

Appendix B

ESI-GIS Data Dictionary



BASEMAP

GEOGRAPHIC THEMES	VARIABLE NAMES	DESCRIPTION	ATTRIBUTE VALUES
ESI (ARCS)	ESI (10, 10, C)	Shoreline classification	Ranges from 1 through 10 with various combinations and subcategories. (See Table 2 in Chapter 2)
	LINE (1, 1, C)	Geographic feature	S = Shoreline I = Index for map/quad boundary H = Hydrography P = Pier B = Breakwater F or M = Non-shoreline arcs that form the boundary for a flat or marsh polygon G = Glacier E = Extent of study area
	SOURCE_ID (6, 6, I)	Source code for shoreline arcs	1 = Digital 2 = Low-altitude overflight 3 = Aerial photograph 4 = Digitized off paper topo 5 = Digitized off scanned topo 6 = National Wetlands Inventory digital data N = where N = number of additional sources
	ENVIR (1, 1, C)	Physiographic region	E = Estuarine L = Lacustrine R = Riverine
ESI (POLYS)	ESI (10, 10, C)	Habitat classification	2A, 5, 7, 9A, and 9C = Flats 10A, 10B, 10C, and 10D = Marshes U = Unclassified holes
	WATER_CODE (1, 1, C)	Land and water designations	L = Land W = Water
	ENVIR (1, 1, C)	Physiographic region	E = Estuarine L = Lacustrine R = Riverine P = Palustrine
HYDRO (ARCS)	LINE (1, 1, C)	Geographic feature	Same as LINE in ESI (ARCS)
	SOURCE_ID (6, 6, I)	Source code for shoreline arcs	Same as SOURCE_ID in ESI (ARCS)
HYDRO (POLYS)	WATER_CODE (1, 1, C)	Land and water designations	Same as WATER_CODE in ESI (POLYS)
HYDRO (ANNO)	GEOG	Geography annotations	Names of islands or points
	HYDRO	Hydrography annotations	Names of inlets, rivers, ponds, lakes, bays, oceans, and coves
	SOC	Human use annotations	Names of beaches, wildlife reserves and preserves, state and country, marine sanctuaries, cities, and parks
INDEX (POLYS)	TILE-NAME (32, 32, C)	Map number	1 through N, where N = number of maps in atlas
	TOPO-NAME (255, 255, C)	USGS quadrangle name with latest data	See the metadata report for a complete list of quad names and dates
	SCALE (7, 7, I)	Map production scale	For 11 by 17 inch paper, various scales are used and only the scale denominator is entered
	MAPANGLE (4, 8, F, 3)	Angle to rotate data to plot vertically	Ranges vary in degrees based on geographic position
	PAGESIZE (11, 11, C)	Hardcopy map size	Usually 11 by 17 for full size; inset maps vary. See the metadata report for a complete list of page sizes

BIOLOGY

GEOGRAPHIC THEMES	VARIABLE NAMES	DESCRIPTION	ATTRIBUTE VALUES
BIRDS (POLYS)	ID (10, 10, 1) RARNUM (9, 9, 1)	Unique identifier that links to BIO_LUT lookup table Link to Btores table and BIO_LUT lookup table	Integer concatenating the atlas number, the element number, and the geographic feature id Integer ranging from 1 through the number of unique combinations of species, their seasonalities, their concentrations, their geographic source, and their seasonality source concatenated to the atlas id number.
BENTHIC (POLYS)	ID (10, 10, 1) RARNUM (9, 9, 1)	Same as ID in BIRDS Same as RARNUM in BIRDS	Same as ID in BIRDS Same as RARNUM in BIRDS
FISH (POLYS)	ID (10, 10, 1) RARNUM (9, 9, 1)	Same as ID in BIRDS Same as RARNUM in BIRDS	Same as ID in BIRDS Same as RARNUM in BIRDS
FISHL (ARCS)	ID (10, 10, 1) RARNUM (9,9, 1)	Same as ID in BIRDS Same as RARNUM in BIRDS	Same as ID in BIRDS Same as RARNUM in BIRDS
FISHT (POINTS)	ID (10, 10, 1) RARNUM (9, 9, 1)	Same as ID in BIRDS Same as RARNUM in BIRDS	Same as ID in BIRDS Same as RARNUM in BIRDS
HABITATS (POLYS)	ID (10, 10, 1) RARNUM (9, 9, 1)	Same as ID in BIRDS Same as RARNUM in BIRDS	Same as ID in BIRDS Same as RARNUM in BIRDS
HABPT (POINTS)	ID (10, 10, 1) RARNUM (9, 9, 1)	Same as ID in BIRDS Same as RARNUM in BIRDS	Same as ID in BIRDS Same as RARNUM in BIRDS
INVERT (POLYS)	ID (10, 10, 1) RARNUM (9, 9, 1)	Same as ID in BIRDS Same as RARNUM in BIRDS	Same as ID in BIRDS Same as RARNUM in BIRDS
INVERTL (ARCS)	ID (10, 10, 1) RARNUM (9, 9, 1)	Same as ID in BIRDS Same as RARNUM in BIRDS	Same as ID in BIRDS Same as RARNUM in BIRDS
INVERTPT (POINTS)	ID (10, 10, 1) RARNUM (9, 9, 1)	Same as ID in BIRDS Same as RARNUM in BIRDS	Same as ID in BIRDS Same as RARNUM in BIRDS
M_MAMMAL (POLYS)	ID (10, 10, 1) RARNUM (9, 9, 1)	Same as ID in BIRDS Same as RARNUM in BIRDS	Same as ID in BIRDS Same as RARNUM in BIRDS
M_MAMPT (POINTS)	ID (10, 10, 1) RARNUM (9, 9, 1)	Same as ID in BIRDS Same as RARNUM in BIRDS	Same as ID in BIRDS Same as RARNUM in BIRDS
NESTS (POINTS)	ID (10, 10, 1) RARNUM (9, 9, 1)	Same as ID in BIRDS Same as RARNUM in BIRDS	Same as ID in BIRDS Same as RARNUM in BIRDS
REPTILES (POLYS)	ID (10, 10, 1) RARNUM (9, 9, 1)	Same as ID in BIRDS Same as RARNUM in BIRDS	Same as ID in BIRDS Same as RARNUM in BIRDS
REPTPT (POINTS)	ID (10, 10, 1) RARNUM (9, 9, 1)	Same as ID in BIRDS Same as RARNUM in BIRDS	Same as ID in BIRDS Same as RARNUM in BIRDS
T_MAMMAL (POLYS)	ID (10, 10, 1) RARNUM (9, 9, 1)	Same as ID in BIRDS Same as RARNUM in BIRDS	Same as ID in BIRDS Same as RARNUM in BIRDS
T_MAMPT (POINTS)	ID (10, 10, 1) RARNUM (9, 9, 1)	Same as ID in BIRDS Same as RARNUM in BIRDS	Same as ID in BIRDS Same as RARNUM in BIRDS

LOOKUP TABLES	VARIABLE NAMES	DESCRIPTION	ATTRIBUTE VALUES
BIO_LUT	RARNUM (9, 9, I)	Link to BIORES table and data layers	Integer ranging from 1 through the number of unique combinations of species, their seasonalities, their concentrations, their geographic source, and their seasonality source concatenated to the atlas id number.
	ID (10, 10, I)	Links to arc, point, and polygon layers	Integer concatenating the atlas number, the element number, and geographic feature id.

DATA TABLES	VARIABLE NAMES	DESCRIPTION	ATTRIBUTE VALUES
BIORES	RARNUM (9, 9, I)	Resource at risk number which is linked to RARNUM in BIO_LUT and can have multiple records with the same RARNUM	Integer ranging from 1 through the number of unique combinations of species, their seasonalities, their concentrations, their geographic source, and their seasonality source concatenated to the atlas id number.
	SPECIES_ID (5, 5, I)	Species identification number	Unique integer within each element (See Species Number in Appendix A). The species numbers do not change between ESI atlases; they are used across the United States
	CONC (20, 20, C)	Concentration of the species	May be descriptive or a number of individuals and must be documented in the metadata
	SEASON_ID (2, 2, I)	A number code used to differentiate the same species, but different seasonal distributions	Integer ranging from 1 to N and have no implied meaning. These link to the SEASONAL data table
	G_SOURCE (6, 6, I)	Unique identifier for the geographic source	Integer ranging from 1 through the total number of sources and have no implied meaning. These links to SOURCES data table.
	S_SOURCE (6, 6, I)	Unique identifier for the seasonality source	Same as G_SOURCE in BIORES
	ELEMENT (10, 10, C)	Category of species	BIRD FISH HABITAT INVERT M_MAMMAL REPTILE T_MAMMAL
	EL_SPE (6, 6, C)	Concatenation of first character of the ELEMENT and the SPECIES_ID	B00001-BNNNNN F00001-FNNNNN H00001-HNNNNN I00001-INNNNN M00001-MNNNNN R00001-RNNNNN T00001-TNNNNN Where N is an integer between 0 and 9.
EL_SPE_SEA (8, 8, C)	Concatenation of first character of the ELEMENT, the SPECIES_ID, and the SEASON_ID	Same as EL_SPE with the addition of SEASON_ID	
SOURCES	SOURCE_ID (6, 6, I)	Unique identifier for each source used in the atlas	Integer ranging from 1 through the total number of sources. These link to the BIORES and SOC_DAT data tables.
	ORIGINATOR (35, 35, C)	Person or organization who provided data	Free Text
	DATE_PUB (10, 10, I)	Publication or data collection date if interview with resource expert	Formatted as year-month (i.e., 199509)
	TITLE (80, 80, C)	Name of the data set, publication, or contents of informa- gathered from interview	Free Text
	DATA_FORMAT (80, 80, C)	Type of Media	Hard-copy map, text, or table; expert knowledge; or digital data (points, polygons, arcs, or tables)
	PUBLICATION (120, 120, C)	Citation of source if applicable	Free Text
	SCALE (20, 20, C)	Source scale denominator	1-N (i.e., 24000)
	TIME_PERIOD (22, 22, C)	Beginning and ending dates of data collection	Free Text
SPECIES	SPECIES_ID (5, 5, I)	Species identification number	Same as SPECIES_ID in BIORES
	NAME (35, 35, C)	Species common name	See Common Name in Appendix A
	GEN_SPEC (45, 45, C)	Scientific name	See Scientific Name in Appendix A

DATA TABLES	VARIABLE NAMES	DESCRIPTION	ATTRIBUTE VALUES
DATA TABLES	VARIABLE NAMES	DESCRIPTION	ATTRIBUTE VALUES
SPECIES, cont.	ELEMENT (10, 10, C) SUBELEMENT (10, 10, C) NHP (10, 10, C) DATE_PUB (10, 10, I) EL_SPE (6, 6, C)	Category of species Element sub-group Natural Heritage Program global rank Publication date for the Natural Heritage Program global status list Concatenation of first character of the ELEMENT and the SPECIES_ID	Same as ELEMENT in BIORES See Subelement in Appendix A Various text Formatted as year-month (i.e., 199509) Same as EL_SPE in BIORES
STATUS	ELEMENT (10, 10, C) SPECIES_ID (5, 5, I) STATE (2, 2, C) S_F (3, 3, C)  T_E (3, 3, C)  DATE_PUB (10, 10, I) EL_SPE (6, 6, C)	Category of species Species identification number State abbreviation State and/or Federal status  Threatened and/or endangered  Publication date for the federal or state status list Concatenation of first character of the ELEMENT and the SPECIES_ID	Same as ELEMENT in BIORES Same as SPECIES_ID in BIORES Standard two-letter code S = State F = Federal S/F = State and Federal C = Species of Special Concern T = Threatened E = Endangered T/E = State Threatened and Federal Endangered E/T = State Endangered and Federal Threatened C/T = State Concerned and Federal Threatened C/E = State Concerned and Federal Endangered Same as DATE_PUB in SPECIES Same as EL_SPE in BIORES
SEASONAL	ELEMENT (10, 10, C) SPECIES_ID (5, 5, I)	Category of species Species identification number	Same as ELEMENT in BIORES Same as SPECIES_ID in BIORES

DATA TABLES	VARIABLE NAMES	DESCRIPTION	ATTRIBUTE VALUES
SEASONAL, cont.	SEASON_ID (2, 2, I)	A number code used to differentiate the same species, but different seasonal distributions	Same as SEASON_ID in BIORES
	JAN (1, 1, C)	Present in January	X = present; blank = not present
	FEB (1, 1, C)	Present in February	Same as JAN
	MAR (1, 1, C)	Present in March	Same as JAN
	APR (1, 1, C)	Present in April	Same as JAN
	MAY (1, 1, C)	Present in May	Same as JAN
	JUN (1, 1, C)	Present in June	Same as JAN
	JUL (1, 1, C)	Present in July	Same as JAN
	AUG (1, 1, C)	Present in August	Same as JAN
	SEP (1, 1, C)	Present in September	Same as JAN
	OCT (1, 1, C)	Present in October	Same as JAN
	NOV (1, 1, C)	Present in November	Same as JAN
	DEC (1, 1, C)	Present in December	Same as JAN
	EL_SPE_SEA (8, 8, C)	Concatenation of first character of the ELEMENT, the SPECIES_ID, and the SEASON_ID	Same as EL_SPE in SPECIES data table with the addition of SEASON_ID
BREED	EL_SPE_SEA (8, 8, C)	Concatenation of first character of the ELEMENT, the SPECIES_ID, and the SEASON_ID	Same as EL_SPE_SEA in the SEASONAL data table
	MONTH (2, 2, I)	Specifies a month (can have up to twelve records per EL_SPE_SEA)	1-12
	BREED1 (1, 1, C)	Reproductive or life-stage activities varying by element:  BIRD = nesting FISH = spawning INVERT = spawning M_MAMMAL = mating REPTILE = nesting	Y = occurring N = not occurring - = not applicable
	BREED2 (1, 1, C)	Same as BREED1 except: BIRD = laying FISH = eggs INVERT = eggs M_MAMMAL = calving REPTILE = hatching	Y = occurring N = not occurring - = not applicable
	BREED3 (1, 1, C)	Same as BREED1 except: BIRD = hatching FISH = larvae INVERT = larvae M_MAMMAL = pupping REPTILE = interesting	Y = occurring N = not occurring - = not applicable

DATA TABLES	VARIABLE NAMES	DESCRIPTION	ATTRIBUTE VALUES
BREED, cont.	BREED4 (1, 1, C)	Same as BREED1 except: BIRD = fledging FISH = juvenile INVERT = juvenile M_MAMMAL = molting REPTILE = juveniles	Y = occurring N = not occurring - = not applicable
	BREED5 (1, 1, C)	Same as BREED1 except: BIRD = not applicable FISH = adults INVERT = adults M_MAMMAL = not applicable REPTILE = adults	Y = occurring N = not occurring - = not applicable

HUMAN-USE

GEOGRAPHIC THEMES	VARIABLE NAME	DESCRIPTION	ATTRIBUTE VALUES
MGT (POLYS)	TYPE (2, 2, C)	Code identifying a human-use feature	AQ = Aquaculture Site AR = Artificial Reef AS = Archaeological Site B = Beach CH = Designated Critical Habitat FO = National Forest IR = Indian Reservation MA = Management Area MS = Marine Sanctuary NC = Nature Conservancy NP = National Park P = Regional or State Park SR = Scenic River WR = Wildlife Refuge
	ID (10, 10, I)	Unique identifier that links to SOC_LUT lookup table	Integer containing the atlas number, the element number, and the polygon number
	HUNUM (9, 9, I)	Identification number linked to HUNUM in the SOC_DAT data table	Integer ranging from 1 through the number of unique human-use features concatenated to the atlas id number.
SOCECON (ARCS)	TYPE (2, 2, C)	Code identifying a human-use feature	AB = Area Boundary B = Beach IB = International Border IE = Ice Extent IR = Indian Reservation PL = Pipeline R = Road, transportation, or bridge SB = State Border SR = Scenic River SW = State Waters





DATA TABLE	VARIABLE NAME	DESCRIPTION	ATTRIBUTE VALUES
SOC_DAT	HUNUM (9, 9, I)	Same as HUNUM in SOC_LUT	Same as HUNUM in SOC_LUT
	TYPE (20, 20, C)	Type of human-use feature	ACCESS AIRPORT AQUACULTURE ARCHAEOLOGICAL SITE ARTIFICIAL REEF BEACH BOAT RAMP CAMPGROUND CASINO COAST GUARD COMMERCIAL FISHING COMMUNITY CRITICAL HABITAT DIVING EQUIPMENT FACTORY FERRY HATCHERY HAZARDOUS WASTE SITE HELIPORT HISTORICAL SITE HOIST INDIAN RESERVATION INTERNATIONAL BORDER LOCK AND DAM LOG STORAGE MANAGEMENT AREA MARINA MARINE SANCTUARY MINE SITE NATIONAL PARK NATURE CONSERVANCY OIL FACILITIES PARK (REGIONAL OR STATE) PIPELINE PLATFORM RECREATIONAL FISHING ROAD SCENIC RIVER SEASHORE SEWAGE OUTFALL STAGING STATE BORDER STATE WATERS SUBSISTENCE SURFING WATER INTAKE WASH OVER WASTE DISPOSAL WELL WILDLIFE REFUGE
	NAME (40, 40, C)	The name of the facility	Used for water intakes, aquaculture sites, and other features, if available
	CONTACT (80, 80, C)	Person and location to contact	If available
	PHONE (20, 20, C)	Phone Number	If available
G_SOURCE (6, 6, I)	Geographic source number	Integer ranging from 1 through the total number of sources. This is a link to SOURCES data table	
A_SOURCE (6, 6, I)	Attribute source number	Same as G_SOURCE	