

APPENDIX B

March 2015

ESI GIS DATA DICTIONARY

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Base Layers			
Geographic Themes	Attribute Names	Description	Attribute Values
ESIL (ESI LINES)	ESI (Text)	Shoreline classification	Ranges from 1 through 10 with various combinations and qualifiers See table on pp B-22 and B-23 for a list of acceptable attribute values. Acceptable attribute values are based on the physiographic region (ENVIR attribute).
	LINE (Text)	Geographic Feature	B = Breakwater GR = Groin H = Hydrography J = Jetty P = Pier S = Shoreline
	ENVIR (Text)	Physiographic region	E = Estuarine L = Lacustrine R = Riverine
	MOST_SENSITIVE (Text)	If multiple shoreline types appear in ESI classification, this field represents the highest value (most sensitive type); otherwise it is the same value as the ESI field. This value is commonly used for symbolization	Ranges from 1 through 10 with various qualifiers
	LANDWARD_SHORETYPE (Text)	The numeric representation and physical description of the first (or only) ESI type found in the ESI field	1A: Exposed, Rocky Shores 1B: Exposed, Solid Man-Made Structures Etc. See table on pp B-22 and B-23 for a list of acceptable attribute values. Acceptable attribute values are based on the physiographic region (ENVIR attribute)
	SEAWARD_SHORETYPE1 (Text)	The numeric representation and physical description of the second ESI type in the ESI field (if applicable)	Same as LANDWARD_SHORETYPE, above
	SEAWARD_SHORETYPE2 (Text)	The numeric representation and physical description of the third ESI type in the ESI field (if applicable)	Same as LANDWARD_SHORETYPE, above
	GENERAL_SYMBOL (Integer)	This field is used for symbolizing the ESI shoreline based on a generalized classification scheme; if multiple generalized types occur, this will reflect the highest value	Ranges from 1-5 See table on pp B-22 and B-23 for the ESI to GENERALIZED_ESI_TYPE crosswalk.
	GENERALIZED_ESI_TYPE (Text)	The numeric representation and physical description of the generalized ESI shoreline type	Singular or combination of Values below: 1: Armored 2: Rocky and Steep Shorelines (Bedrock/Sand/Clay) 3: Beaches (Sand/Gravel) 4: Flats (Mud/Sand) 5: Vegetated (Grass/Marsh/Mangroves/Scrub-Shrub) See table on pp B-22 and B-23 for the ESI to GENERALIZED_ESI_TYPE crosswalk.
	SOURCE_ID (Integer)	Atlas ID + Source code for shoreline origination	Source codes for ESIL (prior to their concatenation to the Atlas ID) should be in the range of 1-100. This region unique number is added to the atlas number *100,000 to generate a number that is unique across atlases

Base Layers <i>cont'd</i>			
Geographic Themes	Attribute Names	Description	Attribute Values
ESIL (ESI LINES) <i>cont'd</i>	ESI_SOURCE (Integer)	Atlas ID + Source code for shoreline classification	Source codes for ESIL (prior to their concatenation to the Atlas ID) should be in the range of 1-100. This region unique number is added to the atlas number *100,000 to generate a number that is unique across atlases
ESIP (ESI POLYS)	ESI (Text)	Habitat classification	2A, 5, 7, 9A, 9C (Flats) 10A, 10B, 10C, and 10D (Marshes) U = Unclassified holes See table on pp B-22 and B-23 for a list of acceptable attribute values. Acceptable attribute values are based on the physiographic region (ENVIR attribute).
	WATER_CODE (Text)	Land and water designations	L = Land W = Water
	ENVIR (Text)	Physiographic region	E = Estuarine L = Lacustrine P = Palustrine R = Riverine
	ESI_DESCRIPTION (Text)	The numeric representation and the physical description of the polygon's ESI type	7: Exposed Tidal Flats 9A: Sheltered Tidal Flats Etc. See table on pp B-22 and B-23 for a list of acceptable attribute values. Acceptable attribute values are based on the physiographic region (ENVIR attribute)
	SOURCE_ID (Integer)	Atlas ID + Source code for shoreline origination	Source codes for ESIP (prior to their concatenation to the Atlas ID) should be in the range of 1-100. This region unique number is added to the atlas number *100,000 to generate a number that is unique across atlases
	ESI_SOURCE (Integer)	Atlas ID + Source code for habitat poly classification	Source codes for ESIP (prior to their concatenation to the Atlas ID) should be in the range of 1-100. This region unique number is added to the atlas number *100,000 to generate a number that is unique across atlases
HYDROL (HYDRO LINES)	LINE (Text)	Geographic feature	B = Breakwater E = Extent of AOI G = Glacier GR = Groin H = Hydrography I = Index J = Jetty P = Pier S = Shoreline
	SOURCE_ID (Integer)	Atlas ID + Source code for shoreline origination	Source codes for HYDROL (prior to their concatenation to the Atlas ID) should be in the range of 1-100. This region unique number is added to the atlas number *100,000 to generate a number that is unique across atlases
HYDROP (HYDRO POLYS)	WATER_CODE (Text)	Land and water designations	L = Land W = Water

Base Layers <i>cont'd</i>			
Geographic Themes	Attribute Names	Description	Attribute Values
ANNO (GNIS) INDEX (POLYS) – maps OR AOI (POLYS)– no maps	TYPE (Text)	The Type of annotation	GEOG = Geography annotation HYDRO = Hydrography annotation SOC = Human-use annotation
	NAME (Text)	The feature name	Names of islands or points (GEOG) Names of inlets, rivers, ponds, lakes, bays, oceans, & coves (HYDRO) Names of beaches, wildlife reserves & preserves, state & country, marine sanctuaries, cities, & parks (SOC)
	TILE_NUMBER (Text)	Map number	1-N: N = # maps in atlas
	NAME (Text)	USGS Quad name OR descriptive name of region covered	Examples: USGS Quad Name: Cape Flattery/Makah Bay Descriptive name of region: Santa Rosa Beach, Florida
	SCALE (Integer)	Map production scale	For 11x17" paper, various scales are used. Only scale denominator is entered.
	PAGESIZE (Text)	Hardcopy map size	Usually 11x17"; inset maps vary. See metadata for a complete list of page sizes.
	VIEW_PDF (Text)	VIEW_PDF (Text)	Pathname +atlas/region name + _ESI_ + TILE-NUMBER.PDF; if the number is less than 100, should pad with zeros as needed example: http://response.restoration.noaa.gov/sites/default/files/esimaps/NorthernCalifornia_ESI_039.pdf

Biology			
Geographic Themes	Attribute Names	Description	Attribute Values
BENTHIC (POLYS)	ID (Integer)	Unique identifier that links to BIO_LUT (biology lookup table)	An integer that is the sum of the (atlas id * 10,000,000), the (layer number * 100,000), and the feature id. As an example, an id of 230800025, would represent a feature where the atlas id = 23, the layer number = 08, and the feature id = 25. The number will range from 8 to 10 digits, depending on the atlas id. The layer number for BENTHIC is 08.
	RARNUM (Integer)	Direct link to BIORRES table (or NOAA generated BIOFILE); eliminates the need to pass through the BIO_LUT lookup table	A 9-digit integer representing a unique combination of species, their seasonalities, their concentrations, their mapping qualifier and their geographic & seasonality sources. This region unique number is added to the atlas number *100,000 to generate a number that is unique across atlases
BENTHICL (LINES)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 28 Same as RARNUM in BENTHIC	
BENTHICPT (POINTS)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 38 Same as RARNUM in BENTHIC	
BIRDS (POLYS)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 01 Same as RARNUM in BENTHIC	
BIRDSL (LINES)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 21 Same as RARNUM in BENTHIC	
BIRDSPT (POINTS)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 31 Same as RARNUM in BENTHIC	
FISH (POLYS)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 02 Same as RARNUM in BENTHIC	
FISHL (LINES)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 22 Same as RARNUM in BENTHIC	
FISHPT (POINTS)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 32 Same as RARNUM in BENTHIC	
HABITATS (POLYS)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 03 Same as RARNUM in BENTHIC	
HABITATSL (LINES)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 23 Same as RARNUM in BENTHIC	
HABITATSPT (POINTS)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 33 Same as RARNUM in BENTHIC	
HERP (POLYS)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 06 Same as RARNUM in BENTHIC	
HERPL (LINES)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 26 Same as RARNUM in BENTHIC	
HERPPT (POINTS)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 36 Same as RARNUM in BENTHIC	
INVERT (POLYS)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 07 Same as RARNUM in BENTHIC	
INVERTL (LINES)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 27 Same as RARNUM in BENTHIC	
INVERTPT (POINTS)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 37 Same as RARNUM in BENTHIC	
M_MAMMAL (POLYS)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 04 Same as RARNUM in BENTHIC	
M_MAML (LINES)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 24 Same as RARNUM in BENTHIC	
M_MAMPT (POINTS)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 34 Same as RARNUM in BENTHIC	

Biology <i>cont'd</i>		
Geographic Themes	Attribute Names	Description
T_MAMMAL (POLYS)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 09 Same as RARNUM in BENTHIC
T_MAML (LINES)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 29 Same as RARNUM in BENTHIC
T_MAMPT (POINTS)	ID (Integer) RARNUM (Integer)	Same as ID in BENTHIC, except the layer number is 39 Same as RARNUM in BENTHIC

Human Use			
Geographic Themes	Attribute Names	Description	Attribute Values
MGT (POLYS)	TYPE (Text)	<p>Code identifying a management or other human use feature that is mapped as a polygon</p> <p>*See pp B-30 to B-35 for the human-use type explanations.</p>	<p>ACE = Army Corps of Engineers</p> <p>AN = Anchorage</p> <p>AQ = Aquaculture</p> <p>AR = Artificial Reef</p> <p>AS = Archaeological Site/Area</p> <p>B = Beach</p> <p>CF = Commercial Fishing</p> <p>CG = Coast Guard (District and Sector)</p> <p>CH = Critical Habitat</p> <p>CI = City</p> <p>CO = County</p> <p>EH = Essential Habitat</p> <p>EPA = EPA Region</p> <p>FA = Fishery Area</p> <p>FEMA = FEMA Region</p> <p>FO = National Forest</p> <p>HS = Historic Site/Area</p> <p>MA = Management Area</p> <p>MI = Military</p> <p>MO = Mooring Area</p> <p>MR = Multiple Records</p> <p>MS = Marine Sanctuary</p> <p>NC = Nature Conservancy</p> <p>NERR = National Estuarine Research Reserve</p> <p>NL = National Landmark</p> <p>NP = National Park</p> <p>P = Regional Or State Park</p> <p>RE = Renewable Energy (Solar, Tidal, Wind, etc.)</p> <p>RMS = Repeated Measurement Area</p> <p>S = Subsistence</p> <p>SPA = State Protected Area</p> <p>SSIA = Storm Surge Inundation Area</p> <p>ST = State</p> <p>SW = State Waters</p> <p>TIA = Tsunami Inundation Area</p> <p>TL = Tribal Land</p> <p>WR = Wildlife Refuge</p>
	ID (Integer)	Unique identifier that links to SOC_LUT (socecon lookup table)	<p>An integer that is the sum of the (atlas id * 10,000,000), the (layer number *100,000), and the feature id. As an example, an id of 230100025, would represent a feature where the atlas id = 23, the layer number = 1, and the feature id = 25. The number will range from 8 to 10 digits, depending on the atlas id.</p> <p>The layer number for MGT is 11.</p>
	HUNUM (Integer)	Identification number that links to HUNUM in the SOC_DAT data table	<p>A 9-digit integer representing a unique or unique combination of human-use features, based on their type, their name, their geographic source, & their attribute source. This region unique number is added to the atlas number *100,000 to generate a number that is unique across atlases.</p>

Human Use <i>cont'd</i>			
Geographic Themes	Attribute Names	Description	Attribute Values
SOCECONL (LINES)	TYPE (Text)	Code identifying a human-use feature *See pp B-30 to B-35 for the human-use type explanations	FR = Ferry Route IB = International Border PL = Pipeline R = Road or Bridge RR = Rail Route SL = Shipping Lane SSIA = Storm Surge Inundation Area ST = State Border TL = Tribal Land TU = Tunnel
	ID (Integer)	Unique identifier that links to SOC_LUT (socecon lookup table)	An integer that is the sum of the (atlas id * 10,000,000), the (layer number * 100,000), and the feature id. As an example, an id of 230100025, would represent a feature where the atlas id = 23, the layer number = 1, and the feature id = 25. The number will range from 8 to 10 digits, depending on the atlas id. The layer number for SOCECONL is 12.
	HUNUM (Integer)	Identification number that links to HUNUM in the SOC_DAT data table	A 9-digit integer representing a unique or unique combination of human-use features, based on their type, their name, their geographic source, & their attribute source. This region unique number is added to the atlas number *100,000 to generate a number that is unique across atlases.
SOCECONPT (POINTS)	TYPE (Text)	Code identifying a human-use feature *See pp B-30 to B-35 for the human-use type explanations	A = Airport AN = Anchorage AQ = Aquaculture AR = Artificial Reef AS = Archaeological Site AV = Abandoned Vessel A2 = Access B = Beach BR = Boat Ramp C = Campground CF = Commercial Fishing CG = Coast Guard Station (District And Sector) CH = Critical Habitat DV = Diving Site EH = Essential Habitat EPAF = EPA Facility (TRIS, NPDES, RMP, OIL) EQ = Response Equipment F = Ferry FA = Fishery Area F2 = Factory F3 = Facility

Human Use <i>cont'd</i>			
Geographic Themes	Attribute Names	Description	Attribute Values
SOCECONPT (POINTS) <i>cont'd</i>	TYPE (Text) <i>cont'd</i>	Code identifying a human-use feature <i>cont'd</i>	HP = Heliport HS = Historical Site HWR = Historic Wreck LD = Lock And Dam LF = Landfill LS = Log Storage M = Marina MI = Military MO = Mooring Site M2 = Mine Site NG = National Guard NL = National Landmark NOAA = NOAA Facility OF = Oil Facility OS = Oil Seep PF = Platform PT = Port RE = Renewable Energy (Solar, Tidal, Wind, etc.) RF = Recreational Fishing RM = River Miles RMS = Repeated Measurement Site/Area (Mussel Watch, PISCO, Long Term Ecological Research Sites, Data Buoy, etc.) S = Subsistence STG = Staging Site S2 = Surfing WD = Waste Disposal WI = Water Intake WO = Wash Over
	ID (Integer)	Unique identifier that links to SOC_LUT (socecon lookup table)	An integer that is the sum of the (atlas id * 10,000,000), the (layer number * 100,000), and the feature id. As an example, an id of 230100025, would represent a feature where the atlas id = 23, the layer number = 1, and the feature id = 25. The number will range from 8 to 10 digits, depending on the atlas id.
	HUNUM (Integer)	Identification number that links to HUNUM in the SOC_DAT data table	The layer number for SOCECONPT is 10. A 9-digit integer representing a unique or unique combination of human-use features, based on their type, their name, their geographic source, & their attribute source. This region unique number is added to the atlas number *100,000 to generate a number that is unique across atlases.

Data Tables	Attribute Names	Description	Attribute Values
BIORES	RARNUM (Integer)	Resource at risk number which links to RARNUM in BIO_LUT or directly to the RARNUM listed in the feature attribute table. *Multiple records can share the same RARNUM.	A 9-digit integer representing a unique combination of species, their seasonalities, their concentrations, their mapping qualifier and their geographic & seasonality sources. This region unique number is added to the atlas number *100,000 to generate a number that is unique across atlases
	SPECIES_ID (Integer)	Species identification number	An integer ranging from 1 – 99,999. Numbers are unique within elements and are universal across atlases
	CONC (Text)	Concentration of the species	May be qualitative or a number of individuals. Must be documented in metadata. See table on page B-23 for a list of the most commonly used qualitative attribute values.
	MAPPING_QUALIFIER (Text)	An indication of why this feature was mapped in the ESI; values will vary at a subelement level	See pp B-24 to B-29 for acceptable attribute values
	SEASON_ID (Integer)	Numerical code used to identify varying seasonalities within a particular species	An Integer ranging from 1 to 99 (this value is combined with the first letter of the element and the species number to generate EL_SPE_SEA – the link to the seasonal and breed tables)
	G_SOURCE (Integer)	Unique key that links to the geographic source in the SOURCES table	Source codes for biology (prior to their concatenation to the Atlas ID) should be in the range of 201-99,999. This region unique number is added to the atlas number *100,000 to generate a number that is unique across atlases
	S_SOURCE (Integer)	Unique key that links to the seasonal source in the SOURCES table	Source codes for biology (prior to their concatenation to the Atlas ID) should be in the range of 301-99,999. This region unique number is added to the atlas number *100,000 to generate a number that is unique across atlases
	ELEMENT (Text)	Category of species	<p>BENTHIC BIRD FISH HABITAT HERP INVERT M_MAMMAL T_MAMMAL</p> <p>The character for each ELEMENT that is used in EL_SPE and EL_SPE_SEA as identified below: X = BENTHIC B = BIRD F = FISH</p>

Data Tables	Attribute Names	Description	Attribute Values
BIORES <i>cont'd</i>	ELEMENT (Text) <i>cont'd</i>	Category of species <i>cont'd</i>	H = HABITAT R = HERP I = INVERT M = M_MAMMAL T = T_MAMMAL
	EL_SPE (Text)	Concatenation of the first character of the ELEMENT (or 'X' in the case of BENTHIC and 'R' in the case of HERP) and the SPECIES_ID that links to the SPECIES table and the STATUS tables	If needed, SPECIES_ID should be padded with leading zeros to a length of 5 X00001-XNNNNNN B00001-BNNNNNN F00001-FNNNNNN H00001-HNNNNNN I00001-INNNNNN M00001-MNNNNNN R00001-RNNNNNN T00001-TNNNNNN
	EL_SPE_SEA (Text)	Concatenation of the first character of the ELEMENT (or 'X' in the case of BENTHIC and 'R' in the case of HERP), the SPECIES_ID, and the SEASON_ID that links to the SEASONAL and BREED tables	If needed, SPECIES_ID should be padded with leading zeros to a length of 5; if needed, SEASON_ID should be padded with a leading zero to a length of 2 X0000101-XNNNNNNNN B0000101-BNNNNNNNN F0000101-FNNNNNNNN H0000101-HNNNNNNNN I0000101-INNNNNNNN M0000101-MNNNNNNNN R0000101-RNNNNNNNN T0000101-TNNNNNNNN

Data Tables	Attribute Names	Description	Attribute Values
SOURCES	SOURCE_ID (Integer)	Unique key that links to the BIORES, BIOFILE and SOC_DAT tables, in addition to the ESIL, ESIP, and HYDROL feature attribute tables	<p>Integer ranging from 1 – 99,999 added to the atlas number *100,000 to generate a number that is unique across atlases</p> <p>Prior to the addition of the atlas number * 100,000: Source numbers ranging from 1-100 are reserved for the ESIL, ESIP, and HYDROL data sources</p> <p>Source numbers ranging from 101-300 are reserved for MANAGEMENT and SOCECON data sources</p> <p>Source numbers ranging from 301 – 99,999 are reserved for the biological data sources</p> <p>If a source provides information for more than one layer “type”, additional source records should be included</p>
	ORIGINATOR (Text)	The providing agency or company, followed by the name of the individual provider(s) if appropriate	Free text – Format in upper case
	DATE_PUB (Integer)	Publication or data collection date	Date field must be YYYY, or YYYYMM, or YYYYMMDD. If date is not known or if the date is not of consequence, then it should be YYYYMM. The same is true if month is not known or is not of consequence, you would use YYYY
	TITLE (Text)	Name of the data set, publication, or contents from interview	Free Text – Format in upper case
	DATA_FORMAT (Text)	Media Type	Free Text Format in upper case. Common values include EXPERT KNOWLEDGE, DOCUMENT, VECTOR DIGITAL DATA, SPREADSHEET, HARDCOPY TEXT
	PUB_PLACE (Text)	Publication Location	City, State Abbrev – may be left blank. Format in upper case
	PUBLISHER (Text)	Data Publisher	Free Text– may be left blank. Format in upper case
	PUBLICATION (Text)	Citation of source (if applicable)	Free Text– may be left blank. Format in upper case
	ONLINE_LINK (Text)	URL to the data if internet-available or to the website of the data provider	URL. Must be lowercase & must be fully qualified (begin with http://) & contain no “<” or “>” characters
	SCALE (Text)	Source scale denominator of data	Values may be numeric, such as 1:24000, or text, such as UNKNOWN (non-digital data only), or VARIES

Data Tables	Attribute Names	Description	Attribute Values
SOURCES <i>cont'd</i>	TIME_PERIOD (Text)	Beginning and end dates of data collection	Date field must be YYYY, or YYYYMM, or YYYYMMDD. If date is not known or if the date is not of consequence, then it should be YYYYMM. The same is true if month is not known or is not of consequence, you would use YYYY. The beginning and ending date range is separated by a dash (-)

Data Tables	Attribute Names	Description	Attribute Values
STATUS	ELEMENT (Text)	Category of species	BENTHIC BIRD FISH HABITAT HERP INVERT M_MAMMAL T_MAMMAL The character for each ELEMENT that is used in EL_SPE and EL_SPE_SEA as identified below: X = BENTHIC B = BIRD F = FISH H = HABITAT R = HERP I = INVERT M = M_MAMMAL T = T_MAMMAL
	SPECIES_ID (Integer)	Species identification number	An integer ranging from 1 – 99,999. Numbers are unique within elements and are universal across atlases Standard two-letter code
	STATE (Text)	State abbreviation	One-letter code representing sensitive status at the state level
	S (Text)	State species status code at time of ESI publication	E = Endangered T = Threatened C = Species of Concern X = Experimental essential population S = Threatened or endangered due to similarity of appearance
	F (Text)	Federal species status code at time of ESI publication	Same as S, above
	S_DATE (Integer)	Date the associated S status ranking was accessed	Date field must be YYYY, or YYYYMM, or YYYYMMDD. If date is not known or if the date is not of consequence, then it should be YYYYMM. The same is true if month is not known or is not of consequence, you would use YYYY
	F_DATE (Integer)	Date the associated F status ranking was accessed	Same as S_DATE, above
	EL_SPE (Text)	Concentration of the first character of the ELEMENT (or 'X' in the case of BENTHIC and 'R' in the case of HERP) and the SPECIES_ID that links to the SPECIES and the BIORES tables	If needed, SPECIES_ID should be padded with leading zeros to a length of 5 X00001-XNNNNN B00001-BNNNNN F00001-FNNNNN H00001-HNNNNN I00001-INNNNN M00001-MNNNNN R00001-RNNNNN T00001-TNNNNN

Data Tables	Attribute Names	Description	Attribute Values
SEASONAL	ELEMENT (Text)	Category of species	<p>BENTHIC BIRD FISH HABITAT HERP INVERT M_MAMMAL T_MAMMAL</p> <p>The character for each ELEMENT that is used in EL_SPE and EL_SPE_SEA as identified below: X = BENTHIC B = BIRD F = FISH H = HABITAT R = HERP I = INVERT M = M_MAMMAL T = T_MAMMAL</p>
	SPECIES_ID (Integer)	Species identification number	An integer ranging from 1 – 99,999. Numbers are unique within elements and are universal across atlases Standard two-letter code
	SEASON_ID (Integer)	Numerical code identifying varying seasonalities within a particular species	An Integer ranging from 1 to 99 (this value is combined with the first letter of the element and the species number to generate EL_SPE_SEA – the link to the seasonal and breed tables)
	JAN (Text)	Present in January	X = present; Blank = not present
	FEB (Text)	Present in February	Same as JAN, above
	MAR (Text)	Present in March	Same as JAN, above
	APR (Text)	Present in April	Same as JAN, above
	MAY (Text)	Present in May	Same as JAN, above
	JUN (Text)	Present in June	Same as JAN, above
	JUL (Text)	Present in July	Same as JAN, above
	AUG (Text)	Present in August	Same as JAN, above
	SEP (Text)	Present in September	Same as JAN, above
	OCT (Text)	Present in October	Same as JAN, above
	NOV (Text)	Present in November	Same as JAN, above
	DEC (Text)	Present in December	Same as JAN, above

Data Tables	Attribute Names	Description	Attribute Values
SEASONAL <i>cont'd</i>	EL_SPE_SEA (Text)	Concatenation of the first character of the ELEMENT (or 'X' in the case of BENTHIC and 'R' in the case of HERP), the SPECIES_ID, and the SEASON_ID that links to the BIORES and the BREED tables	If needed, SPECIES_ID should be padded with leading zeros to a length of 5; if needed, SEASON_ID should be padded with a leading zero to a length of 2 X0000101-XNNNNNNNN B0000101-BNNNNNNNN F0000101-FNNNNNNNN H0000101-HNNNNNNNN I0000101-INNNNNNNN M0000101-MNNNNNNNN R0000101-RNNNNNNNN T0000101-TNNNNNNNN

Data Tables	Attribute Names	Description	Attribute Values
BREED	EL_SPE_SEA (Text)	Concatenation of the first character of the ELEMENT (or 'X' in the case of BENTHIC and 'R' in the case of HERP), the SPECIES_ID, and the SEASON_ID that links to the SEASONAL and the BIORES tables	If needed, SPECIES_ID should be padded with leading zeros to a length of 5; if needed, SEASON_ID should be padded with a leading zero to a length of 2 X0000101-XNNNNNNNN B0000101-BNNNNNNNN F0000101-FNNNNNNNN H0000101-HNNNNNNNN I0000101-INNNNNNNN M0000101-MNNNNNNNN R0000101-RNNNNNNNN T0000101-TNNNNNNNN
	MON (Text)	Specifies a month (can have up to 12 records per EL_SPE_SEA)	1-12
	BREED1 (Text)	Reproductive or life-stage activities varying by element, there are no life stage activities recorded for HABITATS or T_MAMMAL: BIRD = nesting FISH = spawning INVERT = spawning HERP = nesting M_MAMMAL = mating	Y = occurring N = not occurring - = not applicable
	BREED2 (Text)	Same concept as BREED1 except: BIRD = migrating FISH = eggs INVERT = eggs HERP = hatching M_MAMMAL = calving	Y = occurring N = not occurring - = not applicable
	BREED3 (Text)	Same concept as BREED1 except: BIRD = molting FISH = larvae INVERT = larvae HERP = internesting M_MAMMAL = pupping	Y = occurring N = not occurring - = not applicable
	BREED4 (Text)	Same concept as BREED1 except: BIRD = not applicable FISH = juveniles INVERT = juveniles HERP = juveniles M_MAMMAL = molting	Y = occurring N = not occurring - = not applicable

Data Tables	Attribute Names	Description	Attribute Values
BREED <i>cont'd</i>	BREED5 (Text)	<p>Same concept as BREED1 except:</p> <p>BIRD = not applicable FISH = adults INVERT = adults HERP = adults M_MAMMAL = not applicable</p>	<p>Y = occurring N = not occurring - = not applicable</p>

Data Tables	Attribute Names	Description	Attribute Values
SPECIES	SPECIES_ID (Integer)	Species identification number	An integer ranging from 1 – 99,999. Numbers are unique within elements and are universal across atlases Standard two-letter code
	NAME (Text)	Common Name	Common name of the species
	GEN_SPEC (Text)	Scientific Name	Genus and species name of the species
	ELEMENT (Text)	Category of species	BENTHIC BIRD FISH HABITAT HERP INVERT M_MAMMAL T_MAMMAL The character for each ELEMENT that is used in EL_SPE and EL_SPE_SEA as identified below: X = BENTHIC B = BIRD F = FISH H = HABITAT R = HERP I = INVERT M = M_MAMMAL T = T_MAMMAL
	SUBELEMENT (Text)	Element subgroup	Subelement of species
	GRANK (Text)	Global Rank	Global Rank of the species as defined by NatureServe
	GRANKDATE (Integer)	Date the associated global ranking was assessed	Date field must be YYYY, or YYYYMM, or YYYYMMDD. If date is not known or if the date is not of consequence, then it should be YYYYMM. The same is true if month is not known or is not of consequence, you would use YYYY
	EL_SPE	Concatenation of the first character of the ELEMENT (or 'X' in the case of BENTHIC and 'R' in the case of HERP) and the SPECIES_ID that links to the BREED and the BIORES tables	If needed, SPECIES_ID should be padded with leading zeros to a length of 5 X00001-XNNNNN B00001-BNNNNN F00001-FNNNNN H00001-HNNNNN I00001-INNNNN M00001-MNNNNN R00001-RNNNNN T00001-TNNNNN

Data Tables	Attribute Names	Description	Attribute Values
SOC_DAT	HUNUM (Integer)	Human-use resource at risk number which links to HUNUM in SOC_LUT or directly to the HUNUM listed in the feature attribute table. *Multiple records can share the same HUNUM	A 9-digit integer representing a unique or unique combination of human-use features, based on their type, their name, their geographic source, & their attribute source. This region unique number is added to the atlas number *100,000 to generate a number that is unique across atlases
	TYPE (Text)	Value of the abbreviated TYPE attribute found in the MGT, SOCECONL, and SOCECONPT feature layers	A = AIRPORT ACE = ARMY CORPS OF ENGINEERS AN = ANCHORAGE AQ = AQUACULTURE AR = ARTIFICIAL REEF AS = ARCHAEOLOGICAL SITE AV = ABANDONED VESSEL A2 = ACCESS B = BEACH BR = BOAT RAMP C = CAMPGROUND CF = COMMERCIAL FISHING CG = COAST GUARD CH = CRITICAL HABITAT CI = CITY CO = COUNTY DV = DIVING EH = ESSENTIAL HABITAT EPA = EPA REGION EPAF = EPA FACILITY EQ = EQUIPMENT F = FERRY FA = FISHERY AREA FEMA = FEMA REGION FO = NATIONAL FOREST FR = FERRY ROUTE F2 = FACTORY F3 = FACILITY HP = HELIPORT HS = HISTORICAL SITE HWR = HISTORIC WRECK IB = INTERNATIONAL BORDER LD = LOCK AND DAM LF = LANDFILL LS = LOG STORAGE M = MARINA MA = MANAGEMENT AREA MI = MILITARY MO = MOORING MS = MARINE SANCTUARY M2 = MINE SITE NC = NATURE CONSERVANCY NERR = NATIONAL ESTUARINE RESEARCH RESERVE NG = NATIONAL GUARD NL = NATIONAL LANDMARK NOAA = NOAA FACILITY NP = NATIONAL PARK OF = OIL FACILITY OS = OIL SEEP P = PARK

Data Tables	Attribute Names	Description	Attribute Values
SOC_DAT <i>cont'd</i>	TYPE (Text) <i>cont'd</i>	Value of the abbreviated type attribute found in the MGT, SOCECONL, and SOCECONPT feature layers <i>cont'd</i>	PF = PLATFORM PL = PIPELINE PT = PORT R = ROAD RE = RENEWABLE ENERGY RF = RECREATIONAL FISHING RM = RIVER MILE RMS = REPEATED MEASUREMENT SITE RR = RAIL ROUTE S = SUBSISTENCE SL = SHIPPING LANE SSIA = STATE PROTECTED AREA SPA = STORM SURGE SSIA = INUNDATION AREA ST = STATE STG = STAGING SW = STATE WATERS S2 = SURFING TIA = TSUNAMI INUNDATION AREA TL = TRIBAL LAND TU = TUNNEL WD = WASTE DISPOSAL WI = WATER INTAKE WO = WASH OVER WR = WILDLIFE REFUGE
	NAME (Text)	The name of the mapped resource, such as park name, facility name, etc.	If applicable and available; Free Text – Format in upper case
	CONTACT (Text)	Person or agency responsible for the resource	If applicable and available; Free Text – Format in upper case
	PHONE (Text)	Phone number	XXX-XXX-XXXX, If applicable and available
	LINK (Text)	Link to the resource web-page	URL. Must be lowercase & must be fully qualified (begin with http://) & contain no "<" or ">" characters
	G_SOURCE (Integer)	Unique key that links to the geographic source in the sources table	Source values (prior to their concatenation to the Atlas ID) should be in the range of 101-200. This region unique number is added to the atlas number *100,000 to generate a number that is unique across atlases
	A_SOURCE (Integer)	Unique key that links to the attribute source in the sources table	Same as G_SOURCE, above

Lookup Tables	Attribute Names	Description	Attribute Values
BIO_LUT	RARNUM (Integer)	Links to the BIORRES table and/or the BIOFILE table, and to the biological feature attribute tables	A 9-digit integer representing a unique combination of species, their seasonalities, their concentrations, their mapping qualifier and their geographic & seasonality sources. This region unique number is added to the atlas number *100,000 to generate a number that is unique across atlases
	ID (Integer)	Links to the biological feature attribute tables	An integer that is the sum of the (atlas id * 10,000,000), the (layer number *100,000), and the feature id. As an example, an id of 230100025, would represent a feature where the atlas id = 23, the layer number = 1, and the feature id = 25. The number will range from 8 to 10 digits, depending on the atlas id

Lookup Tables	Attribute Names	Description	Attribute Values
SOC_LUT	HUNUM (Integer)	Unique identifier that links the SOC_DAT table to the MGT, SOCECONL, and SOCECONPT feature attribute tables	A 9-digit integer representing a unique or unique combination of human-use features, based on their type, their name, their geographic source, & their attribute source. This region unique number is added to the atlas number *100,000 to generate a number that is unique across atlases
	ID (Integer)	Links to the MGT, SOCECONL, and SOCECONPT feature attribute tables	An integer that is the sum of the (atlas id * 10,000,000), the (layer number *100,000), and the feature id. As an example, an id of 230100025, would represent a feature where the atlas id = 23, the layer number = 1, and the feature id = 25. The number will range from 8 to 10 digits, depending on the atlas id

ESI Values, Classification Descriptions, and Crosswalk to Generalized ESI Codes and Descriptions.

ESI Code	Environment Code	Shoreline Classification Description		Generalized ESI Code	Generalized ESI Description
Variable: ESI	Variable: ENVIR	Variable: LANDWARD_SHORETYPE, SEAWARD_SHORETYPE1, SEAWARD_SHORETYPE1, ESI_DESCRIPTION		Variable: General_Symbol	Variable: General_ESI_TYPE
1A	E/L	1A: Exposed, Rocky Shores		2	Rocky and Steep Shorelines (Bedrock/Sand/Clay)
1A	R	1A: Exposed, Rocky Banks		2	Rocky and Steep Shorelines (Bedrock/Sand/Clay)
1B	E/L/R	1B: Exposed, Solid Man-Made Structures		1	Armored
1C	E/L/R	1C: Exposed, Rocky Cliffs w/Boulder Talus Base		2	Rocky and Steep Shorelines (Bedrock/Sand/Clay)
2A	E	2A: Exposed, Wave-Cut Platforms (Bedrock/Mud/Clay)		2	Rocky and Steep Shorelines (Bedrock/Sand/Clay)
2A	L	2A: Shelving Bedrock Shores		2	Rocky and Steep Shorelines (Bedrock/Sand/Clay)
2A	R	2A: Rocky Shoals and Bedrock Ledges		2	Rocky and Steep Shorelines (Bedrock/Sand/Clay)
2B	E	2B: Exposed Scarps and Steep Slopes (Clay)		2	Rocky and Steep Shorelines (Bedrock/Sand/Clay)
3A	E	3A: Fine to Medium Grained Sand Beaches		3	Beaches (Sand/Gravel)
3B	E	3B: Scarps and Steep Slopes (Sand)		2	Rocky and Steep Shorelines (Bedrock/Sand/Clay)
3B	L	3B: Eroding Scarps (Unconsolidated Sediment)		2	Rocky and Steep Shorelines (Bedrock/Sand/Clay)
3B	R	3B: Exposed, Eroding Banks (Unconsolidated Sediment)		2	Rocky and Steep Shorelines (Bedrock/Sand/Clay)
3C	E	3C: Tundra Cliffs		2	Rocky and Steep Shorelines (Bedrock/Sand/Clay)
4	E	4: Coarse Grained Sand Beaches		3	Beaches (Sand/Gravel)
4	L	4: Sand Beaches		3	Beaches (Sand/Gravel)
4	R	4: Sand Bars and Gently Sloping Banks		3	Beaches (Sand/Gravel)
5	E/L	5: Mixed Sand and Gravel Beaches		3	Beaches (Sand/Gravel)
5	R	5: Mixed Sand and Gravel Bars and Gently Sloping Banks		3	Beaches (Sand/Gravel)
6A	E/L	6A: Gravel Beaches		3	Beaches (Sand/Gravel)
6A	E	6A: Gravel Beaches (Granules/Pebbles)		3	Beaches (Sand/Gravel)
6A	R	6A: Gravel Bars and Gently Sloping Banks		3	Beaches (Sand/Gravel)
6B	E/L/R	6B: Riprap		1	Armored
6B	E	6B: Gravel Beaches (Cobbles/Boulders)		3	Beaches (Sand/Gravel)
6C	E	6C: Riprap		1	Armored

ESI Values, Classification Descriptions, and Crosswalk to Generalized ESI Codes and Descriptions.

ESI Code	Environment Code	Shoreline Classification Description	Generalized ESI Code	Generalized ESI Description
Variable: ESI	Variable: ENVIR	Variable: LANDWARD_SHORETYPE, SEAWARD_SHORETYPE1, SEAWARD_SHORETYPE1, ESI_DESCRIPTION	Variable: General_Symbol	Variable: General_ESI_TYPE
7	E/L	7: Exposed Tidal Flats	4	Flats (Mud/Sand)
8A	E/L	8A: Sheltered Scarps (Bedrock/Mud/Clay)	2	Rocky and Steep Shorelines (Bedrock/Sand/Clay)
8A	E	8A: Sheltered, Impermeable, Rocky Shores	2	Rocky and Steep Shorelines (Bedrock/Sand/Clay)
8B	E/L/R	8B: Sheltered, Solid Man-Made Structures	1	Armored
8B	E	8B: Sheltered, Permeable, Rocky Shores	2	Rocky and Steep Shorelines (Bedrock/Sand/Clay)
8C	E/L/R	8C: Sheltered Riprap	1	Armored
8D	E	8D: Sheltered, Rocky, Rubble Shores	2	Rocky and Steep Shorelines (Bedrock/Sand/Clay)
8E	E	8E: Peat Shorelines	3	Beaches (Sand/Gravel)
8F	R	8F: Vegetated, Steeply Sloping Bluffs	5	Vegetated (Grass/Marsh/Mangroves/Scrub-Shrub)
9A	E	9A: Sheltered Tidal Flats	4	Flats (Mud/Sand)
9A	L	9A: Sheltered Sand and Mud Flats	4	Flats (Mud/Sand)
9B	E/L/R	9B: Vegetated Low Banks	5	Vegetated (Grass/Marsh/Mangroves/Scrub-Shrub)
9C	E	9C: Hyper-Saline Tidal Flats	4	Flats (Mud/Sand)
10A	E	10A: Salt and Brackish Water Marshes	5	Vegetated (Grass/Marsh/Mangroves/Scrub-Shrub)
10B	E/L/P/R	10B: Freshwater Marshes	5	Vegetated (Grass/Marsh/Mangroves/Scrub-Shrub)
10C	E/L/P/R	10C: Swamps	5	Vegetated (Grass/Marsh/Mangroves/Scrub-Shrub)
10D	E/L/P/R	10D: Scrub and Shrub Wetlands	5	Vegetated (Grass/Marsh/Mangroves/Scrub-Shrub)
10D	E	10D: Mangroves	5	Vegetated (Grass/Marsh/Mangroves/Scrub-Shrub)
10E	E	10E: Inundated Low Lying Tundra	5	Vegetated (Grass/Marsh/Mangroves/Scrub-Shrub)

Most Commonly Used Species Concentration Attribute Values.

Concentration Attribute Values (examples)	
High	Occasional
Medium	Very high
Low	Present
Highly abundant	Possible/potential
Abundant	Very rare
Common	Very low
Rare	Uncommon

MAPPING QUALIFIERS AND GUIDELINES:

Element	Qualifier	Guidelines
BENTHIC	CONCENTRATION AREA	Areas where concentrations are considerably higher than other records of the same species in the AOI. Completion of the concentration field is mandatory for records with this qualifier.
	GENERAL DISTRIBUTION	Used for broad, general distributions of species that are often mapped to landscape- or habitat-scale features (e.g. "coral reef" or "rocky reef"), or may indicate species-specific distributions.
	HIGH ECOLOGICAL VALUE	For use in areas where benthic organisms provide high ecological services (e.g., kelp and seagrasses), high quality habitat, or known areas of high biodiversity. Some areas (e.g. highly productive oyster reefs) may be considered "High Ecological Value" compared to less-viable but also mapped reef areas.
	VULNERABLE OCCURRENCE	Intended for records of rare species with discrete occurrences, where the conservation value of the species should be highlighted for spill response. Can also be used for T/E records that are not mapped as a general distribution of the species.

Element	Qualifier	Guidelines
BIRDS	CONCENTRATION AREA	Areas where concentrations are considerably higher than other records of the same species in the AOI. Completion of the concentration field is mandatory for records with this qualifier. May be used when other qualifiers do not apply. May indicate concentrations for foraging or other activities not covered by other qualifiers.
	GENERAL DISTRIBUTION	Used for broad, general distributions of species that are often mapped to landscape- or habitat-scale features (e.g. bays or marshes); may or may not include specific life history information.
	MIGRATION	Use when an area is a known staging area of high importance to the species. Migration periods may be split into separate records for spring migration and fall migration, at the discretion of the data provider and/or contractors).
	NESTING	Applicable to all nesting birds: colonial nesters, solitary nesters, waterfowl, and secretive nesters.
	RAFTING	Similar to 'CONCENTRATION AREA' qualifier, but specific to large, on-water concentrations.
	ROOSTING	Used to designate areas where waterbirds are communally resting on land.
	VULNERABLE OCCURRENCE	Intended for records of rare species with discrete occurrences, where the conservation value of the species should be highlighted for spill response. Can also be used for T/E records that lack discrete life history information or for T/E records that are not mapped as a general distribution of the species.
	WINTERING	Designates known areas of importance to wintering birds. Examples include wintering waterfowl and wintering shorebirds.

Element	Qualifier	Guidelines
FISH	CONCENTRATION AREA	Areas where concentrations are considerably higher than other records of the same species in the AOI. Completion of the concentration field is mandatory for records with this qualifier.
	GENERAL DISTRIBUTION	Used for broad, general distributions of species that are often mapped to landscape- or habitat-scale features (e.g. bays or marshes). May or may not include specific life history information.
	HARVEST AREA	May be used as a qualifier for fish distributions in special cases, where the general distribution was not mapped and/or widespread and the distribution of the harvested resources is used to depict important areas.
	NURSERY AREA	Refers to a specific areas of known importance for early life history stages (e.g. larvae, juveniles) of a species. This is not intended to be applied to the entire distribution of those life stages.
	MIGRATION	Used for areas that are important to a species because they are migration corridors. May apply at any life stage. It is not restricted to “SPAWNING” as it was defined in the previous ESI guidelines.
	SPAWNING AREA	Areas where fish are spawning. Spawning is loosely defined as the release of gametes or eggs from the adult. This can also refer to pupping for species that bear live young (e.g. sharks).
	VULNERABLE OCCURRENCE	Intended for records of rare species with discrete occurrences, where the conservation value of the species should be highlighted for spill response. Can also be used for T/E records that lack discrete life history information or for T/E records that are not mapped as a general distribution of the species.

Element	Qualifier	Guidelines
HABITAT	CONCENTRATION AREA	Areas where concentrations are considerably higher than other records of the same species in the AOI. Completion of the concentration field is mandatory for records with this qualifier.
	GENERAL DISTRIBUTION	Used for broad, general distributions of species that are often mapped to landscape- or habitat-scale features (e.g. bays or marshes).
	HIGH ECOLOGICAL VALUE	For use in areas where habitats provide high ecological services, are a high quality habitat, or are known areas of high biodiversity.
	VULNERABLE OCCURRENCE	Intended for records of rare species with discrete occurrences, where the conservation value of the species should be highlighted for spill response. Can also be used for T/E records that are not mapped as a general distribution of the species.
HERP	CONCENTRATION AREA	Areas where concentrations are considerably higher than other records of the same species in the AOI. Completion of the concentration field is mandatory for records with this qualifier.
	GENERAL DISTRIBUTION	Used for broad, general distributions of species that are often mapped to landscape- or habitat-scale features (e.g. bays or marshes); may or may not include specific life history information.
	MIGRATION	Potential or known sea turtle migration corridors in the marine environment.
	NESTING	Applicable to all sea turtle, crocodilia, and estuarine/freshwater turtle nesting areas. Should represent known nesting areas rather than all potential nesting habitat.
	VULNERABLE OCCURRENCE	Intended for records of rare species with discrete occurrences, where the conservation value of the species should be highlighted for spill response. Can also be used for T/E records that lack discrete life history information or for T/E records that are not mapped as a general distribution of the species.

Element	Qualifier	Guidelines
INVERTEBRATES	CONCENTRATION AREA	Areas where concentrations are considerably higher than other records of the same species in the AOI. Completion of the concentration field is mandatory for records with this qualifier.
	GENERAL DISTRIBUTION	Used for broad, general distributions of species that are often mapped to landscape- or habitat-scale features (e.g. bays or marshes); may or may not include specific life history information.
	HARVEST AREA	May be used as a qualifier for invertebrate distributions in special cases, where the general distribution was not mapped and the distribution of the harvested resources is used to depict important areas.
	MIGRATION	Areas that are important to a species because they are migration corridors. May apply at any life stage. It is not restricted to “SPAWNING” as it was defined in the previous ESI guidelines.
	NURSERY AREA	Refers to a specific area being used by early life history stages (e.g. larvae, juveniles) of a species, not necessarily the entire distribution of those life stages.
	SPAWNING	Area where invertebrates are spawning. Spawning is loosely defined as the release of gametes or eggs from the adult.
	VULNERABLE OCCURRENCE	Intended for records of rare species with discrete occurrences, where the conservation value of the species should be highlighted for spill response. Can also be used for T/E records that lack discrete life history information or for T/E records that are not mapped as a general distribution of the species.

Element	Qualifier	Guidelines
MARINE MAMMALS	CALVING	Known marine mammal calving areas.
	CONCENTRATION AREA	Areas where concentrations are considerably higher than other records of the same species in the AOI. Completion of the concentration field is mandatory for records with this qualifier.
	DENNING	Specific to known polar bear denning areas.
	GENERAL DISTRIBUTION	Used for broad, general distributions of species that are often mapped to landscape- or habitat-scale features (e.g. bays or marshes); may or may not include specific life history information.
	HAUL OUT	Represents discrete, known haul-out sites of marine mammals.
	MIGRATION	Potential or known mammal migration corridors in the marine environment.
	PUPPING	Known marine mammal pupping areas.
	THERMAL REFUGE	Areas used by manatees as warm water refuges.
	VULNERABLE OCCURRENCE	Intended for records of rare species with discrete occurrences, where the conservation value of the species should be highlighted for spill response. Can also be used for T/E records that lack discrete life history information or for T/E records that are not mapped as a general distribution of the species.
TERRESTRIAL MAMMALS	COLONY	Used to identify known bat colonies.
	CONCENTRATION AREA	Areas where concentrations are considerably higher than other records of the same species in the AOI. Completion of the concentration field is mandatory for records with this qualifier.
	GENERAL DISTRIBUTION	Used for broad, general distributions of species that are often mapped to landscape- or habitat-scale features (e.g. bays or marshes); may or may not include specific life history information.
	HAZARD	Areas where mammals that are potentially hazardous to spill responders may be found.
	MIGRATION	Potential or known mammal (ungulate) migration corridors in the terrestrial environment.
	VULNERABLE OCCURRENCE	Intended for records of rare species with discrete occurrences, where the conservation value of the species should be highlighted for spill response. Can also be used for T/E records that lack discrete life history information or for T/E records that are not mapped as a general distribution of the species.

HUMAN-USE TYPE EXPLANATIONS:

A - Airport: Mapped as points, this refers to locations of airports, airfields, landing strips, etc., whether they are manned or unmanned. The data may come from federal, state, regional, or local programs. Also refer to: Heliport (HP).

ACE - Army Corps of Engineers: Mapped as polygons, this refers to the jurisdictional boundaries for the USACE. The data may come from federal, state, or regional programs.

AN – Anchorage: Mapped as points or polygons, this refers to locations (or areas) where commercial vessels can be anchored offshore outside shipping lanes. The data may come from federal, state, regional, or local programs.

AQ - Aquaculture Site: Typically mapped as points but may be mapped as polygons, this refers to farmed and/or managed aquaculture/mariculture sites that may be impacted by oiling, natural disaster or cleanup activity. The data may come from federal, state, regional, or local programs.

AR - Artificial Reef: Typically mapped as points but may also be mapped as polygons, this refers to locations of reefs made out of man-made materials or natural materials purposely placed at a site for fishing or sport diving purposes. The data may come from federal, state, regional, or local programs.

AS – Archaeological Site: This refers to the location of water, coastal, or wetland-associated archaeological sites. Mapped as point features that may be offset or generalized to purposely obscure the exact location in order to protect the resource from illegal activity. The data may come from federal or state historic preservation offices. Also refer to: Historic Site (HS), Historic Wreck (HWR).

AV – Abandoned Vessel: Mapped as points, this refers to abandoned and derelict vessels. These data come from NOAA's Office of Response and Restoration. Also refer to: Historic Wreck (HWR).

A2 - Access: Mapped as points, this refers to vehicular or foot access locations to beach, wetland or river shoreline. The data may come from state, regional, or local programs, road atlases (such as Delorme), and map services (such as ESRI Worldmap) and may be supplemented with expert knowledge. Differs from Boat Ramps (BR).

B - Beach: Typically mapped as points but may also be mapped as polygons, this refers to high use recreational beach sites. A typical high use site would be indicated by a nearby parking lot of substantial size, and likely (but not necessarily) other recreational beach amenities such as bath houses, life guard stations and food and drink concessions. The data may come from state, regional, or local programs, road atlases (such as Delorme), and map services (such as ESRI Worldmap) and may be supplemented with expert knowledge.

BR – Boat Ramp: Mapped as points, this refers to publicly available boat ramps or launch sites. The data may come from state, regional, or local programs and may be supplemented with expert knowledge. Also refer to: Access (A2).

C - Campground: Mapped as points, this refers to public campgrounds. The data may come from federal, state, or regional programs.

CF - Commercial Fishing: Typically mapped as points but may also be mapped as polygons. Important, high use sites, fished by commercial fishers on a regular basis. The data may come from federal, state, regional, or local programs.

CG - Coast Guard: This refers to USCG jurisdictional boundaries (districts or sectors), mapped as polygons, or USCG stations locations, generally mapped as points. The data may come from federal, state, or regional programs.

CH - Critical Habitat: Typically mapped as polygons but may also be mapped as points, this refers to designated critical habitat defined under the endangered species act that contains areas needed for the conservation and/or recovery of a threatened or endangered species; for example, leatherback sea turtle, killer whale, Steller sea lion, salmonids (i.e., salmon, trout, and Pacific eulachon), etc. The data may come from federal, state, regional, or programs.

CI – City: Typically mapped as points but may also be mapped as polygons, this refers to the jurisdictional boundaries for major cities (polygon) or the locations for major cities (point). Data mapped as a polygon should edge-match with the ESI shoreline if appropriate. The data may come from federal or state programs.

CO – County: Mapped as polygons, this refers to the jurisdictional boundaries for coastal counties. Data mapped as a polygon should edge-match with the ESI shoreline if appropriate. The data may come from federal or state programs.

DV – Diving Site: Mapped as points, this refers to popular recreational diving and snorkeling sites. The data may come from state, regional, or local programs and are typically supplemented with expert knowledge. Also refer to: Artificial Reef (AR).

EH – Essential Habitat: Typically mapped as polygons but may also be mapped as points, this refers to significant habitats needed to support key life stages of ecological communities or species. The data may come from state, regional, or local programs and are typically supplemented with expert knowledge.

EPA – Environmental Protection Agency Region: Mapped as polygons, this refers to the jurisdictional boundaries for EPA regions. The data comes from the USEPA.

EPAF - Environmental Protection Agency Facility: Mapped as points, this refers to facilities that must report to EPA due to storage or manufacturing of potentially hazardous substances. Four types of EPA regulated and permitted facilities are mapped: facilities that deal with toxic chemicals (Toxic Release Inventory System - TRIS), facilities that may become point sources for pollution discharge into waterways (National Pollutant Discharge Elimination System - NPDES), facilities that use extremely hazardous substances that may result in a chemical accident (Risk Management Plan - RMP) and facilities that store and use oil that are required to prepare and submit a facility response plan (OIL). The data comes from the USEPA. Facilities may be required to file multiple plans depending on the materials they store and/or produce. Also refer to: Oil Facility (OF) and Facility (F3).

EQ – Response Equipment: Mapped as points, this refers storage locations for oil spill clean-up equipment, such as Marine Spill Response Corporation (MSRC) facilities. The data may come from state, regional, or local programs and are typically supplemented with expert knowledge.

F – Ferry: Mapped as points, this refers location of state and local ferry terminals. The data may come from state or local programs. Also refer to the line feature Ferry Route (FR).

FA - Fishery Area: Mapped as points or polygons, this refers to defined areas or locations where fish or shellfish species are managed by a federal or state agency. The data may come from federal, state, or regional programs.

FEMA – Federal Emergency Management Agency Region: Mapped as polygons, this refers to the jurisdictional boundaries for FEMA regions. The data may come from federal or state programs.

FO – National Forest – Mapped as polygons, this refers to boundaries of National Forest managed areas. The data come from the USDA Forest Service.

FR – Ferry Route: Mapped as lines, this refers to locations of state and local ferry traffic routes. The data may come from state or local programs. Also refer to: Ferry (F).

F2 - Factory: Mapped as points, this refers to private or commercial processing facilities such as fish or shellfish processors. The data may come from federal, state, regional, or local programs.

F3 - Facility: Mapped as points, this refers to commercial facilities such as paper mills and other chemical processing facilities that may not be included in the EPA facilities data. The data may come from federal, state, regional, or local programs. Also refer to: EPA Facility (EPAF).

HP – Heliport: Mapped as points, this refers to standalone heliports. The data may come from federal, state, regional, or local programs and may be supplemented with expert knowledge.

HS – Historic Site: Typically mapped as polygons but may also be mapped as points, this refers to known historical sites that are found on the Registry of National Historic Places and state registries, and are sites that may be disturbed by oiling or cleanup activity. In many cases these data are unavailable or sites must be offset to obscure exact locations. The data may come the National Park Service, state, or local agencies. Also refer to: Historic Wreck (HWR), Archaeological Site (AS).

HWR – Historic Wreck: Mapped as points, this refers to abandoned and derelict vessels of historic significance. In many cases these data are unavailable or sites must be offset or generalized. The primary source should be NOAA’s Office of Coast Survey Wrecks and Obstructions Database but the data may come the National Park Service, NOAA’s Office of National Marine Sanctuaries, state, or local agencies. Also refer to: Abandoned Vessel (AV), Historic Site (HS).

IB – International Boundary: Mapped as lines, this refers to the Canadian and Mexican boundaries in the appropriate US ESI atlas areas. The data may come from federal, state, or regional programs.

LD – Lock and Dam: Mapped as points, this refers to marine lock systems and/or dams. The data may come from state, local, or regional programs.

LF – Landfill: Mapped as points, this refers to permanent waste and debris disposal locations. The data may come from state or local programs. Also refer to: Waste Disposal (WD).

LS – Log Storage: Mapped as points, this refers to timber transfer and storage locations in maritime areas. The data may come from state or local programs and may be supplemented with expert knowledge.

M – Marina: Mapped as points, this refers to publically available marina locations. The data may come from federal, state, regional, or local programs and may be supplemented with expert knowledge. Also refer to: Boat Ramp (BR).

MA -Management Area: Mapped as polygons, this refers to lands that are managed at a local or agency level and may include managed lands that do not fall into another, more specific, human use type. This category will include items that do not fall under: Regional/State Park, National Park, Nature Conservancy, Marine Sanctuary, or anything else already listed in Human Use categories. The data may come from federal, state, regional, or local programs. Also refer to: Park (Regional or State), National Park, etc.

MI – Military: Typically mapped as polygons but may also be mapped as points, this refers to jurisdictional boundaries (polygons) or military installations (points) that fall under the responsibility of the Department of Defense (DOD). The data may come from federal or state programs.

MO – Mooring Site: Mapped as points or polygons, this refers to locations (or areas) where boats and vessels can be secured that are not categorized as a Marina. The data may come from federal, state, regional, or local programs.

MS – Marine Sanctuary: Mapped as polygons, this refers to areas that are managed by NOAA as National Marine Sanctuaries. These data come from NOAA’s Office of National Marine Sanctuaries.

M2 - Mine Site: Mapped as points, this refers to commodity mines such as gold or silver mines in Alaska or gravel, sand, top soil (surface) mining. The data may come from federal, state, regional, or local programs.

NC – Nature Conservancy: Mapped as polygons, this refers to areas that are managed by the Nature Conservancy. These data come from The Nature Conservancy.

NERR – National Estuarine Research Reserve: Mapped as polygons, this refers to areas that are managed by the National Estuarine Research Reserve. These data come from the NOAA’s National Estuarine Research Reserve System.

NG – National Guard: Mapped as points, this refers to the locations of National Guard Facilities. The data may come from federal, state, regional, or local programs.

NL – National Landmark: Mapped as points or polygons, this refers to locations of National Landmarks that are managed by the National Park Service that may be disturbed by oiling or disaster cleanup activities. These data come from the National Park Service, National Historic Landmarks Program. Also refer to: Historical Site (HS).

NOAA – National Oceanic Atmospheric Administration Facility: Mapped as points, this refers to the locations of NOAA facilities. The data may come from federal, state, regional, or local programs.

NP – National Park: Mapped as polygons, this refers to locations of National Parks that are managed by the National Park Service. These data come from the National Park Service.

OF – Oil Facility: Mapped as points, this refers to the locations of oil and gas facilities. The data may come from federal, state, regional, or local programs and may be supplemented with expert knowledge. These are facilities that are not mapped as a part of the EPA Facility data types. Also refer to: EPA Facility (EPAF).

OS – Oil Seep: Mapped as points, this refers to the locations of natural offshore oil seeps. The data may come from BOEM (Bureau of Ocean Energy Management), federal, state, regional, or local programs and may be supplemented with expert knowledge.

P – Park (Regional or State): Mapped as polygons, this refers to jurisdictional boundaries of parks, natural preserves, recreation areas, etc. that are managed at the state, regional, local level. The data may come from state, regional, or local programs. Also refer to: Beaches, Historical Sites/Areas, Management Areas, and National Parks.

PF – Platform: Mapped as points, this refers to the locations of offshore oil and gas platforms. The data may come from federal, state, regional, or local programs and may be supplemented with expert knowledge.

PL – Pipeline: Mapped as lines, this refers to oil and gas pipeline infrastructure. The data may come from federal, state, regional, or local programs. It is often not available for public distribution, and/or only a subset of the pipelines may be available.

PT – Port: Mapped as points, this refers to the locations of commercial docks and ports such as container ports. The data may come from state, regional, or local programs and may be supplemented with expert knowledge.

R – Road (or Bridge): Mapped as lines, these refer to roads and/or bridges. The data may come from state, regional, or local programs and may be supplemented with expert knowledge.

RE – Renewable Energy: Mapped as points or polygons, these refer to facilities that generate renewable energy and are sited in locations that may be disturbed by oiling or cleanup activity. Examples include wind energy (wind farms), wave energy (wave energy converters), solar energy (solar panels), etc. The data may come from federal, state, regional, or local programs and may be supplemented with expert knowledge.

RF – Recreational Fishing: Typically mapped as points, these areas depict locations that are fished for sport, either for pleasure or competition. The data may come from state, regional, or local programs and may be supplemented with expert knowledge.

RM – River Miles: Mapped as points, this refers to the distance in miles along a river from its mouth. The data may come from state, regional, or local programs.

RMS - Repeated Measurement Site: Typically mapped as points but may also be mapped as polygons, this refers to locations where oceanographic data is routinely recorded, and/or sites routinely visited by scientists to observe and record biological and contaminant trends. Some examples include: Data Buoys (DB), Tide Gauges (TG), Mussel Watch Sites (MWS), Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO), Long-term Ecological Research Site (LTER), Water Quality Stations (WQ), etc. The data may come from federal, state, regional, or local programs and may be supplemented with expert knowledge.

RR – Rail Route: Mapped as lines, these refer to train lines as part of a transit system. The data may come from state, regional, or local programs.

S – Subsistence: Typically mapped as points but may also be mapped as polygons, this refers to subsistence harvest of invertebrates, fish, birds, and other species and typically related to native or tribal populations. The data may come from federal, state, regional, or local programs and may be supplemented with expert knowledge. Also refer to: Tribal Lands (TL).

SL – Shipping Lane: Mapped as lines, these depict the general flow of merchant shipping between two departure/terminal areas. These are normally found in oceans or large lakes as a regularly used route for vessels. The data may come from federal, state, regional, or local programs.

SPA – State Protected Area: Mapped as polygons, these are areas that receive varied levels of state protection. Examples of areas with this designation are wilderness areas and exploited areas. The data may come from state programs and supplemented with expert knowledge. Also refer to: Regional or State Parks and Management Areas.

SSIA – Storm Surge Inundation Area: Mapped as polygons or lines, these are areas inundated by an abnormal rise in water level, above and beyond the expected tidal range due to wind, waves, or other forces. The data may come from federal, state, regional, or local programs and supplemented with expert knowledge.

ST – State (or State Border): Mapped as lines or polygons, this refers to the official border between states. The data may come from state, regional, or local programs and supplemented with expert knowledge.

STG – Staging: Mapped as points, this refers to an area where people, equipment, or material can be assembled before use. The data may come from federal, state, regional, or local programs and supplemented with expert knowledge.

SW – State Waters: Mapped as polygons, this refers to waters that a state has jurisdiction over, commonly derived from the low-water mark of each state extending approximately 3 nautical miles (nm) offshore. The data may come from federal, state, regional, or local programs.

S2 – Surfing: Mapped as points, these depict popular surfing locations. The data may come from federal, state, regional, or local programs and may be supplemented with expert knowledge.

TIA – Tsunami Inundation Area: Mapped as polygons, these are areas that may be inundated by an abnormal rise in water level, above and beyond the expected tidal range due to a tsunami (seismic sea wave). The data may come from federal, state, regional, or local programs.

TL – Tribal Lands: Mapped as polygons or lines, these depict areas managed by a Native American tribe under the United States Bureau of Indian Affairs (BIA). Ideally the data will be provided by the tribe, but may also come from federal, state, regional, or local programs and may be supplemented with expert knowledge.

TU – Tunnel: Mapped as lines, these depict locations where tunnels can be found, usually in conjunction with a road system. The data may come from federal, state, regional, or local programs and may be supplemented with expert knowledge.

WD – Waste Disposal: Mapped as points, these locations represent facilities for waste collection, compaction, recycling, and disposal. The data may come from federal, state, regional, or local programs and may be supplemented with expert knowledge. Also refer to: Landfills (LF).

WI – Water Intake: Mapped as points, these locations represent sites that withdraw water from streams, lakes, rivers, and reservoirs such as drinking water intakes, industrial intakes, and aquaculture intakes. The data may come from federal, state, regional, or local programs and may be supplemented with expert knowledge.

WO - Washover: Mapped as points, this refers to a washover site, or washover fan. This feature is a relatively flat surface on the top of a barrier spit complex that slopes gently landward. It is usually created when water, forced landward by breaking waves, flows across the top of the barrier spit during high spring tides or storms. This process creates a flattened-off surface along which sand is transported across the top of the spit into the standing water (lagoon) or marsh landward of the spit. These geomorphic features are mapped during the shoreline classification.

WR – Wildlife Refuge: Mapped as polygons, these areas represent typically government-owned, natural wildlife sanctuaries that provide species protection by heavily regulated hunting practices, wildlife and forestry management, and restrictions on human activity. The data may come from federal, state, regional, or local programs and may be supplemented with expert knowledge. Also refer to: Regional or State Park, Management Areas, State Protected Areas.

GEODATABASE DELIVERY FORMAT:

Geospatial data sets and associated data tables meeting the NOAA ESI data delivery standards will be provided to NOAA in a File Geodatabase. The geodatabase will be organized by Feature Datasets containing Feature Classes. A Feature Dataset is collection of feature classes and a Feature Class is a collection features with each feature class having the same type of geometry (point, line, or polygon). The associated non-spatial data tables are stored in the geodatabase. The schematic below describes the NOAA ESI geodatabase delivery format.

