. (1972)
CHRISTMAS POINT, TEX. (1974)
CLAM LAKE, TEX. (1970)
COVE, TEX. (1974)
FLAKE, TEX. (1974)
FREEPORT, TEX. (1964)
FROZEN POINT, TEX. (1974)
GALVESTON, TEX. (1974)
HIGH ISLAND, TEX. (1974)
HIGHLANDS, TEX. (1982)
HITCHCOCK, TEX. (1974)
HOSKINS MOUND, TEX. (1974)
JACINTO, TEX. (1982)
JONES CREEK, TEX. (1963)
LA PORTE, TEX. (1982)
LAKE COMO, TEX. (1974)
LAKE STEPHENSON, TEX. (1974)
LEAGUE CITY, TEX. (1982)
MORGANS POINT, TEX. (1982)
MUD LAKE, TEX. (1974)
OAK ISLAND, TEX. (1974)
ORANGE, LA.-TEX. (1975)
ORANGEFIELD, TEX.-LA. (1974)
PARK PLACE, TEX. (1982)
PASADENA, TEX. (1982)
PORT ARTHUR NORTH, TEX. (1993)
PORT ARTHUR SOUTH, TEX.-LA. (1993)
PORT BOLIVAR, TEX. (1974)
SABINE PASS, TEX.-LA. (1993)
SARGENT, TEX. (1972)
SEA ISLE, TEX. (1974)
SETTEGAST, TEX. (1982)
SMITH POINT, TEX. (1982)

SOUTH OF STAR LAKE, TEX. (1974)
 STAR LAKE, TEX. (1974)
 TERRY, TEX. (1974)
 TEXAS CITY, TEX. (1974)
 TEXAS POINT, TEX.-LA. (1993)
 THE JETTIES, TEX. (1974)
 UMBRELLA POINT, TEX. (1974)
 VIRGINIA POINT, TEX. (1974)
 WEST OF GREENS BAYOU, TEX.-LA. (1993)
 WHITES RANCH, TEX. (1974)

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 INDEX polygon 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:

50,000

**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 (usually negative) to rotate the final map product so that it is situated straight up and down.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

-3.299

-3.234

-3.168

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

-3.103
-3.037
-2.972
-2.906
-2.840
-2.775
-2.710
-2.644
-2.579
-2.513
-2.448
-2.382
-2.317
-2.251
0.00

**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

5.1. DETAILED DESCRIPTION: MGT

The data layer MGT contains the polygons for the managed lands data.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>GT-Polygons</u>	SOCECON ID
	character character

5.1.2. ATTRIBUTES:**5.1.2.1. ATTRIBUTE LABEL:**

SOCECON

5.1.2.2. ATTRIBUTE DEFINITION:

Identifies polygons with a socio-economic, or human-use, feature. This attribute allows direct access to the type of feature instead of linking to the more detailed SOC_DATA table. A SOCECON value of 'U' means it is a hole in the managed land polygon.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
P	State Park
U	Unranked
W R	Wildlife Refuge

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 which links to the SOC_LUT table. SOC_LUT is a lookup table with two attributes: ID and HUNUM. ID is a concatenation of atlas number (13), element

number (11), and record number. HUNUM is the link to the socio-economic data found in the SOC_DATA table. The table SOC_DATA contains the feature type (SOC_TYPE), name of the feature (NAME), contact agency or person (CONTACT), telephone number (PHONE), geographic source number (G_SOURCE), and the attribute source number (A_SOURCE).

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: M_MAMMAL

The data layer M_MAMMAL contains the polygons with marine mammal species.

5.1.1. ENTITY TYPES:

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

5.1.2. ATTRIBUTES:**5.1.2.1. ATTRIBUTE LABEL:**

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier which links to the POLY_LUT table. The POLY_LUT is a lookup table with two attributes: ID and RARNUM. ID is a concatenation of atlas number (13), element number (4), and record number. ID values of zero are holes in polygons and do not contain information. In the lookup table (POLY_LUT) and the biological resources table (BIORES), the value of RARNUM is determined for each unique combination of ELEMENT, SPECIES_ID, SEASON_ID, CONC, G_SOURCE, and S_SOURCE. 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 LOW, MEDIUM, or HIGH, or an actual count of the numbers of species present in the polygon. SEASON_ID contains a numeric value according to the monthly presence of the species. Usually, there is one seasonality per species, but occasionally the same species has different monthly presence or breeding activity. When this occurs, a new record with a different seasonality is referenced. The BREED table contains a record for each month that a species is present. Therefore, the life stage can be determined for each month of the year. The BREED items for M_MAMMAL are: 1) mating; 2) calving; 3) pupping; and 4) molting.

The following marine mammal species are found in the Upper Coast of Texas ESI atlas:

SPECIES ID	NAME
17	Bottlenose dolphin
61	Stenellid dolphin

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Texas GLO

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Texas GLO

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: NESTS

The data layer NESTS contains entity points representing nesting sites.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>Entity Points</u>	ID integer

5.1.2. ATTRIBUTES:**5.1.2.1. ATTRIBUTE LABEL:**

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier which links to the PNTS_LUT table. The PNTS_LUT is a lookup table with two attributes: ID and RARNUM. ID is a concatenation of atlas number (13), element number (5), and record number. In the lookup table, the value of RARNUM is determined for each unique combination of ELEMENT, SPECIES_ID, SEASON_ID, and CONC and links to the biology table, BIORES. The items in BIORES are: RARNUM, ELEMENT, SPECIES_ID, CONC, SEASON_ID, G_SOURCE and S_SOURCE. 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 LOW, MEDIUM, or HIGH, or an actual count of the number of species present in the polygon. SEASON_ID contains a numeric value according to the monthly presence of the species. Usually, there is one seasonality per species, but occasionally the same species has different monthly presence or breeding activity. When this occurs, a new record with a different seasonality is referenced. G_SOURCE and S_SOURCE are not used in this atlas but are included to maintain data structure integrity with other ESI atlases.

The following biology concentration points are found in the Upper Coast of Texas ESI atlas:

ELEMENT	SPECIES ID	NAME
Bird	153	Piping plover
Bird	265	Whooping crane
Bird	276	Attwaters prairie chicken
Bird	1,000	Birds
Bird	1,011	Migratory songbirds
Habitat	97	Cordgrass
Habitat	100	Glasswort
Habitat	106	Rushes
Habitat	107	Salt grass
Habitat	109	Salt meadow cordgrass (wire-grass)
Habitat	110	Saltwort
Habitat	112	Smooth cordgrass
Habitat	120	Coastal gay-feather
Habitat	121	Live oak
Habitat	122	Pecan
Habitat	123	Correll's false dragon-head
Habitat	124	Grand prairie evening primrose
Habitat	125	Houston machaeranthera
Habitat	126	Little bluestem
Habitat	127	Brownseed paspalum
Habitat	128	Long-sepaled false dragonhead
Habitat	129	Runyon's waterwillow
Habitat	130	Scarlet catchfly
Habitat	131	Sea oats
Habitat	132	Bitter panicum
Habitat	133	Seacoast bluestem
Habitat	134	Gulfdune paspalum
Habitat	135	Smooth blue-star
Habitat	136	Texas windmill-grass
Habitat	137	Three flower broomweed
Reptile	12	Gulf salt marsh snake
Reptile	14	Crawfish frog
Reptile	15	Pig frog
Reptile	16	Texas diamondback terrapin
Reptile	17	Texas garter snake

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Texas GLO

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Texas GLO

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: NURSERY

The data layer NURSERY contains polygons for the fish nursery areas.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>GT-Polygons</u>	HABITAT-ID integer

5.1.2. ATTRIBUTES:**5.1.2.1. ATTRIBUTE LABEL:**

HABITAT-ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier which links to the Texas GLO species database. All polygons with a value of 0 are holes within the nursery polygons.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Texas GLO

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Texas GLO

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

This page intentionally left blank

5.1. DETAILED DESCRIPTION: OYSTERS

The data layer OYSTERS contains polygons for surveyed oyster beds.

5.1.1. ENTITY TYPES:

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

5.1.2. ATTRIBUTES:

CODE contains a value for active reefs (2), oysters on mud (3), and holes within the oyster polygons (1).

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Texas GLO

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Texas GLO

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

This page intentionally left blank

5.1. DETAILED DESCRIPTION: REPTILES

The data layer REPTILES contains the polygons with reptile species.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>GT-Polygons</u>	ID integer

5.1.2. ATTRIBUTES:**5.1.2.1. ATTRIBUTE LABEL:**

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier which links to the POLYS_LUT table. The POLYS_LUT is a lookup table with two attributes: ID and RARNUM. ID is a concatenation of atlas number (13), element number (6), and record number. ID values of zero are holes in polygons and do not contain information. In the lookup table (POLY_LUT) and the biological resources table (BIORES), the value of RARNUM is determined for each unique combination of ELEMENT, SPECIES_ID, SEASON_ID, CONC, G_SOURCE, and S_SOURCE. 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 LOW, MED, HIGH, or blank, if unavailable. SEASON_ID contains a numeric value according to the monthly presence of the species. Usually, there is one seasonality per species, but occasionally the same species has different monthly presence or breeding activity. When this occurs, a new record with a different seasonality is referenced. The BREED table contains a record for each month that a species is present. Therefore, the life stage can be determined for each month of the year. The BREED items for REPTILES are: 1) nesting; 2) hatching; and 3) internesting. The following REPTILES species are found in the Upper Coast of Texas ESI atlas:

SPECIES ID	NAME
3	American alligator
4	Kemp's ridley sea turtle
6	Loggerhead sea turtle
7	Diamondback terrapin

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Texas GLO

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE
DEFINITION SOURCE:**

Texas GLO

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: ROADS

The data layer ROADS contains the arcs for the transportation features.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
Complete Chains	LEVEL integer

5.1.2. ATTRIBUTES:**5.1.2.1. ATTRIBUTE LABEL:**

LEVEL

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier for the types of transportation features.
The following road types are in the Upper Coast of Texas ESI atlas:

LEVEL	DEFINITION
2	Divided highway
3	Frontage road
5	State or federal highway
8	State or federal highway
9	Bridges
10	Highway symbols
11	Bridges
12	Bridges
18	City streets
20	Bridges
21	Rural subdivision streets
23	County roads (all weather)
24	County roads (paved)
26	Rural subdivision streets

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Texas GLO

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Texas GLO

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

ordered

This page intentionally left blank

5.1. DETAILED DESCRIPTION: ROOKERY

The data layer ROOKERY contains the polygons with bird species.

5.1.1. ENTITY TYPES:

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

5.1.2. ATTRIBUTES:**5.1.2.1. ATTRIBUTE LABEL:**

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier which links to the POLY_LUT table. The POLY_LUT is a lookup table with two attributes: ID and RARNUM. ID is a concatenation of atlas number (13), element number (12), and record number. ID values of zero are holes in polygons and do not contain information. In the look up table, the value of RARNUM is determined for each unique combination of ELEMENT, SPECIES_ID, SEASON_ID, and CONC and links to the biology table, BIORES. The items in BIORES are: RARNUM, ELEMENT, SPECIES_ID, CONC, SEASON_ID, G_SOURCE and S_SOURCE. 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 LOW, MEDIUM, or HIGH. SEASON_ID contains a numeric value according to the monthly presence of the species. Usually, there is one seasonality per species, but occasionally the same species has different monthly presence or breeding activity. When this occurs, a new record with a different seasonality is referenced. G_SOURCE and S_SOURCE are not used in this atlas but are included to maintain data structure integrity with other ESI atlases.

The following bird species are found in the Upper Coast of Texas ESI atlas:

SPECIES ID	NAME
54	Great blue heron
86	Least tern
87	Little blue heron
88	Great egret
89	Snowy egret
90	Black-crowned night heron
93	Cattle egret
94	Tricolored heron
98	Laughing gull
115	White ibis
116	Roseate spoonbill
118	Brown pelican
133	Black skimmer
134	Gull-billed tern
135	Sandwich tern
136	Caspian tern
137	Royal tern
138	Forster's tern
149	White-faced ibis
163	Reddish egret
168	Olivaceous cormorant

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Texas GLO

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE
DEFINITION SOURCE:**

Texas GLO

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: SEAGRASS

The data layer SEAGRASS contains the polygons of submerged aquatic vegetation.

5.1.1. ENTITY TYPES:

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

5.1.2. ATTRIBUTES:**5.1.2.1. ATTRIBUTE LABEL:**

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier which links to the POLY_LUT table. The POLY_LUT is a lookup table with two attributes: ID and RARNUM. ID is a concatenation of atlas number (13), element number (13), and record number. ID values of zero are holes in polygons and do not contain information. In the look up table, the value of RARNUM is determined for each unique combination of ELEMENT, SPECIES_ID, SEASON_ID, and CONC and links to the biology table, BIORES. The items in BIORES are: RARNUM, ELEMENT, SPECIES_ID, CONC, SEASON_ID, G_SOURCE and S_SOURCE. 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 LOW, MEDIUM, or HIGH. SEASON_ID contains a numeric value according to the monthly presence of the species. Usually, there is one seasonality per species, but occasionally the same species has different monthly presence or breeding activity. When this occurs, a new record with a different seasonality is referenced. G_SOURCE and S_SOURCE are not used in this atlas but are included to maintain data structure integrity with other ESI atlases.

The following SEAGRASS species are found in the Upper Coast of Texas ESI atlas:

SPECIES ID	NAME
79	Shoal grass
80	Widgeon grass
82	Southern naiad
83	Water celery
84	Dwarf seagrass
85	Seagrass

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Texas GLO

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE
DEFINITION SOURCE:**

Texas GLO

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: SHELLFSH

The data layer SHELLFSH contains the polygons with shellfish species.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>GT-Polygons</u>	ID integer

5.1.2. ATTRIBUTES:**5.1.2.1. ATTRIBUTE LABEL:**

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier which links to the POLY_LUT table. The POLY_LUT is a lookup table with two attributes: ID and RARNUM. ID is a concatenation of atlas number (13), element number (7), and record number. ID values of zero are holes in polygons and do not contain information. In the lookup table (POLY_LUT) and the biological resources table (BIORES), the value of RARNUM is determined for each unique combination of ELEMENT, SPECIES_ID, SEASON_ID, CONC, G_SOURCE, and S_SOURCE. 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 LOW, MEDIUM, or HIGH, or blank when the BREED table contains abundance values. SEASON_ID contains a numeric value according to the monthly presence of the species. Usually, there is one seasonality per species, but occasionally the same species has different monthly presence or breeding activity. When this occurs, a new record with a different seasonality is referenced. The BREED table contains a record for each month that a species is present. Therefore, the abundance can be determined for each month of the year and each life stage. The BREED items for SHELLFSH are: 1) spawning; 2) larvae; 3) mating; 4) juvenile; and 5) adult.

The following SHELLFSH species are found in the Upper Coast of Texas ESI atlas:

SPECIES ID	NAME
42	Northern quahog (hard clam)
43	American oyster (eastern)
49	Blue crab
50	White shrimp
51	Brown shrimp
74	Stone crab
82	Brackishwater clam
90	Lightning whelk
92	Penaeid shrimp
93	Crustacean
97	Grass shrimp

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Texas GLO

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Texas GLO

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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:	
<u>Complete Chain</u>	SOCECON	character
<u>Entity Points</u>	SOCECON	character
	ID	character

5.1.2. ATTRIBUTES:**5.1.2.1. ATTRIBUTE LABEL:**

SOCECON

5.1.2.2. ATTRIBUTE DEFINITION:

Identifies a line or point with a socio-economic, or human-use, feature. This attribute allows direct access to the type of feature instead of linking to the more detailed SOC_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:
A	Airport (Point)
A2	Access (Point)
BR	Boat Ramp (Point)
CF	Commercial Fishing (Point)
CG	Coast Guard (Point)
H	Hoist (Point)
M	Marina (Point)
RF	Recreational Fishing (Point)
SB	State Boundary (Line)
WI	Water Intake (Point)

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 which links to the SOC_LUT table. SOC_LUT is a lookup table with two attributes: ID and HUNUM. ID is a concatenation of atlas number (13), element number (10), and record number. HUNUM is the link to the socio-economic data found in the SOC_DATA table. The table SOC_DATA contains the feature type (SOC_TYPE), name of the feature (NAME), contact agency or person (CONTACT), telephone number (PHONE), geographic source number (G_SOURCE), and attribute source number (A_SOURCE).

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: T_MAMMAL

The data layer T_MAMMAL contains polygons with terrestrial mammal species.

5.1.1. ENTITY TYPES:

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

5.1.2. ATTRIBUTES:**5.1.2.1. ATTRIBUTE LABEL:**

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier which links to the POLY_LUT table. The POLY_LUT is a lookup table with two attributes: ID and RARNUM. ID is a concatenation of atlas number (13), element number (9), and record number. ID values of zero are holes in polygons and do not contain information. In the look up table, the value of RARNUM is determined for each unique combination of ELEMENT, SPECIES_ID, SEASON_ID, and CONC and links to the biology table, BIORES. The items in BIORES are: RARNUM, ELEMENT, SPECIES_ID, CONC, SEASON_ID, G_SOURCE and S_SOURCE. 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 LOW, MEDIUM, or HIGH, or an actual count of the numbers of species present in the polygon. SEASON_ID contains a numeric value according to the monthly presence of the species. Usually, there is one seasonality per species, but occasionally the same species has different monthly presence or breeding activity. When this occurs, a new record with a different seasonality is referenced. G_SOURCE and S_SOURCE are not used in this atlas but are included to maintain data structure integrity with other ESI atlases.

The following T_MAMMAL species are found in the Upper Coast of Texas ESI atlas:

SPECIES ID	NAME
8	River otter
38	Mink

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Texas GLO

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE
DEFINITION SOURCE:**

Texas GLO

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:

Robert Pavia

6.1.1.2. CONTACT ORGANIZATION:

NOAA

6.1.4. CONTACT ADDRESS

6.1.4.1. ADDRESS TYPE:

Physical Address

6.1.4.2. ADDRESS:

7600 Sand Point Way N.E., Bin C15700

6.1.4.3. CITY:

Seattle

6.1.4.4. STATE OR PROVINCE:

W A

6.1.4.5. POSTAL CODE:

98115

6.1.5. CONTACT VOICE TELEPHONE:

(206) 526-6319

6.1.7. CONTACT FACSIMILE TELEPHONE:

(206) 526-6329

6.2. RESOURCE DESCRIPTION:

ESI Atlas for the Upper Coast of Texas

6.3. DISTRIBUTION LIABILITY:

Although this data has 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.).

This page intentionally left blank

7.0. METADATA REFERENCE INFORMATION

7.1. METADATA DATE:

19970325

7.2. METADATA REVIEW DATE:

19941115

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 HMRAD

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., Bin C15700

7.4.4.3. CITY:

Seattle

7.4.4.4. STATE OR PROVINCE:

Washington

7.4.4.5. POSTAL CODE:

98115

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

This page intentionally left blank