

NORTHERN CALIFORNIA ENVIRONMENTAL SENSITIVITY INDEX METADATA

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

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1.0. IDENTIFICATION INFORMATION

1.1. CITATION

1.1.1. ORIGINATOR:

National Oceanic and Atmospheric Administration (NOAA),
National Ocean Service, Office of Response and Restoration,
Hazardous Materials Response Division, Seattle, Washington and the
State of California, Department of Fish and Game, Office of Spill
Prevention and Response, Sacramento, California

1.1.2. PUBLICATION DATE:

200004

1.1.4. TITLE:

Sensitivity of Coastal Environments and Wildlife to Spilled Oil:
Northern California

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:

Northern California

1.1.8. PUBLICATION INFORMATION

1.1.8.1. PUBLICATION PLACE:

Seattle, Washington

1.1.8.2. PUBLISHER:

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

1.1.9. OTHER CITATION DETAILS:

Prepared by Research Planning, Inc., Columbia, South Carolina for
the National Oceanic and Atmospheric Administration (NOAA),
National Ocean Service, Office of Response and Restoration,
Hazardous Materials Response Division, Seattle, Washington and the
State of California, Department of Fish and Game, Office of Spill
Prevention and Response, Sacramento, California

1.1.10 ONLINE LINKAGE:

Not available

1.1.11. LARGER WORK CITATION:

None

1.2. DESCRIPTION

1.2.1. ABSTRACT:

This data set comprises the Environmental Sensitivity Index (ESI) maps for the shoreline of northern California. 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 from 20-26 October 1992. 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:

-124.50°

1.5.1.2. EAST BOUNDING COORDINATE:

-122.71°

1.5.1.3. NORTH BOUNDING COORDINATE:

42.00°

1.5.1.4. SOUTH BOUNDING COORDINATE:

38.00°

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:

Northern California: from the California/Oregon border to
Point Reyes

1.7. ACCESS CONSTRAINTS:

None

1.8. USE CONSTRAINTS:

DO NOT USE ESI MAPS FOR NAVIGATIONAL PURPOSES.

Besides the above warning, there are no use constraints on these data.

Acknowledgment of the publishers and contributing sources listed in 1.11.
would be appreciated in products derived from these data.

1.11. DATA SET CREDIT:

This project was supported by the National Oceanic and Atmospheric
Administration (NOAA), National Ocean Service, Office of Response and

Restoration, Hazardous Materials Response Division, Seattle, Washington and the State of California, Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California.

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 pre-release) 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:

bio_lut.e00	biofile.e00	biores.e00
birds.e00	breed.e00	breed_dt.e00
esi.e00	experts.e00	fish.e00
habitats.e00	hydro.e00	index.e00
invert.e00	m_mammal.e00	nests.e00
seasonal.e00	soc_dat.e00	soc_lut.e00
socecon.e00	species.e00	status.e00
t_mammal.e00		

The entire data set is approximately 56 megabytes.

1.14. CROSS REFERENCE:

The Northern and Central California coasts were previously mapped for the Minerals Management Service (Pacific Outer Continental Shelf Region, Los Angeles), by Woodward-Clyde Consultants, (Environmental Systems Division, San Francisco) in November, 1982

2.0. DATA QUALITY INFORMATION

2.1. ATTRIBUTE ACCURACY

2.1.1. ATTRIBUTE ACCURACY REPORT:

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

2.2. LOGICAL CONSISTENCY REPORT:

The digitization of shoreline types, biological resources, and human-use resources is a complex and highly quality-controlled process. In order to facilitate digitizing, the entire study area is split into individual quadrangles using the INDEX coverage. The first layer of information digitized is the ESI shoreline classification. Upon completion of digitization, the data are checked for completeness and topological and logical consistency, and then plotted and checked by the mapping geologists. Any errors in the shoreline classification are updated prior to digitization of the biological and socioeconomic layers. All layers use the shoreline as the geographic reference so that there are no slivers in the geographic coordinates. The hardcopy biological information is compiled onto 1:24,000 U.S. Geological Survey (USGS) topographic quadrangles by a biological expert using data from regional specialists in the form of maps, tables, charts, and written descriptions of wildlife distributions. The data are digitized, checked using both digital and on-screen procedures, plotted, and sent out for review by the regional specialists. The edited maps are updated, checked once again, and the final product plotted (at approximately 1:50,000 scale). A team of specialists reviews the entire series of maps, checks all data, and makes final edits. The data are then merged to form the study-wide layers. The data-merging includes a final quality control check where labels, chains, and polygons are checked for attribute accuracy.

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

made by the GIS manager and programs are run to generate the unique IDs and associated lookup tables.

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

ESI data are also processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and a MARPLOT ESI product are also included on the CDs for ease of use of the ESI data. The database files are also distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats. Section 3.0, outlining Spatial Data Organization, refers to the source files in ARC export format only.

2.3. COMPLETENESS REPORT:

Shoreline Habitat Mapping:

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, habitats/rare plants, invertebrates, marine mammals, and terrestrial mammals. The ELEMENTS generally correspond to the coverage or geographic data layer names.

There are also six attribute or data tables, BIORES, BREED, SEASONAL, EXPERTS, SPECIES, and STATUS, that are used to store the complex biological data (Fig. 1). Each biological coverage is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for Northern California this is 7), an element specific number (birds are layer 1, fish are layer 2, etc.), and a unique record number. The items in BIORES include: RARNUM, SPECIES_ID, CONC, SEASON_ID, G_SOURCE, S_SOURCE, ELEMENT, EL_SPE, and EL_SPE_SEA. SPECIES_ID is the numeric identifier of each species and is unique within each ELEMENT. CONC is the concentration of the species and can be descriptive (LOW, MEDIUM, HIGH, etc.) or an actual count of the number of individuals or nests associated with a polygon or point. SEASON_ID contains a numeric identifier for the unique monthly presence and life

history characteristics of each species at a given location. There can be one seasonality record per species, or the same species can have different monthly presence or breeding activities at different sites. When this occurs, a new record with a different SEASON_ID is referenced.

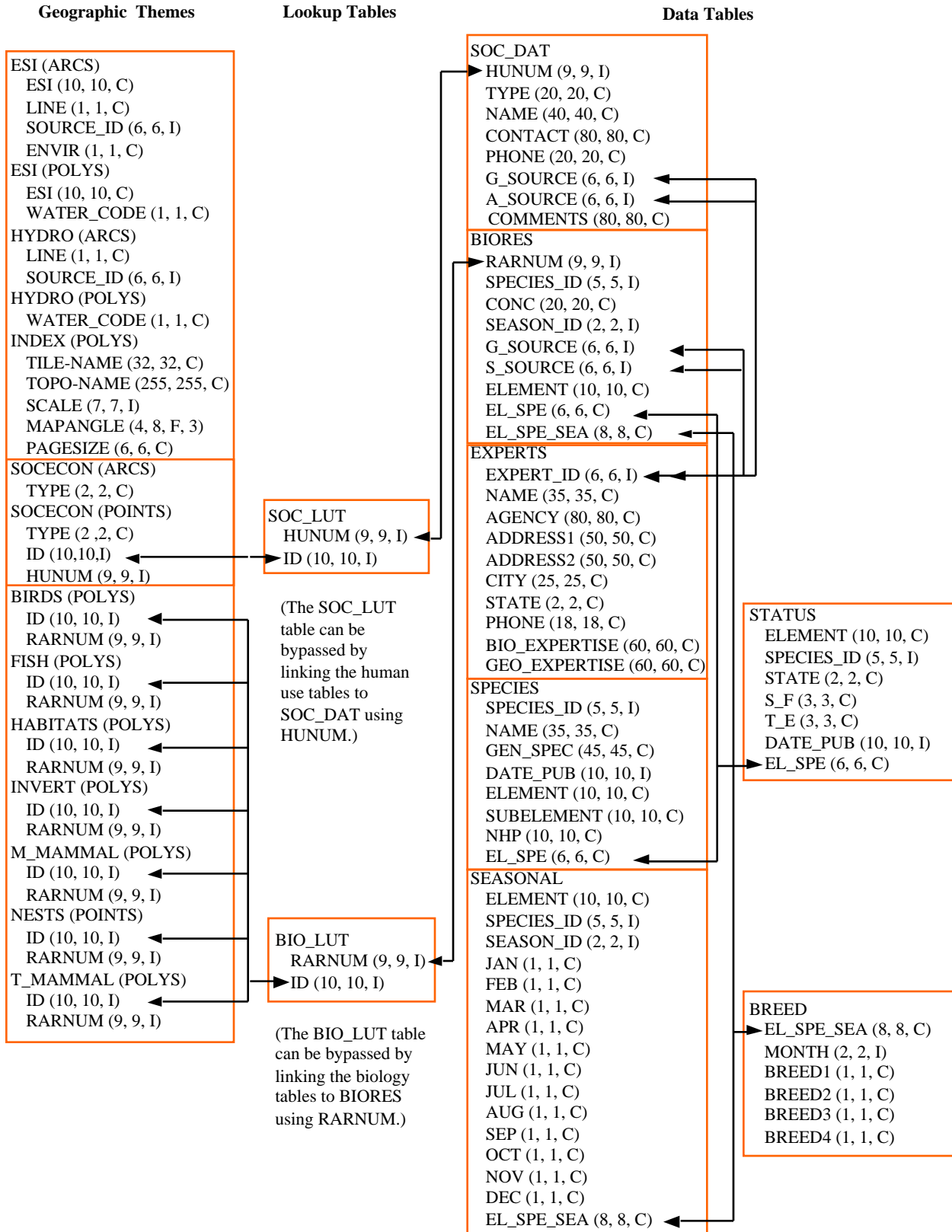


FIGURE 1. Relationship between biology data layers and attribute files.

G_SOURCE and S_SOURCE both hold the link to the EXPERTS data table. These items are duplicated with the G_SOURCE and S_SOURCE naming convention to mimic the current relational data structure. EL_SPE is a concatenation of ELEMENT and SPECIES_ID, and links to the SPECIES and STATUS tables. EL_SPE-SEA is a concatenation of ELEMENT, SPECIES_ID, and SEASON_ID, and links to the SEASONAL and BREED data tables.

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

ELEMENT	SUBELEMENT
BIRD	Alcid
	Diving Coastal Bird
	Gull/Tern
	Passerine
	Pelagic
	Raptor
	Shorebird
	Wading Bird
	Waterfowl
FISH	Anadromous
	Beach Spawner
	Kelp Spawner
	Reef Fish
	Special Concentration
HABITAT	Marsh
	Submerged aquatic vegetation (sav)
	Shrub
INVERT	Abalone
	Cephalopod
	Clam
	Conch/Whelk
	Echinoderm
	Gastropod
	Mussel
	Oyster
	Scallop
	Squid/Octopus
	Crab

INVERT <i>continued</i>	Lobster
	Shrimp
MARINE MAMMAL	Dolphin
	Manatee
	Sea Lion
	Sea Otter
	Seal
	Whale
TERRESTRIAL MAMMAL	Bear
	Deer
	Mustelid
	Rodent
REPTILE	Alligator/Crocodile
	Sea Turtle

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

The SEASONAL data table stores the monthly presence of each species where each species is defined as three-character monthly abbreviations. The BIORES table is linked to the SEASONAL table using either the combination of SPECIES_ID, ELEMENT, and SEASON_ID items, or the item EL_SPE_SEA, which contains the concatenation of these items.

The BREED data table contains the life stage or life history data for each unique combination of ELEMENT, SPECIES_ID, and SEASON_ID (or EL_SPE_SEA), and up to 12 records (corresponding to each month of the year) can have different attributes and therefore separate records. The categories for each element of the items BREED1 through BREED4 are:

ELEMENT	BREED 1	BREED 2	BREED 3	BREED 4
BIRD	nesting	laying	hatching	fledging
FISH	spawning	outmigration		
INVERT	mating	spawning		
M_MAMMAL	mating	calving	pupping	

NOTE: There are no BREED variables for HABITAT and TERRESTRIAL MAMMALS.

The EXPERTS data table contains detailed contact and source information for many of the entries in BIORES and the flat BIOFILE (see Fig. 2 below). The EXPERTS table is linked to these tables through EXPERT_ID from either the G_SOURCE or S_SOURCE item. If there is no expert information available, G_SOURCE and S_SOURCE will be set to zero (0). The items in EXPERTS are: EXPERT_ID, NAME (primary expert and/or contact for the resource), AGENCY (affiliation of the listed expert), ADDRESS1, ADDRESS2, CITY, STATE, PHONE, BIO_EXPERTISE (biological expertise of the expert), and GEO_EXPERTISE (geographic extent of expert's expertise).

Due to the complexity of the relational database model, the biological data items are post processed into a flat file format. This file is entitled BIOFILE and it may be used in place of the relational files to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN_SPEC, S_F, T_E, NHP, DATE_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, RARNUM, G_SOURCE, S_SOURCE and BREED. All of these items are the same as their counterparts in the individual files described above, except the item BREED and the BREED1–BREED4 items. BREED is a newly generated variable used to link to the BREED_DT file, a modified, more compact version of the aforementioned BREED file. Breed1–Breed4 give a text summary of when each life stage occurs within that polygon. The life stages referred to are the same as those listed in the previous table. The link to the BIOFILE may be made through BIO_LUT using ID to link to RARNUM, or it may be linked directly to the RARNUM in each of the biology cover's attribute files. As mentioned, BREED_DT is an auxiliary support file to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED_DT is the BREED item. A second supporting data file is EXPERTS. This is the same as the EXPERTS file described above and the link from the flat file is both G_SOURCE and S_SOURCE.

It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational files.

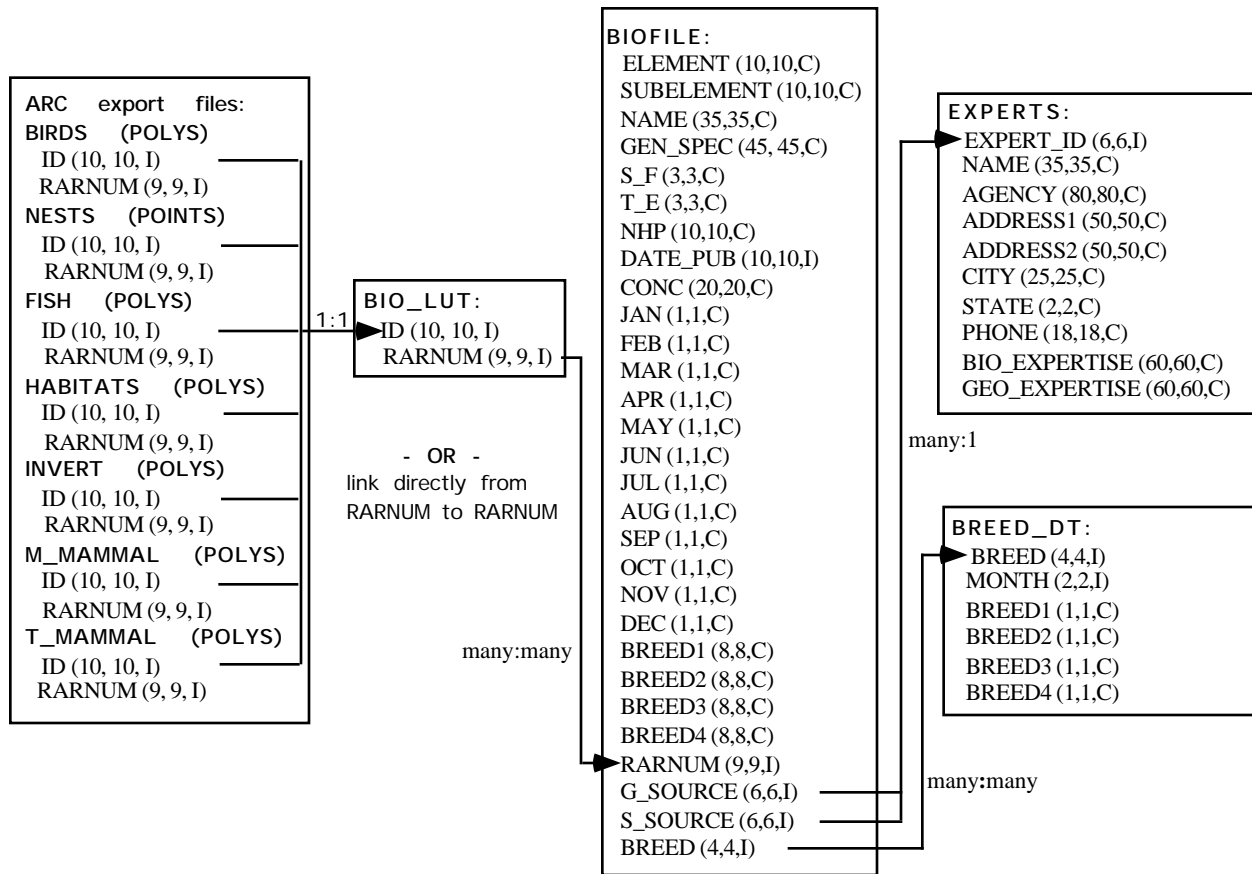


FIGURE 2. Relationship of the BIOFILE to the biological covers and the supplementary BREED_DT and EXPERTS data tables.

Human-Use Resources:

Several human-use, or socioeconomic, features are included in ESI atlases. Entity points and complete chains (arcs) are digitized into the data layer SOCECON. This data set is linked to the data table SOC_DAT using the SOC_LUT lookup table and the items HUNUM and ID. ID is a concatenation of atlas number (7), element number (SOCECON = 10), and unique record number.

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

Entity Points		Complete Chains	
Feature	TYPE	Feature	TYPE
Access	A2	Indian Reservation	IR
Airport	A	International Border	IB
Aquaculture	AQ	Marine Sanctuary	MS
Archaeological Site	AS	National Park	NP
Beach	B	Park	P
Boat Ramp	BR	Pipeline	PL
Campground	CP	Regional or State Park	SP
Coast Guard	CG	State Border	SB
Commercial Fishing	CF	State Beach	B / RB
Factory	F2	Wildlife Refuge	WR
Historical Site	HS		
Hoist	H		
Log Storage	LS		
Marina	M		
Marine Sanctuary	MS		
Mining	M2		
National Park	NP		
Oil Facilities	OF		
Platforms	PF		
Recreational Fishing	RF		
State Park	SP		
Subsistence Fishing	S		
Village	V		
Water Intake	WI		
Wildlife Refuge	WR		

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

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 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 that must be understood when utilizing this information.

2.5. LINEAGE

2.5.1. SOURCE INFORMATION:

Coverage or theme name: BIRDS and 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
David Church, Lisa Burns, and Rich Murphy, San Luis Obispo Dept. of Planning and Building	1992	Coastal Resources Inventory, Biological Resource Distributions	Digital, Hardcopy map, Book	Unknown	Varies	Unknown
UC Davis, Dan Anderson, 916/752-3576	1990	Brown Pelican Roosting Areas	Digital, Point	None	Unknown	Unknown
Eric Kauffman, State of California, State Land Commission	1993	Seabird Colonies of the California Coast	Digital, Entity Points	None	24,000	1989-1990
California Department of Fish and Game	1980	Atlas of California Coastal Marine Resources	Map	Unknown	24,000	1970's
Ecological Consulting, Inc. M.L. Bonnell	1992	Mendocino County-Atlas of Living Marine Resources	Map	Unknown	125,000	1971-1987
Arthur Sowls, Anthony DeGange, Jay Nelson, and Gary Lester	1980	Catalog of California Seabird Colonies	Digital, Entity Points Provided by Calif. State Land Comm., Ted Fukushima (contact), 916-322-7813	Bureau of Land Management, U.S. Fish and Wildlife Service, Report No. FWS/OBS-80/7	24,000	Unknown

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2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
U.S. Fish and Wildlife Service	1993	Western Snowy Plover Distribution	Map	Unknown	24,000	Unknown
A.D. Beccasio, J.S. Isakson, A.E. Redfield, Dames & Moore	1981	Pacific Coast Ecological Inventory - San Luis Obispo, California	Map, a report accompanies the map series	Biological Services Program, USFWS, Slidell, La. Report No. FWS/OBS-81/30, 159 pp.	250,000	1921-1981
H.R. Carter <i>et al.</i>	1992	Breeding Populations of Seabirds on the Northern California Coast	Book	U.S. Fish and Wildlife Service, Point Reyes Bird Observatory, and Minerals Management Office	None	1989-1991
S.W. Harris	1991	North-western California Birds, Vol. II, Part 2	Book	Unknown	None	1940-1987
BLM and U.S. Fish and Wildlife Service, prepared by Jones and Stokes Assoc., Sacramento, Calif.	1981	An Ecological Characterization of the Central and Northern California Coastal Region	Book	Unknown	None	Unknown
Morro Coast Audubon Society, Inc.	1985	The Birds of San Luis Obispo County, California	Book	Unknown	None	Unknown
Center for Marine Studies	1983	Marine Mammals and Seabirds of Central and Northern California	Book	Study prepared for MMS	None	1980-1983

NORTHERN CALIFORNIA META DATA

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
William S. Leet, Christopher Dewees, and Charles Haugen	1992	California Living Marine Resources and Their Utilization	Book	Unknown	None	Unknown
California Department of Fish and Game, Natural Heritage Division	1993	State and Federal Endangered and Threatened Animals of California	Book	Unknown	None	1993
David Zeiner	1990	California's Wildlife: Vol. 2. Birds	Book	Unknown	None	1980's
Sarah Allen, National Park Service	None	Natural History Information on the State of California	Personal Knowledge	None	None	1994
Paul Kelly, California Department of Fish and Game - Office of Oil Spill Prevention and Response	None	Natural History Information on Seabirds, Shorebirds, and Waterfowl	Personal Knowledge	None	None	1994
Terry Palmisno, California Department of Fish and Game	None	Inlands, Wetlands, and Riparian	Personal Knowledge	None	None	1994
Tom Eddell, Morro Coast Audubon Society, 805/995-1691	None	Birds of San Luis Obispo County, Distributions and Densities	Personal Knowledge	None	None	1994
Bruce Elliott, California Department of Fish and Game, Wildlife Division, 408/649-2890	None	Locations of Bird Rookeries & Sensitive Nesting Sites	Personal Knowledge	None	None	1994

2.5.1. SOURCE INFORMATION:

Coverage or theme name: FISH

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
David Church, Lisa Burns, and Rich Murphy, San Luis Obispo Department of Planning and Building	1992	Coastal Resources Inventory, Biological Resource Distributions	Digital map, Hard-copy map, book	Unknown	Varies	Unknown
Bob Tasto, California Department of Fish and Game-Environmental Services Division	1977	Environmental Impacts on Herring, Bivalves, and Commercial Fisheries	Map	California Coastal Commission	24,000	Unknown
California Department of Fish and Game	1980	Atlas of California Coastal Marine Resources	Map	Unknown	24,000	1970's
Ecological Consulting, Inc. M.L. Bonnell	1992	Mendocino County-Atlas of Living Marine Resources	Map	Unknown	125,000	1971-1987
A.D. Beccasio, J.S. Isakson, and A.E. Redfield, Dames & Moore	1981	Pacific Coast Ecological Inventory - San Luis Obispo, California	Map, a report accompanies the map series	Biological Services Program, USFWS Slidell, La. Report No. FWS/OBS-81/30, 159 pp.	250,000	1921-1981
W.S. Leet, C.M. Dewees, and C.W. Haugen (Eds.)	1992	California's Living Marine Resources and Their Utilization	Book	Unknown	None	Unknown

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
BLM and U.S. Fish and Wildlife Service, prepared by Jones and Stokes Assoc., Sacramento, Calif.	1981	An Ecological Characterization of the Central and Northern California Coastal Region	Book	Unknown	None	Unknown
Robert G. Titus, Report to California Department of Fish and Game	1992	Status of California Steelhead in Coastal Drainages South of San Francisco Bay	Book	Unknown	None	1991
Peter Moyle, Jack Williams, and Eric Wikramanayake	1989	Fish Species of Special Concern of California	Book	Unknown	None	Unknown
William S. Leet, Christopher Dewees, and Charles Haugen	1992	California Living Marine Resources and Their Utilization	Book	Unknown	None	Unknown
California Department of Fish and Game, Natural Heritage Division	1993	State and Federal Endangered and Threatened Animals of California	Book	Unknown	None	Unknown
R.L. Emmett, S.L. Stone, S.A. Hintor, and M.E. Monaco	1991	Distribution and Abundance of Fishes and Invertebrates in West Coast Estuaries - Volume II: Species Life History Summaries	Book	ELMR Rep. No. 8, NOAA/NOS Strategic Environmental Assessments Division, Rockville, Md., 329 pp.	None	Info compiled from historical and current literature and expert personal comm. and knowledge

NORTHERN CALIFORNIA 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
Diane Watters, California Department of Fish and Game	None	Status and Location in San Francisco Bay of Herring	Personal Knowledge	None	None	1994
Bill Cox, California Department of Fish and Game-Inland Fisheries Division	None	Distribution, Abundance, Species, and Activity of Streams	Personal Knowledge	None	None	1994
Ken Oda, California Department of Fish and Game-Marine Resource Division	None	Distribution and Abundance of Smelt and Herring	Personal Knowledge	None	None	1994
Jim Hardwick, California Department of Fish and Game-Office of Oil Spill Prevention and Response	None	Squid, Herring, and Rockfish	Personal Knowledge	None	None	1994
Weldon Jones, California Department of Fish and Game-Inland Fisheries Division	None	Distribution, Abundance, Species, and Activity of Streams	Personal Knowledge	None	None	1994
Tom Moore, California Department of Fish and Game-Marine Resources Division, 707/875-2521	None	Abundance and Distri- bution of Herring	Personal Knowledge	None	None	1994
Dave Thomas, California Department of Fish and Game	None	Status and Life History of Rockfish	Personal Knowledge	None	None	1994

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
Sandy Owen, California Department of Fish and Game	None	Fisheries, Local Knowledge	Personal Knowledge	None	None	1994
Bob Hardy, California Department of Fish and Game, 805/772-3011	None	Fisheries and Marine Resources in San Luis Obispo Co.	Personal Knowledge	None	None	1994
Susan McBride, California Sea Grant, 707/443-8369	None	Locations of Commercial Species	Personal Knowledge	None	None	1994
Karen Worcester, Regional Water Quality Control Board, 805/549- 3333	None	Fishes (esp. tidewater goby) Within San Luis Obispo Co. Creeks and Morro Bay	Personal Knowledge	None	None	1994
David Ven Tresca, California Department of Fish and Game, Marine Resources Division, 408/649-2881	None	Marine Fisheries, Rockfishes	Personal Knowledge	None	None	1994
Jennifer Nelson, California Department of Fish and Game, Fisheries Division, 408/649-7153	None	Spawning Streams for Steelhead Trout and Salmon spp.	Personal Knowledge	None	None	1994

2.5.1. SOURCE INFORMATION:

Coverage or theme name: HABITATS

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
David Church, Lisa Burns, and Rich Murphy, San Luis Obispo Dept. Planning and Building	1992	Coastal Resources Inventory, Biological Resource Distributions	Digital map, Hard-copy map, book	Unknown	Varies	Unknown
A.D. Beccasio, J.S. Isakson, and A.E. Redfield, Dames & Moore	1981	Pacific Coast Ecological Inventory - San Luis Obispo, California	Map, a report accompanies the map series	Biological Services Program, USFWS Slidell, La., Report No. FWS/OBS-81/30, 159 pp.	250,000	Data for map series compiled from many sources 1921-1981
William S. Leet, Christopher Dewees, and Charles Haugen	1992	California Living Marine Resources and Their Utilization	Book	Unknown	None	Unknown
Tom Moore, California Department of Fish and Game-Marine Resources Division	None	Abundance and Distribution of Eelgrass	Personal Knowledge	None	None	1994
Deborah Hillyard, California Department of Fish and Game	None	Species and Location in Monterey County and Santa Cruz Counties	Personal Knowledge	None	None	1994

2.5.1. SOURCE INFORMATION:

Coverage or theme name: INDEX

2.5.1.1. SOURCE CITATION

2.5.1.1.1	2.5.1.1.2	2.5.1.1.4	2.5.1.1.6	2.5.1.1.8	2.5.1.2	2.5.1.4
Originator	Publication Date	Title	Geospatial Data Presentation Form	Publication Information	Source Scale Denominator	Source Time Period
Research Planning, Inc.		Map Index	Complex polygons	NOAA	24000	1998

2.5.1. SOURCE INFORMATION:

Coverage or theme name: INVERT

2.5.1.1. SOURCE CITATION

2.5.1.1.1	2.5.1.1.2	2.5.1.1.4	2.5.1.1.6	2.5.1.1.8	2.5.1.2	2.5.1.4
Originator	Publication Date	Title	Geospatial Data Presentation Form	Publication Information	Source Scale Denominator	Source Time Period
David Church, Lisa Burns, and Rich Murphy, San Luis Obispo Dept. Planning and Building	1992	Coastal Resources Inventory, Biological Resource Distributions	Digital, Hardcopy map, book	Unknown	Varies	Unknown
California Dept. of Fish and Game	1980	Atlas of California Coastal Marine Resources	Map	Unknown	24,000	1970's
Ecological Consulting, Inc., M.L. Bonnell	1992	Mendocino County-Atlas of Living Marine Resources	Map	Unknown	125,000	1971-1987
A.D. Beccasio, J.S. Isakson, and A.E. Redfield, Dames & Moore	1981	Pacific Coast Ecological Inventory - San Luis Obispo, California	Map, a report accompanies the map series	Biological Services Program, USFWS Slidell, La., Report No. FWS/OBS-81/30, 159 pp.	250,000	Data for map series compiled from many sources 1921-1981

NORTHERN CALIFORNIA 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
BLM and U.S. FWS, prepared by Jones and Stokes Assoc., Sacramento, Calif.	1981	An Ecological Characterization of the Central and Northern California Coastal Region	Book	Unknown	None	Unknown
William S. Leet, Christopher Dewees, and Charles Haugen	1992	California Living Marine Resources and Their Utilization	Book	Unknown	None	Unknown
R.L. Emmett, S.L. Stone, S.A. Hintor, and M.E. Monaco	1991	Distribution and Abundance of Fishes and Invertebrates in West Coast Estuaries - Volume II: Species Life History Summaries	Book	ELMR Rept. No. 8, NOAA/NOS Strategic Environmental Assessments Division, Rockville, Md., 329 pp.	None	Info compiled from the historical and current literature and expert personal comm. and knowledge
Tom Moore, California Department of Fish and Game-Marine Resources Division	None	Abundance and Distribution of Bivalves	Personal Knowledge	None	None	1994
Frank Henry, California Department of Fish and Game	None	Gastropods and Echinoderms	Personal Knowledge	None	None	1994
Sandy Owen, California Department of Fish and Game, 805/772-3011	None	Pismo Clams	Personal Knowledge	None	None	1994

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi- nator	2.5.1.4 Source Time Period
Jerry Spratt, California Department of Fish and Game, Marine Division, 408/649-2880	None	Bivalves, Gastropods, and Marine Invertebrates	Personal Knowledge	None	None	1994
Deborah Hillyard, California Department of Fish and Game	Unknown	Species and Location in Monterey County and Santa Cruz County	Personal Knowledge	None	None	1994
Susan McBride, California Sea Grant, 707/443-8369	None	Commercial Fisheries, Locations by Species	Personal Knowledge	None	None	1994

2.5.1. SOURCE INFORMATION:

Coverage or theme name: M_MAMMALS and T_MAMMALS

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 Denomi- nator	2.5.1.4 Source Time Period
David Church, Lisa Burns, and Rich Murphy, San Luis Obispo Dept. of Planning and Building	1992	Coastal Resources Inventory, Biological Resource Distributions	Digital map, Hard-copy map, book	Unknown	Varies	Unknown
UC Davis, Dan Anderson, 916/752-3576	1991	Sea Otter Sightings by Aerial Survey	Digital, Point	None	Unknown	1990
California Department of Fish and Game	1980	Atlas of California Coastal Marine Resources	Map	Unknown	24,000	1970's

NORTHERN CALIFORNIA 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
Ecological Consulting, Inc., M.L. Bonnell	1992	Mendocino County-Atlas of Living Marine Resources	Map	Unknown	125,000	1971-1987
A.D. Beccasio, J.S. Isakson, and A.E. Redfield, Dames & Moore	1981	Pacific Coast Ecological Inventory - San Luis Obispo, California	Map, a report accompanies the map series	Biological Services Program, USFWS Slidell, La., Report No. FWS/OBS-81/30, 159 pp.	250,000	Data for map series compiled from many sources 1921-1981
Center for Marine Studies	1983	Marine Mammals and Seabirds of Central and Northern California	Book	Study prepared for MMS	None	1980-1983
William S. Leet, Christopher Dewees, and Charles Haugen	1992	California Living Marine Resources and Their Utilization	Book	Unknown	None	Unknown
David Zeiner	1990	California's Wildlife: Vol. 3. Mammals	Book	Unknown	None	1980's
Doyle Hanan, California Department of Fish and Game-Marine Resources Division	None	Distribution, Life History, and Abundance of Harbor Seals and Pinnipeds	Personal Knowledge	None	None	1994
Jack Ames, California Department of Fish and Game-Office of Oil Spill Prevention and Response, 408/649-2893	None	Distribution, Abundance, and Life History of Sea Otters	Personal Knowledge	None	None	1994

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
Terry Palmisno, California Department of Fish and Game	None	Inland, Wetlands, and Riparian	Personal Knowledge	None	None	1994
Dr. Aryan Roest, California Polytechnic State University, 805/528-4404	None	Marine Mammals-Distribution Within San Luis Obispo County	Personal Knowledge	None	None	1994
Brian Hatfield, U.S. Fish and Wildlife Service, 805/927-3893	None	Sea Otters, Elephant Seals and Other Marine Mammal Densities and Distributions	Personal Knowledge	None	None	1994
Fred Wendell, California Department of Fish and Game, 805/772-1714	None	Sea Otters	Personal Knowledge	None	None	1994

2.5.1. SOURCE INFORMATION:

Coverage or theme name: SOCECON

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Bob Tasto, California Department of Fish and Game-Environmental Services Division	1977	Environmental Impacts on Herring, Bivalves, and Commercial Fisheries	Map	Unknown	24,000	Unknown
State Water Resources Control Board	1976	Areas of Special Biological Significance	Map	Unknown	2-5" = 1 mile	Unknown

NORTHERN CALIFORNIA 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
Emil Smith and Thom Johnson	1974	The Marine Life Refuges and Reserves of California	Map	Unknown	1" = 2 miles	Unknown
California Coastal Commission	1987	California Coastal Resource Guide	Book	Unknown	None	1980's
California Coastal Commission	1991	California Coastal Access Guide	Book	unknown	None	1980's
Rob Collins, California Department of Fish and Game-Marine Resources Division	1993	State Aquaculture Leases	Book	Unknown	None	Unknown
Karen Worcester, Regional Water Quality Control Board, 805/549-3333	None	Fisheries Within San Luis Obispo creeks & Morro Bay	Personal Knowledge	None	None	1994
Bob Hardy, California Department of Fish and Game, 805/772-3011	None	Fisheries and Marine Resources in San Luis Obispo Co.	Personal Knowledge	None	None	1994
Mickey Burke, Tribal Member, 707/487-7055	None	Location and Species of Native American and Subsistence Fishing Areas	Personal Knowledge	None	None	1994
Ted Kuipen, Kuipen Mariculture, 707/822-9057	None	Locations Off-the-ground Culture of Commercial Oyster Aquaculture	Personal Knowledge	None	None	1994
Susan McBride, California Sea Grant, 707/443-8369	None	Commercial Fisheries, Locations by Species	Personal Knowledge	None	None	1994

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
Craig Codd, Coast Oyster, 707/442-2974	None	Locations On-the-ground Culture of Commercial Oyster Aquaculture	Personal Knowledge	None	None	1994
David Ven Tresca, California Department of Fish and Game,- Marine Resources Division, 408/649-2881	None	Marine Fisheries and Resources, Locations of Ecological Reserves	Personal Knowledge	None	None	1994
Jerry Spratt, CDF&G, Marine Division, 408/649-2880	None	Centers of Sport, Commercial, and Commercial Sport Fishing Activity	Personal Knowledge	None	None	1994

2.5.2. PROCESS STEP

2.5.2.1. PROCESS DESCRIPTION:

The digitization of shoreline types, biological resources, and human-use resources is a complex and highly quality-controlled process. In order to facilitate digitizing, the entire study area is split into individual quadrangles using the INDEX data layer. The first layer of information digitized is the ESI shoreline classification. Upon completion of digitization, the data are checked for completeness and topological and logical consistency, and are then plotted and checked by the overflight/field specialists. Any errors in the shoreline classification are updated prior to digitization of the biological and socioeconomic layers. All data use the shoreline as the geographic reference so that there are no slivers in the geographic layers. The biological information is compiled onto 1:24,000 USGS topographic quadrangles by an in-house biological and GIS expert using the data from

regional specialists in the form of maps, tables, charts, and written descriptions of wildlife distributions. The data are digitized, checked using both digital and on-screen procedures, plotted, and sent out for review by the regional specialists. The edited maps are updated on the computer, checked once again, and plotted at final map scale. A team of specialists reviews the entire series of maps, checks all data, and makes final edits. The data are merged to form the study-wide layers that 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.

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, Office of Response and
Restoration

2.5.2.6.3. CONTACT POSITION:

GIS Manager

2.5.2.6.4. CONTACT ADDRESS

2.5.2.6.4.1. ADDRESS TYPE:

Physical Address

2.5.2.6.4.2. ADDRESS:

7600 Sand Point Way N.E.

2.5.2.6.4.3. CITY:

Seattle

2.5.2.6.4.4. STATE OR PROVINCE:

WA

2.5.2.6.4.5. POSTAL CODE:

98115-6349

2.5.2.6.5. CONTACT VOICE TELEPHONE:

(206) 526-6944

2.5.2.6.7. CONTACT FACSIMILE TELEPHONE:

(206) 526-6329

2.5.2.6.8. CONTACT ELECTRONIC MAIL ADDRESS:

jill_petersen@hazmat.noaa.gov.us

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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	159	159	479	95,857			386
ESI	1	515	515	3,373	135,796			3,248
FISH	1	1,944	1,944	2,088	74,291			2,049
HABITATS	1	3,422	3,422	3,614	112,663			3,566
HYDRO	1	7,064	7,064	8,726	319,327			8,964
INDEX	1	39	39	172	176			134
INVERT	1	4,563	4,563	4,815	136,593			4,749
M_MAMMAL	1	239	239	448	82,932			411
NESTS							127	
SOCECON				103	2,187		275	1,549
T_MAMMAL	1	2	2	5	814			5

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4.0. SPATIAL REFERENCE INFORMATION

4.1. HORIZONTAL COORDINATE SYSTEM DEFINITION

4.1.1. GEOGRAPHIC

4.1.1.1. LATITUDE RESOLUTION:

0.00005

4.1.1.2. LONGITUDE RESOLUTION:

0.00005

4.1.1.3. GEOGRAPHIC COORDINATE UNITS:

Decimal Degrees

4.1.4. GEODETIC MODEL

4.1.4.1. HORIZONTAL DATUM NAME:

North American Datum of 1927

4.1.4.2. ELLIPSOID NAME:

Clarke, 1866

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5.0. ENTITY AND ATTRIBUTE INFORMATION

5.1. DETAILED DESCRIPTION: BIO_LUT

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

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:

Attributes

5.1.1.2. ENTITY TYPE DEFINITION:

integer

RARNUM

integer

ID

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:

An identifier that links the BIO_LUT table to the BIORES table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

An identifier that links the biology coverages to the BIO_LUT table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: BIOFILE

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

5.1.1. ENTITY TYPES:**5.1.1.1. ENTITY TYPE
LABEL:****5.1.1.2. ENTITY TYPE
DEFINITION:**

<u>Attributes</u>		
	ELEMENT	character
	SUBELEMENT	character
	NAME	character
	GEN_SPEC	character
	S_F	character
	T_E	character
	NHP	character
	DATE_PUB	integer
	CONC	character
	JAN	character
	FEB	character
	MAR	character
	APR	character
	MAY	character
	JUN	character
	JUL	character
	AUG	character
	SEP	character
	OCT	character
	NOV	character
	DEC	character
	BREED1	character
	BREED2	character
	BREED3	character
	BREED4	character
	RARNUM	integer
	G_SOURCE	integer
	S_SOURCE	integer
	BREED	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ELEMENT

5.1.2.2. ATTRIBUTE DEFINITION:

Major categories of biological data

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

BIRD	Birds
FISH	Fish
HABITAT	Habitats and Rare Plants
INVERT	Invertebrates
M_MAMMAL	Marine Mammals
T_MAMMAL	Terrestrial Mammals

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

SUBELEMENT

5.1.2.2. ATTRIBUTE DEFINITION:

Species subgroup

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

abalone
alcid
anadromous
beach_sp
crab
diving
dolphin
echinoderm
gull_tern
kelp_sp

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

mustelid
oyster
pelagic
raptor
sav
sea_lion
seal
shorebird
shrimp
shrub
special
wading
waterfowl
whale

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

NAME

5.1.2.2. ATTRIBUTE DEFINITION:

Species common name

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Abalone
Aleutian goose
American avocet
American bittern
Ashy storm-petrel
Bald eagle
Bay ghost shrimp
Beach layia
Black brant
Black oystercatcher
Black rail

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Black scoter (common)
 Black-crowned night heron
 Brandts cormorant
 Brown pelican
 Bull kelp
 California black rail
 California halibut
 California sea lion
 Canada goose
 Canvasback
 Cassins auklet
 Chinook salmon (king)
 Clover lupine
 Coho salmon (silver)
 Common loon
 Common murre
 Common Pacific littleneck clam
 Cutthroat trout
 Dalls porpoise
 Diving birds
 Double-crested cormorant
 Dungeness crab
 Eared grebe
 Eelgrass
 Eulachon
 Fork-tailed storm-petrel
 Gaper clam
 Giant kelp
 Gray whale
 Great blue heron
 Great egret
 Greater scaup
 Green sturgeon
 Gulls
 Harbor porpoise
 Harbor seal
 Harlequin duck
 Horned grebe
 Howells spineflower
 Leachs storm-petrel

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Marbled godwit
Marbled murrelet
Marin bent grass
Menzies wallflower
Minke whale
Native Pacific oyster
Night smelt
Northern (Steller) sea lion
Northern elephant seal
Northern phalarope
Northern shoveler
Osprey
Pacific herring
Pacific lamprey
Pacific razor clam
Pelagic cormorant
Peregrine falcon
Pied-billed grebe
Pigeon guillemot
Purple shore crab
Rainbow trout (steelhead)
Raptors
Red phalarope
Red sea urchin
Red-breasted merganser
Red-necked grebe
Redtail surfperch
Rhinoceros auklet
River otter
Rockfish
Salmon sp.
Salt marsh birds-beak
Sanderling
Shorebirds
Short-billed dowitcher
Snowy plover
Soft-shell clam
Sooty shearwater
Sora rail
Striped bass

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Surf scoter
 Surf smelt
 Surfperch
 Terns
 Tidewater goby
 Tufted puffin
 Virginia rail
 Wading birds
 Washington butter clam
 Waterfowl
 Western grebe
 Western gull
 Western lily
 Whistling swan (tundra swan)
 White pelican
 White sturgeon
 White-winged scoter
 Willet

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

GEN_SPEC

5.1.2.2. ATTRIBUTE DEFINITION:

Species scientific name

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Acipenser medirostris
 Acipenser transmontanus
 Aechmophorus occidentalis
 Agrostis blasdalei marinensis
 Amphistichus rhodoterus
 Anas clypeata
 Ardea herodias

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Aythya marila
Aythya valisineria
Baleonoptera acutorostrata
Botaurus lentiginosus
Brachyramphus marmoratus
Branta bernicla
Branta canadensis
Branta canadensis leucopareia
Calidris alba
Callianassa californiensis
Cancer magister
Casmerodius albus
Catoptrophorus semipalmatus
Cepphus columba
Cerorhinca monocerata
Charadrius alexandrinus
Chorizanthus howellii
Clupea harengus pallasii
Cordylantus maritimus maritimus
Embiotocidae
Entosphenus tridentatus
Erysimum menziesii
Eschrichtius robustus
Eucyclogobius newberryi
Eumetopias jubatus
Falco peregrinus
Gavia immer
Haematopus bachmani
Haliaeetus leucocephalus
Haliotis sp.
Hemigrapsus nudus
Histrionicus histrionicus
Hypomesus pretiosus
Larus occidentalis
Laterallus jamaicensis
Laterallus jamaicensis coturniculus
Layia carnosus
Lilium occidentale
Limnodromus griseus
Limosa fedoa

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Lunda cirrhata
Lupinus tidestromii tidestromii
Lutra canadensis
Macrocystis pyrifera
Melanitta deglandi
Melanitta nigra
Melanitta perspicillata
Mergus serrator
Mirounga angustirostris
Morone saxatilis
Mya arenaria
Nereocystis luetkeana
Nycticorax nycticorax
Oceanodroma furcata
Oceanodroma homochroa
Oceanodroma leucorhoa
Olor columbianus
Oncorhynchus kisutch
Oncorhynchus mykiss
Oncorhynchus tshawytscha
Ostrea lurida
Pandion haliaetus
Paralichthys californicus
Pelecanus erythrorhynchos
Pelecanus occidentalis
Phalacrocorax auritus
Phalacrocorax pelagicus
Phalacrocorax penicillatus
Phalaropus fulicarius
Phalaropus lobatus
Phoca vitulina
Phocoena phocoena
Phocoenoides dalli dalli
Podiceps auritus
Podiceps grisegena
Podiceps nigricollis
Podilymbus podiceps
Porzana carolina
Protothaca staminea
Ptychoramphus aleuticus

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Puffinus griseus
Rallus limicola
Recurvirostra americana
Salmo clarki
Saxidomus giganteus
Sebastes spp.
Siliqua patula
Spirinchus starksi
Strongylocentrotus franciscanus
Thaleichthys pacificus
Tresus nuttallii
Uria aalge
Zalophus californianus
Zostera marina

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

S_F

5.1.2.2. ATTRIBUTE DEFINITION:

State and Federal status

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

F	Federally listed
S	State listed
S/F	State and Federally listed

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

USFWS, CDFG

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

T_E

5.1.2.2. ATTRIBUTE DEFINITION:

Threatened and endangered status

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

E	Endangered
E/E	Endangered on Federal and State lists
T	Threatened
T/T	Threatened on Federal and State lists

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE
DEFINITION SOURCE:**
USFWS, CDFG

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

NHP

5.1.2.2. ATTRIBUTE DEFINITION:

This field is blank because no NHP information was gathered when this atlas was published. The field is included here to maintain consistency with the latest ESI data structure.

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

Not supplied with this atlas	
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5.1.2.1. ATTRIBUTE LABEL:

DATE_PUB

5.1.2.2. ATTRIBUTE DEFINITION:

This field is blank because no NHP information was gathered when this atlas was published. The field is included here to maintain consistency with the latest ESI data structure.

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

Not supplied with this atlas

5.1.2.1. ATTRIBUTE LABEL:

CONC

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

JAN

5.1.2.2. ATTRIBUTE DEFINITION:

Present in January

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

X

Present

Not Present

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

FEB

5.1.2.2. ATTRIBUTE DEFINITION:

Present in February

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

X

Present

Not Present

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

MAR

5.1.2.2. ATTRIBUTE DEFINITION:

Present in March

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

X

Present

Not Present

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

APR

5.1.2.2. ATTRIBUTE DEFINITION:

Present in April

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

X

Present

Not Present

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

MAY

5.1.2.2. ATTRIBUTE DEFINITION:

Present in May

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

X

Present

Not Present

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

JUN

5.1.2.2. ATTRIBUTE DEFINITION:

Present in June

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

X

Present

Not Present

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

JUL

5.1.2.2. ATTRIBUTE DEFINITION:

Present in July

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

X

Present

Not Present

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

AUG

5.1.2.2. ATTRIBUTE DEFINITION:

Present in August

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

X

Present

Not Present

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

SEP

5.1.2.2. ATTRIBUTE DEFINITION:

Present in September

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

X

Present

Not Present

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

OCT

5.1.2.2. ATTRIBUTE DEFINITION:

Present in October

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

X

Present

Not Present

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

NOV

5.1.2.2. ATTRIBUTE DEFINITION:

Present in November

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

X

Present

Not Present

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

DEC

5.1.2.2. ATTRIBUTE DEFINITION:

Present in December

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

X

Present

Not Present

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED1

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage textual summary where:

if ELEMENT = BIRD then BREED1 = nesting;

if ELEMENT = FISH then BREED1 = spawning;

if ELEMENT = INVERT then BREED1 = mating;

if ELEMENT = M_MAMMAL then BREED1 = mating

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

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

JUL-DEC

3 character abbreviation of start and end
month of breed1 activities

-

Not Occurring

N/A

No breed1 activities for this element

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

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED2

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage textual summary where:

if ELEMENT = BIRD then BREED2 = laying;

if ELEMENT = FISH then BREED2 = outmigration;

if ELEMENT = INVERT then BREED2 = spawning;

if ELEMENT = M_MAMMAL then BREED2 = calving

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

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

JUL-DEC	3 character abbreviation of start and end month of breed2 activities
-	Not Occurring
N/A	No breed2 activities for this element

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

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED3

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage textual summary where:

if ELEMENT = BIRD then BREED3 = hatching;

if ELEMENT = M_MAMMAL then BREED3 = pupping

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

JUL-DEC

-

N/A

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**3 character abbreviation of start and end
month of breed3 activities

Not Occurring

No breed3 activities for this element

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE
DEFINITION SOURCE:
NOAA****5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED4

5.1.2.2. ATTRIBUTE DEFINITION:Species' breeding or life stage textual summary where:
if ELEMENT = BIRD then BREED4 = fledging;**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

JUL-DEC

-

N/A

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**3 character abbreviation of start and end
month of breed4 activities

Not Occurring

No breed4 activities for this element

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE
DEFINITION SOURCE:
NOAA****5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

5.1.2.1. ATTRIBUTE LABEL:

RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:An identifier that links directly back to the biological data layers
or to the BIO_LUT lookup table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

G_SOURCE

5.1.2.2. ATTRIBUTE DEFINITION:

A link to EXPERT_ID in the supplementary data table EXPERTS. Formerly called EXPERT_ID. Item name has been changed to G_SOURCE to maintain consistency with the latest ESI data structure.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique number

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

S_SOURCE

5.1.2.2. ATTRIBUTE DEFINITION:

A duplicate link to EXPERT_ID in the supplementary data table EXPERTS. The S_SOURCE field has been added to maintain consistency with the latest ESI data structure.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique number

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique number

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

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

This page intentionally left blank

5.1. DETAILED DESCRIPTION: BIORES

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

5.1.1. ENTITY TYPES:**5.1.1.1. ENTITY TYPE
LABEL:**Attributes**5.1.1.2. ENTITY TYPE
DEFINITION:**

RARNUM	integer
SPECIES_ID	integer
CONC	character
SEASON_ID	integer
G_SOURCE	integer
S_SOURCE	integer
ELEMENT	character
EL_SPE	character
EL_SPE_SEA	character

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

RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

1-N

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

Unique number

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

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

SPECIES_ID

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique number

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

CONC

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

SEASON_ID

5.1.2.2. ATTRIBUTE DEFINITION:

A link from the BIORES table to the seasonality table.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

1-N

Unique number

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

G_SOURCE

5.1.2.2. ATTRIBUTE DEFINITION:

A link to EXPERT_ID in the supplementary data table EXPERTS. Formerly called EXPERT_ID. Item name has been changed to G_SOURCE to maintain consistency with the latest ESI data structure.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

1-N

Unique number

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

S_SOURCE

5.1.2.2. ATTRIBUTE DEFINITION:

A duplicate link to EXPERT_ID in the supplementary data table EXPERTS. The S_SOURCE field has been added to maintain consistency with the latest ESI data structure.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

1-N

Unique number

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

ELEMENT

5.1.2.2. ATTRIBUTE DEFINITION:

Major categories of biological data

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

BIRD

Birds

FISH

Fish

HABITAT

Habitats and Rare Plants

INVERT

Invertebrates

M_MAMMAL

Marine Mammals

T_MAMMAL

Terrestrial Mammals

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

EL_SPE

5.1.2.2. ATTRIBUTE DEFINITION:

Concatenation of the first character of the ELEMENT and the SPECIES_ID that provides a link to the species table.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

EL_SPE_SEA

5.1.2.2. ATTRIBUTE DEFINITION:

Concatenation of the first character of the ELEMENT, the SPECIES_ID, and the SEASON_ID that provides a link to the seasonality table.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: BIRDS

The data layer BIRDS contains the polygons with bird species.

The following BIRDS species are found in the Northern California ESI data set:

SPECIES ID	NAME
1	Common loon
4	Red-necked grebe
5	Horned grebe
6	Eared grebe
7	Western grebe
8	Double-crested cormorant
9	Brandt's cormorant
10	Pelagic cormorant
11	Whistling swan (tundra swan)
12	Canada goose
13	Black brant
20	Northern shoveler
21	Canvasback
22	Greater scaup
28	Harlequin duck
29	White-winged scoter
30	Surf scoter
33	Red-breasted merganser
37	Western gull
46	Common murre
47	Pigeon guillemot
48	Marbled murrelet
49	Cassin's auklet
50	Rhinoceros auklet
51	Tufted puffin
53	Northern phalarope
54	Great blue heron
64	Short-billed dowitcher
67	Sanderling
68	Black oystercatcher
76	Bald eagle
77	Osprey
88	Great egret
90	Black-crowned night heron
96	Leach's storm-petrel
102	Fork-tailed storm-petrel
107	Peregrine falcon
118	Brown pelican
139	Snowy plover

SPECIES ID	NAME
141	American avocet
144	Ashy storm-petrel
150	Black rail
155	Willet
160	Red phalarope
173	White pelican
179	Pied-billed grebe
185	American bittern
187	Virginia rail
188	Sora rail
197	Black scoter (common)
200	Sooty shearwater
206	California black rail
210	Marbled godwit
215	Aleutian goose
1,001	Gulls
1,002	Shorebirds
1,003	Waterfowl
1,004	Wading birds
1,005	Raptors
1,006	Diving birds
1,008	Terns

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
	RARNUM	integer

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

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the BIO_LUT table. ID is a concatenation of atlas number (7), element number (1), and record number. ID values of 9999 are holes in polygons and do not contain information.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

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

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

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

1-N

Unique number

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

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: BREED

The data table BREED identifies the life stages and abundances, by month, for each species. (There are no breeding activities for the HABITAT or T_MAMMAL elements.)

5.1.1. ENTITY TYPES:**5.1.1.1. ENTITY TYPE LABEL:**

Attributes

5.1.1.2. ENTITY TYPE DEFINITION:

EL_SPE_SEA	character
MONTH	integer
BREED1	character
BREED2	character
BREED3	character
BREED4	character

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

EL_SPE_SEA

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

MONTH

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

1	January
2	February
3	March
4	April
5	May
6	June
7	July
8	August
9	September
10	October
11	November
12	December

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED1

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage information where:

if EL_SPE_SEA contains "B" then BREED1 = nesting;

if EL_SPE_SEA contains "F" then BREED1 = spawning;

if EL_SPE_SEA contains "I" then BREED1 = mating;

if EL_SPE_SEA contains "M" then BREED1 = mating

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

N	Not occurring
Y	Occurring

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED2

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage information where:

if EL_SPE_SEA contains "B" then BREED2 = laying;

if EL_SPE_SEA contains "F" then BREED2 = outmigration;

if EL_SPE_SEA contains "I" then BREED2 = spawning;

if EL_SPE_SEA contains "M" then BREED2 = calving

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

N

Not occurring

Y

Occurring

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED3

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage information where:

if EL_SPE_SEA contains "B" then BREED3 = hatching;

if EL_SPE_SEA contains "M" then BREED3 = pupping

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

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

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
BREED4

5.1.2.2. ATTRIBUTE DEFINITION:
Species' breeding or life stage information where:
if EL_SPE_SEA contains "B" then BREED4 = fledging;

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

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

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

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1. DETAILED DESCRIPTION: BREED_DT

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

5.1.1. ENTITY TYPES:**5.1.1.1. ENTITY TYPE LABEL:**Attributes**5.1.1.2. ENTITY TYPE DEFINITION:**

BREED	integer
MONTH	integer
BREED1	character
BREED2	character
BREED3	character
BREED4	character

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

BREED

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

1-N

5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:

Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

MONTH

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

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

1	January
2	February
3	March
4	April
5	May
6	June
7	July
8	August
9	September
10	October
11	November
12	December

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

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED1

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage information where:

if EL_SPE_SEA contains "B" then BREED1 = nesting;

if EL_SPE_SEA contains "F" then BREED1 = spawning;

if EL_SPE_SEA contains "I" then BREED1 = mating;

if EL_SPE_SEA contains "M" then BREED1 = mating

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

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

N	Not occurring
Y	Occurring
-	No Breed1 activity for this element

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

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
BREED2

5.1.2.2. ATTRIBUTE DEFINITION:
Species' breeding or life stage information where:
if EL_SPE_SEA contains "B" then BREED2 = laying;
if EL_SPE_SEA contains "F" then BREED2 = outmigration;
if EL_SPE_SEA contains "I" then BREED2 = spawning;
if EL_SPE_SEA contains "M" then BREED2 = calving

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
NOAA

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

N	Not occurring
Y	Occurring
-	No Breed2 activity for this element

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

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
BREED3

5.1.2.2. ATTRIBUTE DEFINITION:
Species' breeding or life stage information where:

if EL_SPE_SEA contains “B” then BREED3 = hatching;

if EL_SPE_SEA contains “M” then BREED3 = pupping

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

N	Not occurring
Y	Occurring
-	No Breed3 activity for this element

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

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED4

5.1.2.2. ATTRIBUTE DEFINITION:

Species’ breeding or life stage information where:

if EL_SPE_SEA contains “B” then BREED4 = fledging;

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

N	Not occurring
Y	Occurring
-	No Breed4 activity for this element

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

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: ESI

The data layer ESI contains arc (Complete Chains) and polygonal (GT-Polygons) 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
<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 and polygons. The ESI rankings progress from low to high susceptibility to oil spills. The northern California shoreline types are listed below. In many cases, the shorelines are also ranked with multiple codes such as 10/7. The first number is the most landward shoreline type, salt marsh, with exposed tidal flats being the shoreline type closest to the water.

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:
1A	Exposed Rocky Cliffs
1A/2	Exposed Rocky Cliffs/Wave Cut Rocky Platforms
1A/3	Exposed Rocky Cliffs/Fine- to Medium-Grained Sand Beaches

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1B	Exposed Seawall
1C	Exposed Rocky Cliffs/Boulder Talus Base
2	Wave Cut Rocky Platforms
2/3	Wave Cut Rocky Platforms/Fine- to Medium-Grained Sand Beaches
2/5	Wave Cut Rocky Platforms/Mixed Sand and Gravel Beaches
3	Fine- to Medium-Grained Sand Beaches
3/2	Fine- to Medium-Grained Sand Beaches/Wave Cut Rocky Platforms
3/6A	Fine- to Medium-Grained Sand Beaches/Gravel Beaches
3/7	Fine- to Medium-Grained Sand Beaches/Exposed Tidal Flats
3/8A	Fine- to Medium-Grained Sand Beaches/Sheltered Rocky Shores
3/9	Fine- to Medium-Grained Sand Beaches/Sheltered Tidal Flats
4	Coarse-Grained Sand to Granule Beaches
4/2	Coarse-Grained Sand to Granule Beaches/Wave Cut Rocky Platforms
4/9	Coarse-Grained Sand to Granule Beaches/Sheltered Tidal Flats
5	Mixed Sand and Gravel Beaches
5/10	Mixed Sand and Gravel Beaches/Salt Marsh
5/2	Mixed Sand and Gravel Beaches/Wave Cut Rocky Platforms
5/3	Mixed Sand and Gravel Beaches/Fine- to Medium-Grained Sand Beaches
5/7	Mixed Sand and Gravel Beaches/Exposed Tidal Flats
5/8A	Mixed Sand and Gravel Beaches/Sheltered Rocky Shores
5/8A/9	Mixed Sand and Gravel Beaches/Sheltered Rocky Shores/Sheltered Tidal Flats
5/9	Mixed Sand and Gravel Beaches/Sheltered Tidal Flats
6A	Gravel Beaches
6A/2	Gravel Beaches/Wave Cut Rocky Platforms
6A/3	Gravel Beaches/Fine- to Medium-Grained Sand Beaches
6A/7	Gravel Beaches/Exposed Tidal Flats
6A/9	Gravel Beaches/Sheltered Tidal Flats
6B	Riprap
6B/10	Riprap/Salt Marsh
6B/2	Riprap/Wave Cut Rocky Platforms
6B/3	Riprap/Fine- to Medium-Grained Sand Beaches

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
6B/3/7	Riprap/Fine- to Medium-Grained Sand Beaches/Exposed Tidal Flats
6B/9	Riprap/Sheltered Tidal Flats
7	Exposed Tidal Flats
7/3	Exposed Tidal Flats/Fine- to Medium-Grained Sand Beaches
8A	Sheltered Rocky Shores
8A/3	Sheltered Rocky Shores/Fine- to Medium-Grained Sand Beaches
8A/5	Sheltered Rocky Shores/Mixed Sand and Gravel Beaches
8A/6A	Sheltered Rocky Shores/Gravel Beaches
8A/7	Sheltered Rocky Shores/Exposed Tidal Flats
8A/9	Sheltered Rocky Shores/Sheltered Tidal Flats
8B	Sheltered Man-Made Structures
8B/7	Sheltered Man-Made Structures/Exposed Tidal Flats
8B/9	Sheltered Man-Made Structures/Sheltered Tidal Flats
9	Sheltered Tidal Flats
9/10	Sheltered Tidal Flats/Salt Marshes
10	Salt Marsh
10/7	Salt Marsh/Exposed Tidal Flats
10/9	Salt Marsh/Sheltered Tidal Flats

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

ordinal

5.1.2.1. ATTRIBUTE LABEL:

LINE

5.1.2.2. ATTRIBUTE DEFINITION:

Type of geographic feature

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
F	Flat (line bounding a tidal flat)
M	Marsh (line bounding a marsh)
S	Shoreline

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE

DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

SOURCE_ID

5.1.2.2. ATTRIBUTE DEFINITION:

Data source for the ESI

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

2

Digital

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:

Regional environment

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

E

Estuary

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE

DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

WATER_CODE

5.1.2.2. ATTRIBUTE DEFINITION:

Specifies a polygon as either water or land

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1.ENUMERATED
DOMAIN VALUE:W
L**5.1.2.4.1.2.**ENUMERATED DOMAIN
VALUE DEFINITION:Water
Land**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE****DEFINITION SOURCE:**

Research Planning, Inc.

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5.1. DETAILED DESCRIPTION: EXPERTS

The data table EXPERTS contains the primary contacts for resources included in the ESI atlas.

5.1.1. ENTITY TYPES:**5.1.1.1. ENTITY TYPE LABEL:**Attributes**5.1.1.2. ENTITY TYPE DEFINITION:**

EXPERT_ID	integer
NAME	character
AGENCY	character
ADDRESS1	character
ADDRESS2	character
CITY	character
STATE	character
PHONE	character
BIO_EXPERTISE	character
GEO_EXPERTISE	character

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

EXPERT_ID

5.1.2.2. ATTRIBUTE DEFINITION:

Expert identifier that links to G_SOURCE and S_SOURCE in the BIORES and BIOFILE tables and to G_SOURCE and A_SOURCE in the SOC_DAT table.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

1-N

5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:

Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

NAME

5.1.2.2. ATTRIBUTE DEFINITION:

Primary expert and/or contact for resource

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Allen, Sarah
Breen, Bob
Collier, Patrick
Colwell, Mark
Cox, Bill
Curry, Mike
Edell, Tom
Fletcher, Grant
Forester, Kevin
Foster, Dr. Michael
Fukushima, Linda
Gallagher, Ken
Grantham, Greg
Haas, Jim
Hanson, Linda
Harvey, Dr. James
Hillyard, Deborah
Houck, Jake
Imper, Dave
Jones, Wendy
Kalvass, Pete
Karpov, Kon
Karpov, Konstantin
Kelly, John
Klobas, John
Knight, Jan
Lintz, Jim
McCleod, Dave
Miller, Sheri
Moore, Tom
Nelson, Jennifer
Oda, Ken
Point Reyes Bird Observatory,
Preston, Larry
Quirolo, Larry

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Rausch, Linda
 Roust, Aron
 Springer, Paul
 Tasto, Bob
 Thomas, Dave
 Ueber, Ed
 Wallace, Michael
 Warner, Ron
 Woodhouse, Dr. Charles
 Worcester, Karen

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

AGENCY

5.1.2.2. ATTRIBUTE DEFINITION:

Affiliation of the listed expert

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Audubon Canyon Ranch
 Bureau of Land Management
 California Department of Fish and Game
 California Polytechnic State Univ. San Luis Obispo
 California State Parks
 College of the Redwoods
 Fitzgerald Marine Reserve
 Humboldt State University
 Morro Coas Audubon Society
 Moss Landing Marine Labs
 Native Plant Society
 NOAA Gulf of the Farallones National Marine Sanctuary
 North Coast Marine Mammal Care Center
 Point Reyes Bird Observatory
 Private
 Regional Water Quality Control Board
 Santa Barbara Museum of Natural History
 Sonoma Field Studies
 U. S. Department of Agriculture Redwood Science Lab
 U. S. Fish and Wildlife Service
 U. S. Fish and Wildlife Service Humboldt Bay NWR
 University of California - Berkeley

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:

ADDRESS1

5.1.2.2. ATTRIBUTE DEFINITION:

Primary address of the expert

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

1125 16th Street
1211 Del Mar Drive
1610 Panorama Drive
1700 Bayview Street
1720 Ocean Drive
19160 South Harbor Dr.
20 Lower Ragsdale Dr.
2559 Puesta Del Sol Road
2800 Cottage Way
3141 Highway 128
411 Burgess Dr.
424 Howe Drive
46 8th Street
4612 Lentell
4990 Shoreline Highway
5341 Ericson Way
619 2nd Street
7 Bridge Ct.
81 Hiquera Street
Biological Sciences Department
College of the Redwoods
Cypress Grove Preserve
Field Office and Lab
Fort Mason
Mad River Hatchery
Mendocino District Head
P. O. Box 2498
P. O. Box 450
P. O. Box 47
San Mateo City Park District
Wildlife Department

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

ADDRESS2

5.1.2.2. ATTRIBUTE DEFINITION:

Continuation of first address of expert

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

1211 Del Mar Dr.
 19160 S. Harbor Drive
 Building 201
 Hatchery Road
 Highway 1
 P. O. Box 808
 P. O. Box 451
 Room E-1803
 Suite 100
 Suite 200

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

CITY

5.1.2.2. ATTRIBUTE DEFINITION:

City of expert's address

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Arcata
 Blue Lake
 Calistoga
 Cayucos
 Crescent City
 Eureka
 Fairfax
 Fort Bragg
 Ft. Bragg
 Loleta

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Marshall
 McKinleyville
 Mendocino
 Menlo Park
 Monterey
 Moss Beach
 Moss Landing
 Sacramento
 San Francisco
 San Luis Obispo
 Santa Barbara
 Sebastopol
 Stinson Beach
 Yountville

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

STATE

5.1.2.2. ATTRIBUTE DEFINITION:

State of expert's address

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

CA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

PHONE

5.1.2.2. ATTRIBUTE DEFINITION:

Phone number of expert

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BIO_EXPERTISE

5.1.2.2. ATTRIBUTE DEFINITION:

Biological expertise of expert

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

abalone
 aleutian goose
 Anadromous Fish: Salmon and Steelhead
 Birds
 Botany
 Botany: plants
 dungeness crab
 eel grass
 Fisheries: Herring, Environmental Input Analysis
 Fisheries: Steelhead trout, Salmon
 groundfish, rockfish
 harbor seals, California sea lions
 herring shrimp
 Inland fisheries
 Kelp forest ecology: kelp, seagrasses
 m mammals
 m mammals b. brant
 m mammals birds
 m mammals groundfish rock fish urchins herring
 Mammals
 marbled murrelet
 Marine Mammals
 Marine Mammals, Waterfowl, Seabirds, Shorebirds
 Marine Mammals: harbor seals
 Marine: Abalone, Sea Urchins
 Marine: Sea Urchins
 native plants
 Naturalist
 pinnipeds
 Pinnipeds: Harbor Seals Elephant Seals
 plants birds
 salmon steelhead
 salmon steelhead tidewater goby
 Sanctuary Manager
 Sea Urchins, Clams, Eel Grass, Abalone, Herring
 smelt, ground fish, rockfish
 Smelt, Herring
 Waterfowl, Shorebirds, Raptors

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

GEO_EXPERTISE

5.1.2.2. ATTRIBUTE DEFINITION:

Geographic extent of expert's expertise

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Bodega; Point Reyes Farallon Islands; Tomales Bay
 California
 Central & Northern California
 Central California
 Central Coast, San Francisco Bay
 Central and Northern California
 Del Norte County
 Del Norte and Humboldt counties
 Farallones and Cordell Bank National Marine
 Sanctuaries
 Humboldt Bay
 Humboldt County
 Kings Range
 Klamath River
 Mendocino County
 Northern California
 Oregon border south to San Mateo county
 Pt. Arena to Punta Gorda
 Russian River
 S. F., San Mateo, Santa Cruz, Monterey, San Luis
 Obispo Cnty
 San Francisco, San Mateo, Santa Cruz, Monterey
 Counties
 San Luis Obispo
 San Luis Obispo County
 San Mateo County coast
 San Mateo and San Francisco Counties
 Santa Barbara
 Sonoma County
 Sonoma and Marin Counties
 Tomales Bay

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: FISH

The data layer FISH contains the polygons with fish species.

The following FISH species are found in the Northern California ESI atlas:

SPECIES ID	NAME
43	White sturgeon
44	Green sturgeon
45	Cutthroat trout
54	Redtail surfperch
66	Pacific herring
68	Chinook salmon (king)
69	Coho salmon (silver)
74	Rainbow trout (steelhead)
75	Surf smelt
77	Eulachon
83	Salmon sp.
104	Striped bass
219	Pacific lamprey
223	Rockfish
224	Surfperch
225	California halibut
226	Tidewater goby
228	Night smelt

5.1.1. ENTITY TYPES:**5.1.1.1. ENTITY TYPE LABEL:**

GT-Polygons

5.1.1.2. ENTITY TYPE DEFINITION:

ID integer

RARNUM integer

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

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the BIO_LUT table. ID is a concatenation of atlas number (7), element number (2), and record number. ID values of 9999 are holes in polygons and do not contain information.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE

DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE

DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: HABITATS (formerly PLANTS)

The data layer HABITATS contains the polygons with plant species.

The following HABITATS species are found in the Northern California ESI atlas:

SPECIES ID	NAME
1	Eelgrass
2	Bull kelp
3	Menzies wallflower
4	Beach layia
5	Salt marsh bird's-beak
6	Western lily
8	Clover lupine
9	Giant kelp
69	Marin bent grass
71	Howells spineflower

5.1.1. ENTITY TYPES:**5.1.1.1. ENTITY TYPE LABEL:**

GT-Polygons

5.1.1.2. ENTITY TYPE DEFINITION:

ID integer

RARNUM integer

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

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the BIO_LUT table. ID is a concatenation of atlas number (7), element number (3), and record number. ID values of 9999 are holes in polygons and do not contain information.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique number

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

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: HYDRO

The data layer HYDRO contains polygonal water and land features, as well as linear features for rivers/streams that are tidally influenced. This layer was created using the digital shoreline provided by the California State Land Office.

5.1.1. ENTITY TYPES:

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

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

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

WATER_CODE

5.1.2.2. ATTRIBUTE DEFINITION:

Specifies a polygon as either water or land

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

W	Water
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

5.1.2.1. 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:**

H	Hydro
I	Index for map/quad boundary
S	Shoreline

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

Research Planning, Inc.

5.1.2.1. 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:**

2	Digital
---	---------

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

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:**

GT-Polygons

5.1.1.2. ENTITY TYPE DEFINITION:

TILE-NAME	character
TOPO-NAME	character
SCALE	integer
MAPANGLE	floating point
PAGESIZE	character

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

TILE-NAME

5.1.2.2. ATTRIBUTE DEFINITION:

The TILE-NAME contains the map number according to the specified layout of the atlas. During the map production process, the value of TILE-NAME is plotted on the map product to order the maps in a coherent manner. The values for each polygon are unique and range from 1 through 41.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

TOPO-NAME

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

ARCATA NORTH, CALIF. (1972); TYEE CITY, CALIF. (1972)
 ARCATA SOUTH, CALIF. (1972)
 ARCHED ROCK, CALIF. (1977); FORT ROSS, CALIF. (1978)
 BEAR HARBOR, CALIF. (1969)
 BODEGA HEAD, CALIF. (1972)

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

CANNIBAL ISLAND, CALIF. (1972)
 CAPETOWN, CALIF. (1969); CAPE MENDOCINO, CALIF. (1969)
 CHILDS HILL, CALIF. (1975); SISTER ROCKS, CALIF. (1966)
 COOSKIE CREEK, CALIF. (1969)
 CRANNELL, CALIF. (1975); TRINIDAD, CALIF. (1978)
 CRESCENT CITY CALIF. (1978)
 DRAKES BAY, CALIF. (1976)
 DUNCANS MILL, CALIF. (1979)
 ELK, CALIF. (1960); ALBION, CALIF. (1960)
 EUREKA, CALIF. (1972)
 FERN CANYON, CALIF. (1966)
 FERNDALE, CALIF. (1972)
 FIELDS LANDING, CALIF. (1972)
 FORT BRAGG, CALIF. (1978)
 HALES GROVE, CALIF. (1970); MISTAKE POINT, CALIF. (1969)
 INGLENOK, CALIF. (1976)
 INVERNESS, CALIF. (1976); POINT REYES NE, CALIF. (1976)
 MALLO PASS CREEK, CALIF. (1977)
 MENDOCINO, CALIF. (1978)
 ORICK, CALIF. (1975)
 PETROLIA, CALIF. (1969)
 PLANTATION, CALIF. (1977)
 POINT ARENA, CALIF. (1978)
 REQUA, CALIF. (1966)
 SAUNDERS REEF, CALIF. (1977)
 SHELTER COVE, CALIF. (1969)
 SHUBRICK PEAK, CALIF. (1969)
 SMITH RIVER, CALIF.-OREGON (1966)
 STEWARTS POINT, CALIF. (1978)
 STEWARTS POINT, CALIF. (1978); GUALALA, CALIF. (1977)
 TOMALES, CALIF. (1976)
 TRINIDAD, CALIF. (1978); RODGERS PEAK, CALIF. (1966)
 VALLEY FORD, CALIF. (1971)
 WESTPORT, CALIF. (1977)

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:

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:

 46,500

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

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

 -0.10

0.00

0.10

0.15

0.30

0.35

0.43

0.45

0.47

0.50

0.57

0.65

0.70

0.75

0.80

0.83

 0.85

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: INVERT (formerly SHELLFISH)

The data layer INVERT contains the polygons with invertebrate species.

The following INVERT species are found in the Northern California ESI atlas:

SPECIES ID	NAME
14	Dungeness crab
21	Washington butter clam
24	Gaper clam
25	Soft-shell clam
28	Pacific razor clam
29	Common Pacific littleneck clam
38	Native Pacific oyster
60	Abalone
69	Bay ghost shrimp
70	Purple shore crab
86	Red sea urchin

5.1.1. ENTITY TYPES:**5.1.1.1. ENTITY TYPE LABEL:**

GT-Polygons

5.1.1.2. ENTITY TYPE DEFINITION:

ID integer

RARNUM integer

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

ID

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique number

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

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: M_MAMMAL

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

The following M_MAMMAL species are found in the Northern California ESI atlas:

SPECIES ID	NAME
1	Northern (Steller) sea lion
2	Harbor seal
6	Harbor porpoise
12	Minke whale
22	California sea lion
24	Northern elephant seal
26	Gray whale
47	Dall's porpoise
48	Sperm whale

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:

GT-Polygons

5.1.1.2. ENTITY TYPE DEFINITION:

ID	integer
RARNUM	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the BIO_LUT table. ID is a concatenation of atlas number (7), element number (4), and record number. ID values of 9999 are holes in polygons and do not contain information.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique number

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

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: NESTS

The data layer NESTS contains entity points representing nesting sites.

The following species are found in the NESTS data layer of the Northern California ESI atlas:

SPECIES ID	NAME
8	Double-crested cormorant
9	Brandt's cormorant
10	Pelagic cormorant
37	Western gull
46	Common murre
47	Pigeon guillemot
49	Cassin's auklet
50	Rhinoceros auklet
51	Tufted puffin
68	Black oystercatcher
96	Leach's storm-petrel
102	Fork-tailed storm-petrel
144	Ashy storm-petrel

5.1.1. ENTITY TYPES:**5.1.1.1. ENTITY TYPE LABEL:**

Entity Points

5.1.1.2. ENTITY TYPE DEFINITION:

ID	integer
RARNUM	integer

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

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the BIO_LUT table. ID is a concatenation of (7), element number (5), and record number.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique number

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

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: SEASONAL

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

5.1.1. ENTITY TYPES:**5.1.1.1. ENTITY TYPE LABEL:**

Attributes

5.1.1.2. ENTITY TYPE DEFINITION:

ELEMENT	character
SPECIES_ID	integer
SEASON_ID	integer
JAN	character
FEB	character
MAR	character
APR	character
MAY	character
JUN	character
JUL	character
AUG	character
SEP	character
OCT	character
NOV	character
DEC	character
EL_SPE_SEA	character

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

ELEMENT

5.1.2.2. ATTRIBUTE DEFINITION:

Major categories of biological data

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

BIRD	Birds
FISH	Fish
HABITAT	Habitats and Rare Plants
INVERT	Invertebrates
M_MAMMAL	Marine Mammals
T_MAMMAL	Terrestrial Mammals

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

SPECIES_ID

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique number

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

SEASON_ID

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique number

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
JAN

5.1.2.2. ATTRIBUTE DEFINITION:
Present in January

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:**

X

Present
(blank) Not present

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
FEB

5.1.2.2. ATTRIBUTE DEFINITION:
Present in February

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
X	Present (blank) Not present
<div data-bbox="665 472 1380 556">5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:</div> <div data-bbox="852 567 1201 609">Research Planning, Inc.</div> <div data-bbox="397 619 1161 703">5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT: nominal</div> <div data-bbox="397 745 836 829">5.1.2.1. ATTRIBUTE LABEL: MAR</div> <div data-bbox="397 840 933 924">5.1.2.2. ATTRIBUTE DEFINITION: Present in March</div> <div data-bbox="397 934 1071 1018">5.1.2.3. ATTRIBUTE DEFINITION SOURCE: Research Planning, Inc.</div>	
5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
X	Present (blank) Not present
<div data-bbox="665 1312 1380 1396">5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:</div> <div data-bbox="852 1407 1201 1449">Research Planning, Inc.</div> <div data-bbox="397 1459 1161 1543">5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT: nominal</div> <div data-bbox="397 1585 836 1669">5.1.2.1. ATTRIBUTE LABEL: APR</div> <div data-bbox="397 1680 933 1764">5.1.2.2. ATTRIBUTE DEFINITION: Present in April</div> <div data-bbox="397 1774 1071 1858">5.1.2.3. ATTRIBUTE DEFINITION SOURCE: Research Planning, Inc.</div>	

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

X

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**Present
(blank) Not present**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE
DEFINITION SOURCE:**

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal**5.1.2.1. ATTRIBUTE LABEL:**
MAY**5.1.2.2. ATTRIBUTE DEFINITION:**
Present in May**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**
Research Planning, Inc.**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

X

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**Present
(blank) Not present**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE
DEFINITION SOURCE:**

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal**5.1.2.1. ATTRIBUTE LABEL:**
JUN**5.1.2.2. ATTRIBUTE DEFINITION:**
Present in June**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
X	Present (blank) Not present
<div data-bbox="665 472 1380 556">5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:</div> <div data-bbox="852 567 1201 609">Research Planning, Inc.</div> <div data-bbox="397 619 1161 703">5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT: nominal</div> <div data-bbox="397 745 836 829">5.1.2.1. ATTRIBUTE LABEL: JUL</div> <div data-bbox="397 840 933 924">5.1.2.2. ATTRIBUTE DEFINITION: Present in July</div> <div data-bbox="397 934 1071 1018">5.1.2.3. ATTRIBUTE DEFINITION SOURCE: Research Planning, Inc.</div>	
5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
X	Present (blank) Not present
<div data-bbox="665 1312 1380 1396">5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:</div> <div data-bbox="852 1407 1201 1449">Research Planning, Inc.</div> <div data-bbox="397 1459 1161 1543">5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT: nominal</div> <div data-bbox="397 1585 836 1669">5.1.2.1. ATTRIBUTE LABEL: AUG</div> <div data-bbox="397 1680 933 1764">5.1.2.2. ATTRIBUTE DEFINITION: Present in August</div> <div data-bbox="397 1774 1071 1858">5.1.2.3. ATTRIBUTE DEFINITION SOURCE: Research Planning, Inc.</div>	

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

X

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**Present
(blank) Not present**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE
DEFINITION SOURCE:**

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal**5.1.2.1. ATTRIBUTE LABEL:**
SEP**5.1.2.2. ATTRIBUTE DEFINITION:**
Present in September**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**
Research Planning, Inc.**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

X

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**Present
(blank) Not present**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE
DEFINITION SOURCE:**

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal**5.1.2.1. ATTRIBUTE LABEL:**
OCT**5.1.2.2. ATTRIBUTE DEFINITION:**
Present in October**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**
Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
X	Present (blank) Not present
<div data-bbox="665 472 1380 556">5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:</div> <div data-bbox="852 567 1201 609">Research Planning, Inc.</div> <div data-bbox="397 619 1161 703">5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT: nominal</div> <div data-bbox="397 745 836 829">5.1.2.1. ATTRIBUTE LABEL: NOV</div> <div data-bbox="397 840 933 924">5.1.2.2. ATTRIBUTE DEFINITION: Present in November</div> <div data-bbox="397 934 1071 1018">5.1.2.3. ATTRIBUTE DEFINITION SOURCE: Research Planning, Inc.</div>	
5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
X	Present (blank) Not present
<div data-bbox="665 1312 1380 1396">5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:</div> <div data-bbox="852 1407 1201 1449">Research Planning, Inc.</div> <div data-bbox="397 1459 1161 1543">5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT: nominal</div> <div data-bbox="397 1585 836 1669">5.1.2.1. ATTRIBUTE LABEL: DEC</div> <div data-bbox="397 1680 933 1764">5.1.2.2. ATTRIBUTE DEFINITION: Present in December</div> <div data-bbox="397 1774 1071 1858">5.1.2.3. ATTRIBUTE DEFINITION SOURCE: Research Planning, Inc.</div>	

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

X

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**Present
(blank) Not present**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE
DEFINITION SOURCE:**

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

EL_SPE_SEA

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: SOC_DAT

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

5.1.1. ENTITY TYPES:**5.1.1.1. ENTITY TYPE LABEL:**

Attributes

5.1.1.2. ENTITY TYPE DEFINITION:

HUNUM	integer
TYPE	character
NAME	character
CONTACT	character
PHONE	character
G_SOURCE	integer
A_SOURCE	integer
COMMENTS	character

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

HUNUM

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

1-N

5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:

Unique link

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

TYPE

5.1.2.2. ATTRIBUTE DEFINITION:

Identifies the feature type

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

ACCESS	Access
AIRPORT	Airport
AQUACULTURE	Aquaculture
ARCHAEOLOGICAL SITE	Archaeological Site
BEACH	Beach
BOAT RAMP	Boat Ramp
CAMPGROUND	Campground
COAST GUARD	Coast Guard
COMMERCIAL FISHING	Commercial Fishing
FACTORY	Factory
HISTORICAL SITE	Historical Site
HOIST	Hoist
LOG STORAGE	Log Storage
MARINA	Marina
MARINE SANCTUARY	Marine Sanctuary
MINING	Mining
NATIONAL PARK	National Park
OIL FACILITIES	Oil Facilities
PLATFORMS	Platforms
RECREATIONAL FISHING	Recreational Fishing
STATE PARK	State Park
SUBSISTENCE FISHING	Subsistence Fishing
VILLAGE	Village
WATER INTAKE	Water Intake
WILDLIFE REFUGE	Wildlife Refuge

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

NAME

5.1.2.2. ATTRIBUTE DEFINITION:

The feature name

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

ABALONE INTERNATIONAL
 ACCESS
 AIRPORT
 AIRSTRIP
 ALBION RIVER HARBOUR
 ARCATA COUNTY AIRPORT
 B.L.M. BEACH PROPERTIES
 BEACH
 BEACH FRONT PARK
 BIG LAGOON COUNTY PARK
 BIG LAGOON INDIAN RESERVATION
 BIRD ROCK - ASBS
 BOAT RAMP
 BODEGA FISH FARMS - WATER INTAKE
 BODEGA MARINE LAB
 BODEGA MARINE LAB WATER INTAKE
 BODEGA MARINE LIFE REFUGE
 BOWERS FIELD
 BROOKS FIELD
 CENTERVILLE BEACH COUNTY PARK
 CHADBOURNE GULCH STATE PARK
 CLAM BEACH COUNTY PARK
 CLIFFORD KAMPH MEMORIAL PARK
 COAST OYSTER
 COLLINS LANDING ACCESS
 COMMERCIAL FISHERIES SUPPORT FACILITIES
 COMMERCIAL FISHING
 COUNTY AIRPORT
 CRAB COUNTY PARK
 DABY ISLAND
 DEL MAR LANDING ECOLOGICAL RESERVE
 DEL NORTE COAST REDWOODS STATE PARK
 DEL NORTE STREET PIER
 DORAN REGIONAL PARK
 ECTERO DE LIMANTOUR RESERVE
 EUREKA AIRPORT
 EUREKA CITY AIRPORT
 FISH ROCK BEACH / ANCHOR BAY
 FORT BRAGG AIRPORT
 FORT ROSS STATE HISTORIC PARK
 GARCIA RIVER
 GERSTLE COVE ASBS
 GOLD BLUFFS STATE RECREATIONAL AREA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

GREENWOOD CREEK PROJECT
GULF OF FARALLONES NTL. MARINE SANCTUARY
HUMBOLDT BAY NATIONAL WILDLIFE REFUGE
HUMBOLDT LAGOONS STATE PARK
HUMBOLDT MARINE SERVICES WHARF
HUMBOLDT STATE UNIVERSITY WATER INTAKE
INDIAN ISLAND
INNER BOAT BASIN
INVERNESS LANDING
JUGHANDLE STATE RESERVE
KELP BEDS AT SAUNDERS REEF ASBS
KING RANGE NAT. CONSERVATION AREA
KING SALMON MARINA
KLAMATH RIVER ESTUARY
KUIPER MARICULTURE WATER INTAKE
LAUNCHING RAMP
LAWSON'S LANDING
LIFE SAVING STATION
LITTLE RIVER STATE BEACH
LOUISIANA PACIFIC LUMBER MILL
M-430-02 AQUACULTURE LEASE
M-430-05
M-430-06 AQUACULTURE LEASE
M-430-07 AQUACULTURE LEASE
M-430-08 AQUACULTURE LEASE
M-430-09 AQUACULTURE LEASE
M-430-11 AQUACULTURE LEASE
M-430-12
M-430-12 AQUACULTURE LEASE
M-430-13 AQUACULTURE LEASE
M-430-14 AQUACULTURE LEASE
M-430-15 AQUACULTURE LEASE
M-430-16 AQUACULTURE LEASE
M-430-17 AQUACULTURE LEASE
M-430-18 AQUACULTURE LEASE
M-438-01 PARCEL 1-JOHNSON OYSTER CO.
M-438-01 PARCEL 2-JOHNSON OYSTER CO.
MACKERRICHER STATE PARK
MAD RIVER BEACH COUNTY PARK
MAD RIVER SLOUGH MARICULTURE SITES
MANCHESTER STATE BEACH
MARCONI COVE MARINA
MARINA
MASONS MARINA
MCNAMARA FIELD
MENDOCINO COAST BOTANICAL GARDEN

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

MENDOCINO HEADLANDS STATE PARK
 MILLER COUNTY PARK
 MOAT CREEK
 NAVARRO RIVER STATE PARK
 NORTH HUMBOLDT BAY MARICULTURE SITES
 NOYO HARBOR
 OCEAN COVE RESERVE
 OUTER BOAT BASIN
 PARK
 PATRICKS POINT STATE PARK
 PELICAN BEACH STATE PARK
 PG & E POWER WATER INTAKE
 POINT ARENA HARBOUR
 POINT ARENA LIGHTHOUSE
 POINT CABRILLO LIGHTHOUSE
 POINT DELGADA LANDING STRIP
 POINT REYES HEADLAND RESERVE
 POINT REYES NATIONAL SEASHORE
 PORTO BODEGA HARBOR
 PRAIRIE CREEK REDWOODS STATE PARK
 PT. CABRILLO LIGHTHOUSE
 PUBLIC FISHING
 RECREATIONAL BEACH
 RECREATIONAL FISHING
 REDWOOD NATIONAL PARK
 RUSSIAN GULCH STATE PARK
 SALT POINT STATE PARK
 SAMOA BOAT RAMP
 SAND DOLLAR PICNIC AREA & BEACH
 SCHOONER GULCH STATE BEACH
 SEA RANCH AIRPORT
 SHELTER COVE HARBOUR
 SHIP ASHORE AND SALMON HARBOR RESORTS
 SHIP ASHORE LANDING STRIP
 SIMPSON PULP MILL
 SINKYONE WILDERNESS STATE PARK
 SMALL CRAFT HARBOUR
 SMITH RIVER RANCHERIA
 SONOMA COAST STATE BEACH
 SONOMA COAST STATE BEACH - BODEGA HEAD
 SONOMA COAST STATE BEACH - GOAT ROCK
 SONOMA COAST STATE BEACH - RUSSIAN GULCH
 SPUD POINT MARINA
 TABLE BLUFF COUNTY PARK
 TOMALES BAY ECOLOGICAL RESERVE
 TOMALES BAY STATE PARK

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

TOMALES BAY STATE PARK - MILLERTON POINT
 TRIBAL BOUNDARY
 TRINIDAD HARBOUR
 TRINIDAD HEAD USCG LIGHTHOUSE RES.
 TRINIDAD INDIAN RESERVATION
 TRINIDAD STATE BEACH
 UNDERSEA WORLD WATER INTAKE
 USGC STATION
 VAN DAMME STATE PARK
 WAGES CREEK BEACH
 WESTPORT UNION LANDING STATE BEACH
 WESTSIDE REGIONAL PARK
 WILDLIFE REFUGE
 WOODLY ISLAND MARINA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE

DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

CONTACT

5.1.2.2. ATTRIBUTE DEFINITION:

Contact person

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

PHONE

5.1.2.2. ATTRIBUTE DEFINITION:

Telephone number

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

G_SOURCE

5.1.2.2. ATTRIBUTE DEFINITION:

A link to EXPERT_ID in the supplementary data table EXPERTS. Formerly called EXPERT_ID. Item name has been changed to G_SOURCE to maintain consistency with the latest ESI data structure.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique link

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

A_SOURCE

5.1.2.2. ATTRIBUTE DEFINITION:

A duplicate link to EXPERT_ID in the supplementary data table EXPERTS. The A_SOURCE field has been added to maintain consistency with the latest ESI data structure.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique link

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

COMMENTS

5.1.2.2. ATTRIBUTE DEFINITION:

Lists any special comments about the 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:**

1-N

Unique link

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: SOC_LUT

Lookup table to link SOC_DAT to SOCECON data layer.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
<u>Attributes</u>	HUNUM	integer
	ID	integer

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

HUNUM

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links SOCECON to the SOC_DAT data table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links SOC_LUT to the SOCECON data layer

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: SOCECON

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

5.1.1. ENTITY TYPES:

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

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

TYPE

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
A	Airport
A2	Access
AQ	Aquaculture
AS	Archaeological Site
B	Beach
B / RB	State Beach
BR	Boat Ramp
CF	Commercial Fishing
CG	Coast Guard
CP	Campground
F2	Factory
H	Hoist
HS	Historical Site
IB	International Border
IR	Indian Reservation
LS	Log Storage
M	Marina
M2	Mining
MS	Marine Sanctuary

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
NP	National Park
OF	Oil Facilities
P	Park
PF	Platforms
PL	Pipeline
RF	Recreational Fishing
S	Subsistence Fishing
SB	State Border
SP	State Park
SP	Regional or State Park
V	Village
WI	Water Intake
WR	Wildlife Refuge

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

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
ID

5.1.2.2. ATTRIBUTE DEFINITION:
A unique identifier that links to the SOC_LUT table. ID is a concatenation of atlas number (7), element number (10), and record number.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
HUNUM

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

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

1-N

Unique number

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

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: SPECIES

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

5.1.1. ENTITY TYPES:**5.1.1.1. ENTITY TYPE LABEL:**

Attributes

5.1.1.2. ENTITY TYPE DEFINITION:

SPECIES_ID	integer
NAME	character
GEN_SPEC	character
ELEMENT	character
SUBELEMENT	character
NHP	character
DATE_PUB	integer
EL_SPE	character

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

SPECIES_ID

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

1-N

5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:

Unique number

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

NAME

5.1.2.2. ATTRIBUTE DEFINITION:

Species common name

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Abalone
Aleutian goose
American avocet
American bittern
Ashy storm-petrel
Bald eagle
Bay ghost shrimp
Beach layia
Black brant
Black oystercatcher
Black rail
Black scoter (common)
Black-crowned night heron
Brandts cormorant
Brown pelican
Bull kelp
California black rail
California halibut
California sea lion
Canada goose
Canvasback
Cassins auklet
Chinook salmon (king)
Clover lupine
Coho salmon (silver)
Common loon
Common murre
Common Pacific littleneck clam
Cutthroat trout
Dalls porpoise
Diving birds
Double-crested cormorant
Dungeness crab
Eared grebe
Eelgrass
Eulachon
Fork-tailed storm-petrel
Gaper clam

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Giant kelp
 Gray whale
 Great blue heron
 Great egret
 Greater scaup
 Green sturgeon
 Gulls
 Harbor porpoise
 Harbor seal
 Harlequin duck
 Horned grebe
 Howells spineflower
 Leachs storm-petrel
 Marbled godwit
 Marbled murrelet
 Marin bent grass
 Menzies wallflower
 Minke whale
 Native Pacific oyster
 Night smelt
 Northern (Steller) sea lion
 Northern elephant seal
 Northern phalarope
 Northern shoveler
 Osprey
 Pacific herring
 Pacific lamprey
 Pacific razor clam
 Pelagic cormorant
 Peregrine falcon
 Pied-billed grebe
 Pigeon guillemot
 Purple shore crab
 Rainbow trout (steelhead)
 Raptors
 Red phalarope
 Red sea urchin
 Red-breasted merganser
 Red-necked grebe
 Redtail surfperch

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Rhinoceros auklet
 River otter
 Rockfish
 Salmon sp.
 Salt marsh birds-beak
 Sanderling
 Shorebirds
 Short-billed dowitcher
 Snowy plover
 Soft-shell clam
 Sooty shearwater
 Sora rail
 Striped bass
 Surf scoter
 Surf smelt
 Surfperch
 Terns
 Tidewater goby
 Tufted puffin
 Virginia rail
 Wading birds
 Washington butter clam
 Waterfowl
 Western grebe
 Western gull
 Western lily
 Whistling swan (tundra swan)
 White pelican
 White sturgeon
 White-winged scoter
 Willet

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE

DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

GEN_SPEC

5.1.2.2. ATTRIBUTE DEFINITION:

Species scientific name

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Acipenser medirostris
 Acipenser transmontanus
 Aechmophorus occidentalis
 Agrostis blasdalei marinensis
 Amphistichus rhodoterus
 Anas clypeata
 Ardea herodias
 Aythya marila
 Aythya valisineria
 Baleonoptera acutorostrata
 Botaurus lentiginosus
 Brachyramphus marmoratus
 Branta bernicla
 Branta canadensis
 Branta canadensis leucopareia
 Calidris alba
 Callianassa californiensis
 Cancer magister
 Casmerodius albus
 Catoptrophorus semipalmatus
 Cephus columba
 Cerorhinca monocerata
 Charadrius alexandrinus
 Chorizanthus howellii
 Clupea harengus pallasii
 Cordylantus maritimus maritimus
 Embiotocidae
 Entosphenus tridentatus
 Erysimum menziesii
 Eschrichtius robustus
 Eucyclogobius newberryi
 Eumetopias jubatus
 Falco peregrinus

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Gavia immer
Haematopus bachmani
Haliaeetus leucocephalus
Haliotis sp.
Hemigrapsus nudus
Histrionicus histrionicus
Hypomesus pretiosus
Larus occidentalis
Laterallus jamaicensis
Laterallus jamaicensis coturniculus
Layia carnosus
Lilium occidentale
Limnodromus griseus
Limosa fedoa
Lunda cirrhata
Lupinus tidestromii tidestromii
Lutra canadensis
Macrocystis pyrifera
Melanitta deglandi
Melanitta nigra
Melanitta perspicillata
Mergus serrator
Mirounga angustirostris
Morone saxatilis
Mya arenaria
Nereocystis luetkeana
Nycticorax nycticorax
Oceanodroma furcata
Oceanodroma homochroa
Oceanodroma leucorhoa
Olor columbianus
Oncorhynchus kisutch
Oncorhynchus mykiss
Oncorhynchus tshawytscha
Ostrea lurida
Pandion haliaetus
Paralichthys californicus
Pelecanus erythrorhynchos
Pelecanus occidentalis
Phalacrocorax auritus

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Phalacrocorax pelagicus
Phalacrocorax penicillatus
Phalaropus fulicarius
Phalaropus lobatus
Phoca vitulina
Phocoena phocoena
Phocoenoides dalli dalli
Podiceps auritus
Podiceps grisegena
Podiceps nigricollis
Podilymbus podiceps
Porzana carolina
Protothaca staminea
Ptychoramphus aleuticus
Puffinus griseus
Rallus limicola
Recurvirostra americana
Salmo clarki
Saxidomus giganteus
Sebastes spp.
Siliqua patula
Spirinchus starksi
Strongylocentrotus franciscanus
Thaleichthys pacificus
Tresus nuttallii
Uria aalge
Zalophus californianus
Zostera marina

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

ELEMENT

5.1.2.2. ATTRIBUTE DEFINITION:

Biological element

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

BIRD	Birds
FISH	Fish
HABITAT	Habitats and Rare Plants
INVERT	Invertebrates
M_MAMMAL	Marine Mammals
T_MAMMAL	Terrestrial Mammals

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

SUBELEMENT

5.1.2.2. ATTRIBUTE DEFINITION:

Species subgroup

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

abalone
alcid
anadromous
beach_sp
crab
diving
dolphin
echinoderm
gull_tern
kelp_sp
mustelid
oyster
pelagic
raptor
sav
sea_lion

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

seal
 shorebird
 shrimp
 shrub
 special
 wading
 waterfowl
 whale

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

NHP

5.1.2.2. ATTRIBUTE DEFINITION:

This field is blank because no NHP information was gathered when this atlas was published. The field is included here to maintain consistency with the latest ESI data structure.

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

Not supplied with this atlas

5.1.2.1. ATTRIBUTE LABEL:

DATE_PUB

5.1.2.2. ATTRIBUTE DEFINITION:

This field is blank because no NHP information was gathered when this atlas was published. The field is included here to maintain consistency with the latest ESI data structure.

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

Not supplied with this atlas

5.1.2.1. ATTRIBUTE LABEL:

EL_SPE

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: STATUS

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

5.1.1. ENTITY TYPES:**5.1.1.1. ENTITY TYPE LABEL:**

Attributes

5.1.1.2. ENTITY TYPE DEFINITION:

ELEMENT	character
SPECIES_ID	integer
STATE	character
S_F	character
T_E	character
DATE_PUB	integer
EL_SPE	character

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

ELEMENT

5.1.2.2. ATTRIBUTE DEFINITION:

Major categories of biological data

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

BIRD	Birds
FISH	Fish
HABITAT	Habitats and Rare Plants
INVERT	Invertebrates
M_MAMMAL	Marine Mammals
T_MAMMAL	Terrestrial Mammals

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

SPECIES_ID

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique number

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

STATE

5.1.2.2. ATTRIBUTE DEFINITION:

Two-letter state abbreviation

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

CA

California

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

S_F

5.1.2.2. ATTRIBUTE DEFINITION:

State and Federal status

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

F	Federally listed
S	State listed
S/F	State and Federally listed

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

USFWS, CDFG

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

T_E

5.1.2.2. ATTRIBUTE DEFINITION:

Threatened and endangered status

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

E	Endangered
E/E	Endangered on Federal and State lists
T	Threatened
T/T	Threatened on Federal and State lists

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

USFWS, CDFG

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

DATE_PUB

5.1.2.2. ATTRIBUTE DEFINITION:

This is the date the atlas was published when the given state and federal listings were in effect. In some of the earlier atlases, no date may be given because this was not a data item at the time of original publication.

5.1.2.1. ATTRIBUTE LABEL:

EL_SPE

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.3. 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 the polygons with terrestrial mammal species.

The following T_MAMMAL species are found in the Northern California ESI atlas:

SPECIES ID	NAME
8	River otter

5.1.1. ENTITY TYPES:**5.1.1.1. ENTITY TYPE LABEL:**

GT-Polygons

5.1.1.2. ENTITY TYPE DEFINITION:

ID integer

RARNUM integer

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

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the BIO_LUT table. ID is a concatenation of atlas number (7), element number (4), and record number. ID values of 9999 are holes in polygons and do not contain information.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

1-N

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

Unique number

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

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

6.0. DISTRIBUTION INFORMATION

6.1. DISTRIBUTOR

6.1.1. CONTACT PERSON PRIMARY

6.1.1.1. CONTACT PERSON:

John Kaperick

6.1.1.2. CONTACT ORGANIZATION:

NOAA, Office of Response and Restoration

6.1.4. CONTACT ADDRESS

6.1.4.1. ADDRESS TYPE:

Physical Address

6.1.4.2. ADDRESS:

7600 Sand Point Way N.E.

6.1.4.3. CITY:

Seattle

6.1.4.4. STATE OR PROVINCE:

WA

6.1.4.5. POSTAL CODE:

98115-6349

6.1.5. CONTACT VOICE TELEPHONE:

(206) 526-6944

6.1.7. CONTACT FACSIMILE TELEPHONE:

(206) 526-6329

6.2. RESOURCE DESCRIPTION:

ESI Atlas for Northern California

6.3. DISTRIBUTION LIABILITY:

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6.5. CUSTOM ORDER PROCESS

Contact NOAA for distribution options (see 6.1.1.).

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7.0. METADATA REFERENCE INFORMATION

7.1. METADATA DATE:

19941206

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, Office of Response and Restoration

7.4.3. CONTACT POSITION:

GIS Manager

7.4.4. CONTACT ADDRESS

7.4.4.1. ADDRESS TYPE:

Physical Address

7.4.4.2. ADDRESS:

7600 Sand Point Way N.E.

7.4.4.3. CITY:

Seattle

7.4.4.4. STATE OR PROVINCE:

Washington

7.4.4.5. POSTAL CODE:

98115-6349

7.4.5. CONTACT VOICE TELEPHONE:

(206) 526-6944

7.4.7. CONTACT FACSIMILE TELEPHONE:

(206) 526-6329

7.4.8. CONTACT ELECTRONIC MAIL ADDRESS:

jill_petersen@hazmat.noaa.gov.us

7.5. METADATA STANDARD NAME:

Content Standards for Digital Geospatial Metadata

7.6. METADATA STANDARD VERSION:

19940608

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