

MASSACHUSETTS 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
Coastal Services Center, Charleston, South Carolina

1.1.2. PUBLICATION DATE:

200004

1.1.4. TITLE:

Sensitivity of Coastal Environments and Wildlife to Spilled Oil:
Massachusetts

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:

Massachusetts

1.1.8. PUBLICATION INFORMATION

1.1.8.1. PUBLICATION PLACE:

Seattle, Washington

1.1.8.2. PUBLISHER:

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

1.1.9. OTHER CITATION DETAILS:

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

1.1.11. LARGER WORK CITATION:

None

1.2. DESCRIPTION

1.2.1. ABSTRACT:

This data set comprises the Environmental Sensitivity Index (ESI) maps for the shoreline of Massachusetts. ESI data characterize marine and estuarine environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats; sensitive biological resources; and human-use resources.

1.2.2. PURPOSE:

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

1.3. TIME PERIOD OF CONTENT

1.3.1. TIME PERIOD INFORMATION

1.3.1.3. RANGE OF DATES/TIMES:

The intertidal habitats of Massachusetts were originally mapped during overflights conducted in the spring of 1980. They were updated onto 1:25,000 U.S. Geological Survey (USGS) topographic maps by an experienced coastal geologist in September 1997 using 1:48,000 color vertical aerial photography produced in 1994 by NOAA, Remote Sensing Division and National Geodetic Survey (to view these photographs and associated metadata on-line, go to "<http://coast.mit.edu/>"). A series of overflights were conducted on 22-25 September to verify the shoreline classification, using fixed-wing aircraft flown at elevations of 500-1,000 feet and slow air speed. Air support was provided by the U.S. Coast Guard (USCG). All biological resource data were obtained from a variety of data sources (detailed in this

metadata report) and subsequently reviewed by local and regional experts in 1998.

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:

-71.25

1.5.1.2. EAST BOUNDING COORDINATE:

-69.875

1.5.1.3. NORTH BOUNDING COORDINATE:

42.875

1.5.1.4. SOUTH BOUNDING COORDINATE:

41.2083

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:

Massachusetts

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 NOAA, National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington, the State of Massachusetts, Executive Office of Environmental Affairs, Boston, Massachusetts, and NOAA's Coastal Services Center (CSC), Charleston, South Carolina

1.13. NATIVE DATA SET ENVIRONMENT:

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO® (version 7.2.1) and ORACLE® RDBMS (version 6.0.36.1.1). The hardware configuration is Hewlett Packard workstations (models 715/50 and 712/80i with 4 X-terminals) with UNIX operating system (HP-UX Release A.09.01). The following files are included in the data set:

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

The entire data set is approximately 136.8 megabytes.

2.0. DATA QUALITY INFORMATION

2.1. ATTRIBUTE ACCURACY

2.1.1. ATTRIBUTE ACCURACY REPORT:

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

2.2. LOGICAL CONSISTENCY REPORT:

The digitization of shoreline types, biological resources, and human-use resources is a complex and highly quality-controlled process. Existing digital shoreline data are integrated into a study-wide basemap. In order to facilitate digitizing, the entire study area is split into individual quadrangles using the INDEX data layer. The first layer of information digitized is the ESI shoreline classification. The ESI habitat ranking is compiled onto 1:25,000 USGS topographic quadrangles by a geomorphologist. The hardcopy maps are then digitized and checked using both on-screen and hardcopy reviews. The edited maps are updated, checked once again for completeness and topological and logical consistency. Any errors in the shoreline classification are updated prior to digitization of the biological and human-use layers. All layers use the shoreline as the geographic reference so that there are no slivers in the geographic coordinates.

The hardcopy biological information is compiled onto 1:25,000 USGS topographic quadrangles by a biological expert using data from regional specialists in the form of maps, tables, charts, written descriptions of wildlife distributions, and personal interviews. Concurrently, digital data sources are imported, projected, checked for quality control, and integrated into the data structure. The hardcopy data are digitized, checked using both digital and on-screen procedures, integrated with existing data, plotted, and sent out for review by the regional specialists. The edited maps are updated, checked once again, and the final product plotted (at approximately 1:50,000 scale). A team of specialists reviews the entire series of maps, checks all data, and makes final edits. The data are then merged to form the study-wide layers. The data merging includes a final quality control check where labels, chains, and polygons are checked for attribute accuracy.

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

After data is delivered to NOAA, it is again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistency, 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 event 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:

The intertidal habitats of Massachusetts were originally mapped during overflights conducted in the spring of 1980. They were updated onto 1:25,000

USGS topographic maps by an experienced coastal geologist in September 1997 using 1:48,000 color vertical aerial photography produced in 1994 by NOAA, Remote Sensing Division and National Geodetic Survey (to view these photographs and associated metadata on-line, go to "<http://coast.mit.edu/>"). A series of overflights were conducted on 22-25 September to verify the shoreline classification, using fixed-wing aircraft flown at elevations of 500-1,000 feet and slow air speed. Air support was provided by the U.S. Coast Guard.

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

- 1) Shoreline type (substrate, grain size, tidal elevation, origin)
- 2) Exposure to wave and tidal energy
- 3) Biological productivity and sensitivity
- 4) Ease of cleanup

All of these factors are used to determine the relative sensitivity of intertidal habitats. Key to the sensitivity ranking is an understanding of the relationships between: physical processes; substrate; shoreline type; product type; fate and effect; and sediment transport patterns. The intensity of energy expended upon a shoreline by wave action, tidal currents, and river currents directly affects the persistence of stranded oil. The need for shoreline cleanup activities is determined, in part, by the slowness of natural processes in removal of oil stranded on the shoreline.

These concepts have been used in the development of the ESI, which ranks shoreline environments as to their relative sensitivity to oil spills, potential biological injury, and ease of cleanup. Generally speaking, areas exposed to high levels of physical energy, such as wave action and tidal currents, and low biological activity rank low on the scale, whereas sheltered areas with associated high biological activity have the highest ranking.

Sensitive Biological Resources:

Regional biologists contributed the biological data. These data denote the key biological resources that are most likely at risk in the event of an oil spill. Six

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major categories, or ELEMENTS, of biological resources were considered during data compilation: birds, fish, habitats/rare plants, invertebrates, marine mammals, and reptiles/amphibians.

The ELEMENTs generally correspond to the coverage or geographic data layer names. There are also six attribute, or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, that are used to store the complex biological data (Fig. 1). Each biological coverage is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for Massachusetts this is 45), an element specific number (birds are layer 1, fish are layer 2, etc.) and a unique record number. The items in BIORES are: 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.

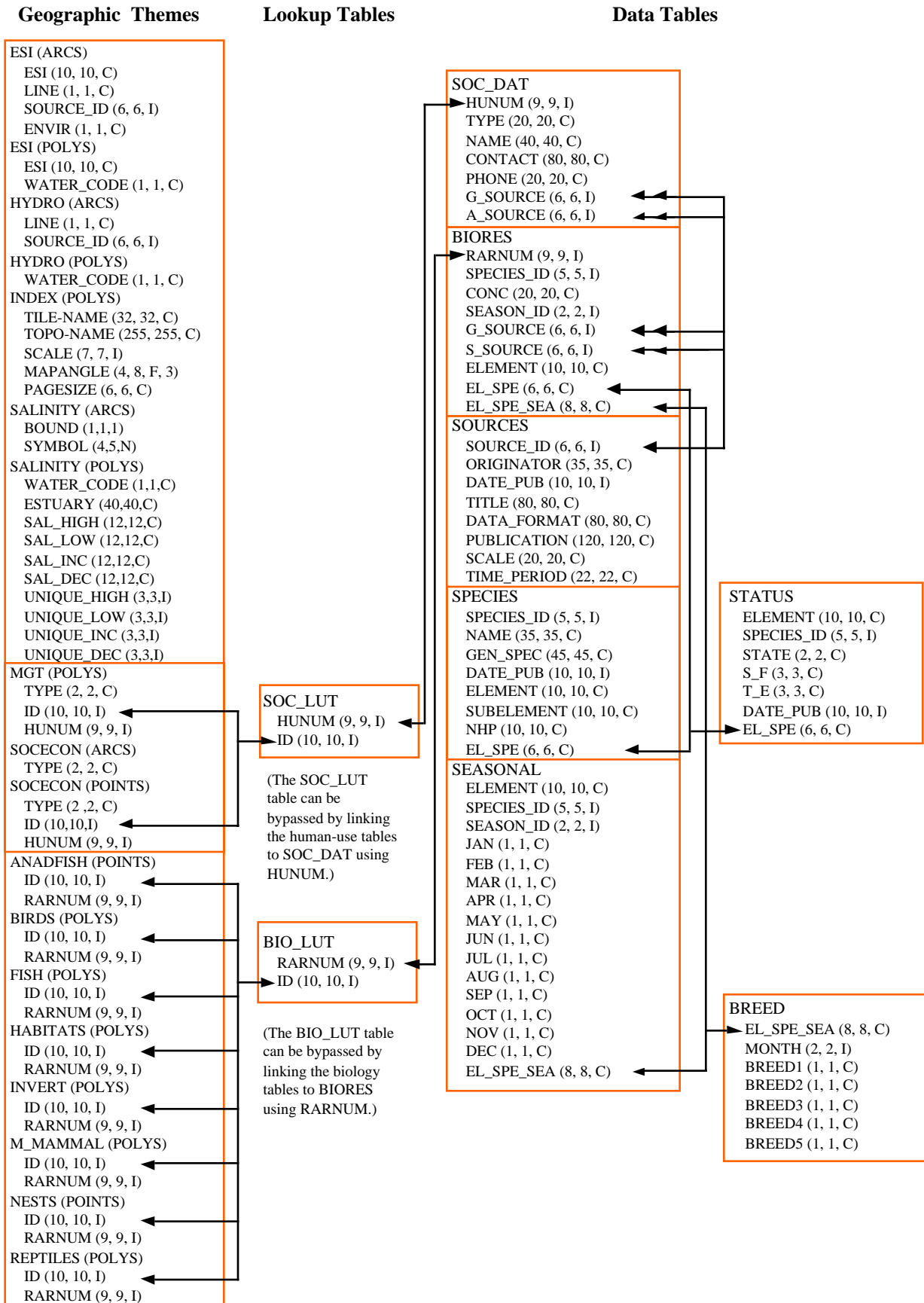


FIGURE 1. Relationship between biology coverages and attribute files.

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

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

ELEMENT	SUBELEMENT
BIRD	bird
	diving
	gull_tern
	pelagic
	raptor
	shorebird
	wading
	waterfowl
FISH	diadromous
	e_nursery
	e_resident
	freshwater
	m_benthic
	m_pelagic
HABITAT	sav
INVERTEBRATE	bivalve
	crab
	echinoderm
	insect
	lobster
	shrimp
MARINE MAMMAL	dolphin
	pinniped
	whale
REPTILE	turtle

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

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

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

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

NOTE: There are no BREED variables for HABITAT.

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

Due to the complexity of the relational database model, the biological data items are post processed into a flat file format. This file is entitled BIOFILE and it may be used in place of the relational files to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN_SPEC, S_F, T_E, NHP,

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DATE_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G_SOURCE, S_SOURCE and BREED. All of these items are the same as their counterparts in the individual files described above, except the BREED1-BREED5 items. This is a newly generated variable used to link to the BREED_DT file, a modified, more compact version of the aforementioned BREED file. Breed1-Breed5 give a text summary of when each life stage occurs within that polygon. The life stages referred to are the same as those listed in the previous table. The link to the BIOFILE may be made through BIO_LUT using ID to link to RARNUM, or it may be linked directly to the RARNUM in each of the biology cover's attribute files. As mentioned, BREED_DT is an auxiliary support file to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED_DT is the BREED item. A second supporting data file is SOURCE. This is the same as the source file described above and the link from the flat file is both G_SOURCE and S_SOURCE.

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

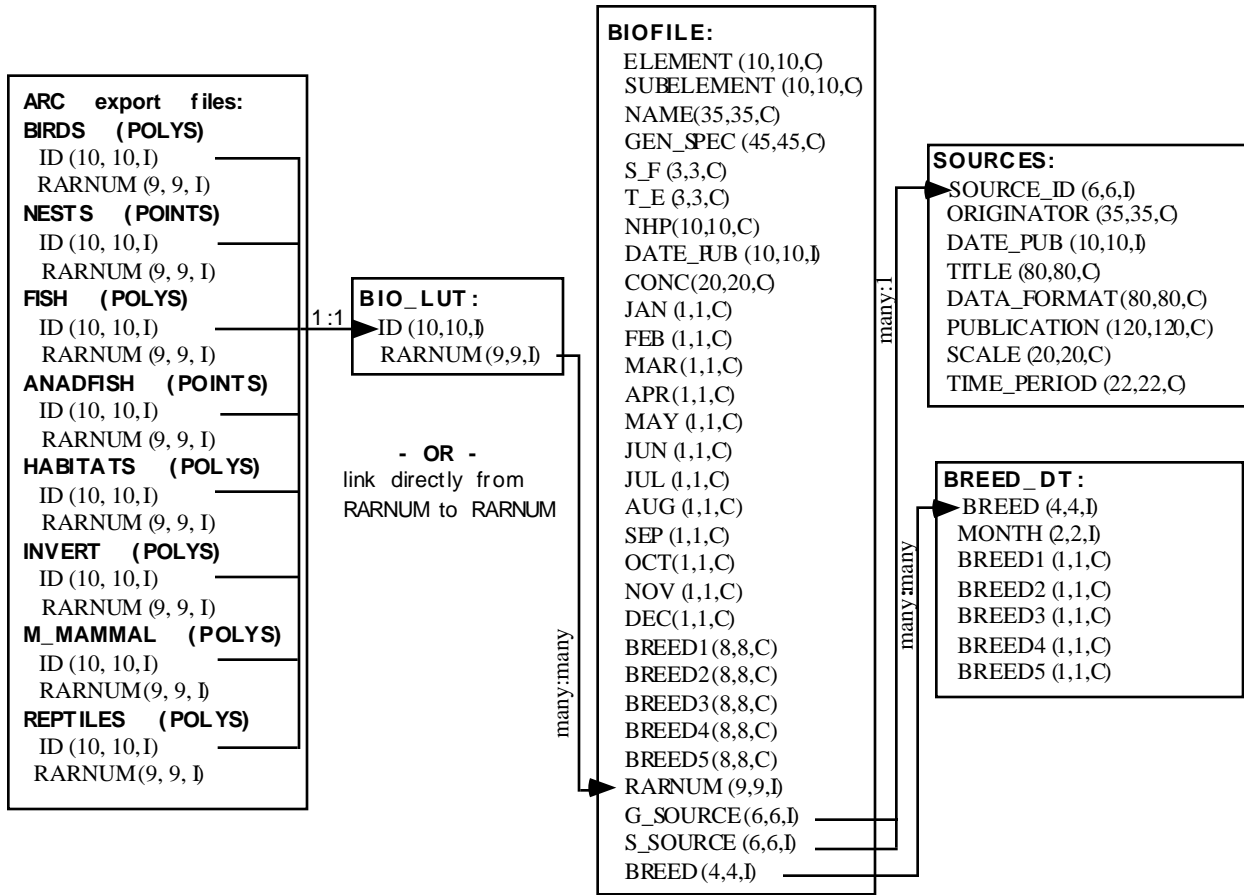


FIGURE 2. Relationship of the BIOFILE to the biological covers and the supplementary BREED_DT and SOURCES data tables.

Human-Use Resources:

Several human-use, or socio-economic, features are included in ESI atlases. Entity points and complete chains (arcs) are digitized into the coverage SOCECON and managed area polygonal data are stored in the MGT coverage. Both data sets are 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 (45), element number (SOCECON = 10 and MGT = 11), and unique record number.

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

Entity Points		Polygons	
Feature	TYPE	Feature	TYPE
Access	A2	Marine Sanctuary/Reserve	MS
Airport	A	National Park	NP
Aquaculture	AQ	State Park/Forest	P
Boat Ramp	BR	Wildlife Refuge/WMA	WR
Coast Guard	CG		
Commercial Fishing	CF		
Ferry	F		
Historical Site	HS		
Lock or Dam	LD		
Marina/Anchorage	M		
Recreational Beach	B		
Recreational Fishing	RF		
State Park/Forest	P		
Management Area (ACEC)	MA		
Washover	WO		
Water Intake	WI		
Complete Chains			
Feature	TYPE		
Bridge	R		

The table SOC_DAT contains the human-use number (HUNUM), feature type (TYPE), name of the facility (NAME), owner/manager or contact person (CONTACT), telephone number (PHONE), geographic source (G_SOURCE), and attribute source (A_SOURCE). Detailed contact information is only included for select management features, where available. Source information is included for all features.

2.4. POSITIONAL ACCURACY

2.4.1. HORIZONTAL POSITIONAL ACCURACY

2.4.1.1. HORIZONTAL POSITIONAL ACCURACY REPORT:

The ESI data use USGS 1:25,000 topographic quadrangles as the base map. It is estimated that the ESI shoreline classification has a minimum mapping unit of 50 feet. The biological data sets are developed primarily using regional experts who estimate concentration areas. Unlike shorelines, which maintain relative spatial stability through time, the biological data by nature vary in distribution across the landscape. Therefore, the 1:25,000 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: ANADFISH

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
MASSGIS, EOE, Boston, MA	1997	Massachusetts Anadromous Fish Datalayer	Digital Points	MASSGIS, 20 Somerset Street, Boston, MA 02108, (617) 727-5229	25000	1997
Bergan, J., DFWELE (Westboro)	1998	Sea Run Brook and Brown Trout Steams and Seasonality	Expert Knowledge	N/A	N/A	1998
Brady, P., DMF (Pocasset)	1998	Anadromous Fish Seasonality for the South Shore (Cape Cod to Rhode Island)	Expert Knowledge	N/A	N/A	1998

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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
Iwanowicz, R., DMF (Newburyport)	1998	Anadromous Fish Seasonality for the North Shore (New Hampshire to Boston)	Expert Knowledge	N/A	N/A	1998

2.5.1. SOURCE INFORMATION:

Coverage or theme name: BIRDS

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Massachusetts Natural Heritage and Endangered Species Program	1993	Coastal Rare Species Habitats Sensitive to Oil Spills	Hardcopy Maps	DFWELE GIS, Contact (617) 727-1614	100000	1993
Harrington, B. and E. Perry	1995	Important Shorebird Staging Sites Meeting Western Hemisphere Shorebird Reserve Network Criteria in the U.S.	Text Document	U.S. Department of the Interior, Fish and Wildlife Service, 121 pp.	N/A	Unknown
Blodgett, B., DFWELE/DFW	1997	Bird Updates to NHESP Coastal Rare Species Habitats Sensitive to Oil Spills Map	Expert Knowledge	N/A	N/A	1997

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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 Denomi- nator	2.5.1.4 Source Time Period
Burrell, D., DFWELE/DFW	1997	Potential Waterfowl Concentration Areas for Cape Cod Bay, Nantucket Sound, and Vicinity	Expert Knowledge	N/A	N/A	1997
Gault, C., Waquoit Bay NEER	1997	Miscellaneous Resources for Waquoit Bay National Estuarine Research Reserve	Expert Knowledge	N/A	N/A	1997
Harrington, B., Manomet Observatory	1997	Shorebird Concentration Areas of Major Importance for Coastal Massachusetts	Expert Knowledge	N/A	N/A	1997
Heusmann, H., DFWELE/DFW	1997	Potential Waterfowl Concentration Areas and Other Resources for Coastal Massachusetts	Expert Knowledge	N/A	N/A	1997
Packard, R. and J. Hutchinson, DEP-ER	1998	Various Resources for Massachusetts Coastal Area	Expert Knowledge	N/A	N/A	1998
Parsons, K. , Manomet Observatory	1998	Wading Bird Forging Site Locations for Massachusetts Coastal Area	Expert Knowledge	N/A	N/A	1998

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2.5.1. SOURCE INFORMATION:

Coverage or theme name: ESI

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
NOAA	1994	Color Vertical Aerial Photography	Aerial Photography	NOAA	48000	1994
Research Planning, Inc. Overflight	1998	Overflight/ Photointerpreted Maps	Hardcopy Maps	NOAA	25000	1998

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
Jury, S.H., J.D. Field, S.L. Stone, D.M. Nelson, and M.E. Monaco	1994	Distribution and Abundance of Fishes and Invertebrates in North Atlantic Estuaries	Text Document	ELMR Report No. 13, NOAA/NOS Strategic Environmental Assessments Division, Silver Spring, MD 221 pp.	N/A	1994
NOAA, SEA Division and Massachusetts DMF, DFWELE	1998	Estuarine Living Marine Resources Database	Digital Polygons	Database Contact: Mark Monaco and D.M. Nelson	Varies	1996-1998
Howe, A., DMF, DFWELE	1998	Black Sea Bass Distribution for Massachusetts Coastal Area	Expert Knowledge	N/A	N/A	1998
Janik, D. and B. Gass, MCZM, NERO	1998	Various Socioeconomic and Biological Resources for Massachusetts Coastal Area	Expert Knowledge	N/A	N/A	1998

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
Massachusetts Department of Environmental Protection and NOAA Coastal Services Center	1998	Eelgrass and Associated Data for Massachusetts	Digital Polygons	NOAA Coastal Services Center, 2234 S. Hobson Avenue, Charleston, SC 29405	25000	1998

2.5.1. SOURCE INFORMATION:

Coverage or theme name: HYDRO

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
NOAA	1994	Color Vertical Aerial Photography	Hardcopy Maps	NOAA	48000	1994
MASSGIS, EOEA, Boston, MA	1997	Coastline	Digital Polygons	MASSGIS, 20 Somerset Street, Boston, MA 02108, (617) 727-5229	25000	1997
Research Planning, Inc. Overflight	1998	Overflight/ Photointerpreted Maps	Hardcopy Maps	NOAA	25000	1998

MASSACHUSETTS METADATA

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.	1998	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
Division of Marine Fisheries, DFWELE	1978	Shellfish Resources of the Massachusetts Coast 1978	Hardcopy Map	Massachusetts Coastal Zone Management, Boston, MA	250000	1978
Massachusetts Natural Heritage and Endangered Species program	1993	Coastal Rare Species Habitats Sensitive to Oil Spills	Hardcopy Maps	DFWELE GIS, Contact (617) 727-1614	100000	1993
Jury, S.H., J.D. Field, S.L. Stone, D.M. Nelson, and M.E. Monaco	1994	Distribution and Abundance of Fishes and Invertebrates in North Atlantic Estuaries	Text Document	ELMR Report No. 13, NOAA/NOS Strategic Environmental Assessments Division, Silver Spring, MD 221 pp.	N/A	1994
Stone, S.L., T.A. Lowery, J.D. Field, S.H. Jury, D.M. Nelson, and M.E. Monaco	1994	Distribution and Abundance of Fishes and Invertebrates in Mid-Atlantic Estuaries	Text Document	ELMR Report No. 12, NOAA/NOS Strategic Environmental Assessments Division, Silver Spring, MD 280 pp.	N/A	1994

MASSACHUSETTS 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 Denomi- nator	2.5.1.4 Source Time Period
NOAA, SEA Division and Massachusetts DMF, DFWELE	1998	Estuarine Living Marine Resources Database	Digital Polygons	Database Contact: Mark Monaco and D.M. Nelson	Varies	1996-1998
Metropolitan Area Planning Commission	1997	Various Resources for Massachusetts Coastal Zone	Expert Knowledge	N/A	N/A	1998
South Shore Shellfish Program, DFWELE, DMF	1997	Shellfish Beds, Harvest Areas, and Lease Sites for the S. Shore of Massachusetts	Expert Knowledge	Program Contacts: M. Hickey and F. Germano	N/A	1997
Goldstein, P., American Museum of Natural History	1998	Seasonality and Life-history of the Northeastern Beach Tiger Beetle	Expert Knowledge	N/A	N/A	1998
McKenna, S., MCZM, Barnstable	1998	Various Resources for Massachusetts Coastal Area	Expert Knowledge	N/A	N/A	1998
Roach, D., DFWELE	1998	Various Socioeconomic and Biological Resources for Massachusetts Coastal Area	Expert Knowledge	N/A	N/A	1998

MASSACHUSETTS METADATA

2.5.1. SOURCE INFORMATION:

Coverage or theme name: MGT

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Stellwagen Bank National Marine Sanctuary	1995	Boundary for Stellwagen Bank National Marine Sanctuary	Digital Polygon	U.S. Geological Service, Woods Hole Field Center, 384 Woods Hole Road, Quissett Campus, Woods Hole, MA 02543	25000	1995
Geist, M.A. (ed.)	1996	Waquoit Bay National Estuarine Research Reserve	Hardcopy Maps, Text Document	MDEM, Division of Forests and Parks-Region 1, Waquoit, MA 113 pp.	N/A	1996
MASSGIS, EOE, Boston, MA	1997	Protected and Recreational Open Space Datalayer	Digital Polygons	MASSGIS, 20 Somerset Street, Boston, MA 02108, (617) 727-5229	25000	1988-1997
U.S. Fish and Wildlife Service, Real Estate Division	1997	National Wildlife Refuge Boundaries for Region 5	Digital Polygons	U.S. Fish and Wildlife Service, Regional Office, Hadley, MA	Unknown	Unknown

2.5.1. SOURCE INFORMATION:

Coverage or theme name: M_MAMMAL

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denomi- nator	2.5.1.4 Source Time Period
Payne, P.M. and L.A. Selzer	1989	The Distribution, Abundance, and Selected Prey of the Harbor Seal, <i>Phoca vitulina concolor</i> , in Southern New England	Hardcopy Maps, Text Document	Marine Mammal Science 5(2), pp. 173-192	Unknown	1983-1986
Hain, J.H.W., et al.	1992	The Fin Whale, <i>Balaenoptera physalus</i> , in Waters of the NE US Continental Shelf	Hardcopy Maps, Text Document	Rep. International Whaling Commission, 42:653-669	Unknown	1966-1989
Massachusetts Natural Heritage and Endangered Species Program	1993	Coastal Rare Species Habitats Sensitive to Oil Spills	Hardcopy Maps	DFWELE GIS, Contact (617) 727-1614	100000	1993
Rough, V.	1995	Gray Seals in Nantucket Sound, Massachusetts, Winter and Spring 1994	Hardcopy Maps, Text Document	Final Report to the Marine Mammal Commission, Contract #T10155615, 28 pp.	Unknown	1994
Hain, J., NMFS/NEFSC (Principal Contact)	1996	Whale Sightings Distribution for Large-Whale TRT and CETAP Projects	Hardcopy Maps	National Marine Fisheries Service, Northeast Fisheries Science Center, Woods Hole, MA	Unknown	1978-1982, 1996

MASSACHUSETTS 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 Denomi- nator	2.5.1.4 Source Time Period
Heusmann, H., DFWELE/DFW	1997	Potential Waterfowl Concentration Areas a Other Resources for Coastal Massachusetts	Expert Knowledge	N/A	N/A	1997
Waring, G., NMFS/NEFSC	1997	Seal Haul-out Sites for Various Coastal Locations	Expert Knowledge	N/A	N/A	1997
Waring, G.T., D.L. Palka, K.D. Mullin, J.H.W. Hain, L.J. Hansen, and K.D. Bisack	1997	U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments- 1996	Hardcopy Maps, Text Document	NOAA Technical Memorandum NMFS-North- east Fisheries Science Center, 114 US Dept. of Commerce, NOAA, NEFSC, Woods Hole, MA, 250 pp.	Unknown	1996
Early, G., New England Aquarium	1998	Distribution and Abundance of Seal Haul- outs in Massachusetts	Expert Knowledge	N/A	N/A	1977- 1997
Janik, D. and B. Gass, MCZM, NERO	1998	Various Socioeconomic and Biological Resources for Massachusetts Coastal Area	Expert Knowledge	N/A	N/A	1998
Reynolds, M. and M. Adams, NPS, CCNSS	1998	Various Socioeconomic and Biological Resources for Massachusetts Coastal Area	Expert Knowledge	N/A	N/A	1998

2.5.1. SOURCE INFORMATION:

Coverage or theme name: NESTS

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
DFWELE, DFW	1995	Massachusetts Coastal Colonial Waterbird Inventory	Hardcopy Table	DFWELE, DFW, Westboro, MA	N/A	1994-1995
Blodgett, B., DFWELE/DFW	1997	Bird Updates to NHESP Coastal Rare Species Habitats Sensitive to Oil Spills Map	Expert Knowledge	N/A	N/A	1997

2.5.1. SOURCE INFORMATION:

Coverage or theme name: REPTILES

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Massachusetts Natural Heritage and Endangered Species Program	1993	Coastal Rare Species Habitats Sensitive to Oil Spills	Hardcopy Maps	DFWELE GIS, Contact (617) 727-1614	100000	1993
Reynolds, M. and M. Adams, NPS, CCNSS	1998	Various Socioeconomic and Biological Resources for Massachusetts Coastal Area	Expert Knowledge	N/A	N/A	1998

MASSACHUSETTS METADATA

2.5.1. SOURCE INFORMATION:

Coverage or theme name: SALINITY

2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
NOAA, SEA Division and Massachusetts DMF, DFWELE	1998	Estuarine Living Marine Resources Database	Digital Polygons	Database Contacts: Mark Monaco and D.M. Nelson	Varies	1996-1998

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
Rand McNally and Company	1992	Rand McNally Business Traveler's Road Atlas and Guide to Major Cities	Hardcopy Maps	Rand McNally and Company, Post Office Box 7600, Chicago, IL 60680, 128 pp.	1 inch = 10 miles	1992
MASSGIS, EOEA, Boston, MA	1997	Areas of Critical Environmental Concern	Digital Polygons	MASSGIS, 20 Somerset Street, Boston, MA 02108, (617) 727-5229	Various	1978-1995
Metropolitan Area Planning Commission	1997	Various Resources for Massachusetts Coastal Zone	Expert Knowledge	N/A	N/A	1998
Public Access Board, DFWELE	1997	Public Access Board Sites Data Layer	Digital Point	MASSGIS, 20 Somerset Street, Boston, MA 02108, (617) 727-5227	25000	Unknown
Research Planning, Inc.	1997	Overflight/ Photointerpreted Maps	Hardcopy Maps	NOAA	24000	1997

MASSACHUSETTS 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
Resource Management Project at UMass	1997	Land Use Data Layer	Digital Polygons	MASSGIS, 20 Somerset Street, Boston, MA 02108 (617) 727-5227	25000	1971-1992
Rhode Island-Southeastern Massachusetts Area Committee	1997	Rhode Island and Southeastern Massachusetts Area Contingency Plan (ACP)	Hardcopy Table	U.S. Coast Guard, Marine Safety Office, Providence, RI	N/A	1997
South Shore Shellfish Program, DFWELE	1997	Shellfish Beds, Harvest Areas, and Lease Sites for the S. Shore of Massachusetts	Expert Knowledge	Program Contacts: M. Hickey and F. Germano	N/A	1997
U.S. Geological Survey	Varies	USGS Topographic Quadrangles	Hardcopy Map	U.S. Geological Survey, Reston, VA	25000	Varies
Begley, M., MDEP, Providence	1998	Various Socioeconomic Resources for Massachusetts Coastal Area	Expert Knowledge	N/A	N/A	1998
Cooper, A. and H. Clish, MCZM	1998	Additional Access Locations for Massachusetts Coastal Area	Expert Knowledge	N/A	N/A	1998
Janik, D. and B. Gass, MCZM, NERO	1998	Various Socioeconomic and Biological Resources for Massachusetts Coastal Area	Expert Knowledge	N/A	N/A	1998
McKenna, S., MCZM, Barnstable	1998	Various Resources for Massachusetts Coastal Area	Expert Knowledge	N/A	N/A	1998

MASSACHUSETTS 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 Denomi- nator	2.5.1.4 Source Time Period
Packard, R. and J. Hutchinson, DEP-ER	1998	Various Resources for Massachusetts Coastal Area	Expert Knowledge	N/A	N/A	1998
Perkins, R., et al., MDEP-NERO	1998	Additional Socioeconomic Resources for Massachusetts Coastal Area	Expert Knowledge	N/A	N/A	1998
Plough, J. DMF, DFWELE	1998	Various Socioeconomic Resources for Massachusetts Coastal Area	Expert Knowledge	N/A	N/A	1998
Plymouth- Salisbury, Massachusetts Area Committee	1998	Draft Updates to the Plymouth to Salisbury, Massachusetts Area Contingency Plan (ACP)	Hardcopy Table	U.S. Coast Guard, Marine Safety Office, Boston, MA	N/A	1997-1998
Reynolds, M. and M. Adams, NPS, CCNSS	1998	Various Socioeconomic and Biological Resources for Massachusetts Coastal Area	Expert Knowledge	N/A	N/A	1998
Roach, D., DFWELE	1998	Various Socioeconomic and Biological Resources for Massachusetts Coastal Area	Expert Knowledge	N/A	N/A	1998

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
Steinitz, M., Massachusetts Historical Commission	1998	State Register of Historic Places Datalayer	Digital Points	Massachusetts Historical Commission, Office of the Secretary of the Common- wealth	24000 & 25000	Unknown
Zeroka, R., MCZM	1998	Additional Boat Ramp Locations for Massachusetts Coastal Area	Expert Knowledge	N/A	N/A	1998

2.5.2. PROCESS STEP

2.5.2.1. PROCESS DESCRIPTION:

The digitization of ESI, biological resources, and human-use resources is a complex and highly quality-controlled process. In order to facilitate digitizing, the entire study area was split into individual quadrangles using the map index coverage. The first layer of information digitized was the shoreline with ESI classification. The digital shoreline was attributed with the ESI classification during fieldwork, checked for completeness, topological and logical consistency, and edited for any errors using the original overflight maps. Any errors in the shoreline classification were updated prior to digitization of the biological and human-use layers. All data use the shoreline as the geographic reference so that there are no slivers in the geographic layers. The biological information was compiled onto 1:25,000 USGS topographic quadrangles using the data from regional specialists in the form of verbal discussions, maps, tables, charts, reports, and publications of resource distributions and seasonality. Concurrently, all digital data were imported, merged into the spatial data structure, and checked for completeness. The hardcopy data were digitized, merged with existing digital

data, checked using both digital and on-screen procedures, plotted, checked by the biological expert, edited to remove any errors, and plotted for review by the regional specialists. The reviewed maps were updated on the computer, checked once again, and plotted at final map scale. A team of specialists reviewed the entire series of maps, checked all data, and made final edits. The data were merged to form the study-wide layers that are described in this document. The data merging included a final quality control check where topological consistency, rules for geography, and database to geography were checked and validated for all relationships.

2.5.2.3. PROCESS DATE:

199702-199902

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:

W A

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
ANADFISH							96	
BIRDS	1	1,097	1,097	2,233	403,848			1,834
ESI	1	1,790	1,790	9,025	481,872			8,343
FISH	1	772	772	1,364	204,706			1,255
HABITATS	1	1,648	1,648	1,779	170,233			1,779
HYDRO	1	974	974	2,070	252,415	620		2,072
INDEX	1	66	66	245	5,224			180
INVERT	1	1,617	1,617	3,713	600,160			3,014
MGT	1	397	397	523	39,643			443
M_MAMMAL	1	80	80	231	69,643			211
NESTS							104	
REPTILES	1	74	74	156	37,810			144
SALINITY	1	1,138	1,138	1,951	251,401	620		1,702
SOCECON				92	131		3,325	1,057

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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 1983

4.1.4.2. ELLIPSOID NAME:

GRS 1980

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5.0. ENTITY AND ATTRIBUTE INFORMATION

5.1. DETAILED DESCRIPTION: ANADFISH

The data layer ANADROMOUS FISH contains the beginning points of anadromous fish runs in the Massachusetts coastal zone.

The beginning points of anadromous fish streams were mapped using a digital data set provided by MASSGIS and originally developed by DFWELE. For some locations, additional runs and species (sea-run brook and brown trout) were added to the digital records based on expert opinion. All sea-run brook trout locations were not depicted on the maps, due to the sensitivity of some small populations to over-harvest. At least 20 small sea-run brook trout streams along the Massachusetts coast were not mapped for this reason.

It is emphasized that only the beginning points of coastal anadromous runs are depicted in this atlas, indicating runs starting at the point shown and continuing upstream along the stream system in which the point occurs. Note that the sampling program from which the digital data set was generated focused on river herring (alewife and blueback herring) and not the other species included in the coverage. It is also cautioned that, although this data set is the best current representation of anadromous streams, it should not be considered definitive in determining the presence or absence of fish runs. Absence of anadromous run beginning points on the maps for any particular location does not necessarily suggest that anadromous runs do not occur there.

Finally, it should be noted that the seasonality and life-history information associated with the anadromous run starting points was not integrated with the ELMR fisheries data (described under the FISH data layer), and so information from the two data sets (ELMR and anadromous runs) may not always exactly correspond. Definitions for the various fish life-stages also differ slightly between the two data sets. Seasonality and lifestage time-periods for the anadromous runs were based on information provided by anadromous fish biologists from DFWELE. For the anadromous stream seasonality data: the lifestage “adult” refers to the overall time-period when adults are running upstream (ascending), spawning, and then descending the stream after spawning; the lifestage “spawning” refers to the actual spawning

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period, even though spawning may occur upstream of the ESI study area for some species and streams; “juvenile” refers to the time-period when juvenile fish are descending the stream during the pulsed “out-migration” period. If no pulsed out-migration occurs for a species, then juveniles are generally listed year round. The ELMR data life-stages refer to the time-period when any particular stage is present in the estuary and salinity zone indicated. As an example, the time-period when a “juvenile” fish is present in a portion of an estuary (based on ELMR data) may differ from the time-period when large numbers of juvenile fish are descending and exiting an anadromous stream or “out-migrating”.

Expert contacts for anadromous fish include the DFWELE Division of Marine Fisheries (978/282-0308–North Shore; 617/727-0394–South Shore) and the DFWELE Division of Fisheries and Wildlife (DFW) (508/792-7270–Inland). DFW should also be contacted for sea-run brook and brown trout information, including information for brook trout runs not depicted in this atlas.

The following ANADROMOUS FISH species (points) are found in the Massachusetts ESI atlas (although included in this data layer, note that American eel are actually catadromous):

SPECIES ID	NAME
84	Rainbow smelt
85	Alewife
86	Blueback herring
87	American shad
98	American eel
101	Shortnose sturgeon
102	Atlantic sturgeon
144	Atlantic salmon
145	White perch
500	Sea lamprey
501	Brown trout (sea run)
502	Brook trout (sea run)

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 atlas number (45), element number (32), 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

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: BIO_LUT

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

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>Attributes</u>	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 SOURCES

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
	BREED5	character
	RARNUM	integer
	G_SOURCE	integer
	S_SOURCE	integer
	BREED	integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

ELEMENT

5.1.2.2. ATTRIBUTE DEFINITION:

Major categories of biological data

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

BIRD	Birds
FISH	Fish
HABITAT	Habitats
INVERT	Invertebrates
M_MAMMAL	Marine Mammals
REPTILE	Reptiles

**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:

algae
amphibian
bird
bivalve
crab
diadromous
diving

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

e_nursery
e_resident
freshwater
gull_tern
insect
m_benthic
passerine
pinniped
plant
raptor
sav
shorebird
shrimp
turtle
wading
waterfowl
wetland

**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:

Alewife
American bittern
American black duck
American eel
American lobster
American oystercatcher

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

American plaice
American sand lance
American shad
Arctic tern
Atlantic cod
Atlantic herring
Atlantic jackknife clam
Atlantic mackerel
Atlantic menhaden
Atlantic rock crab
Atlantic salmon
Atlantic sturgeon
Atlantic surfclam
Atlantic tomcod
Atlantic white-sided dolphin
Bald eagle
Bay anchovy
Bay scallop
Black drum
Black sea bass
Black skimmer
Black-bellied plover
Black-crowned night-heron
Blue crab
Blue mussel
Blueback herring
Bluefish
Brant
Brook trout (sea run)
Brown trout (sea run)
Butterfish
Canada goose
Canvasback
Cattle egret
Channel catfish
Colonial waterbirds
Common eider
Common moorhen
Common tern

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Cownose ray
 Cunner
 Daggerblade grass shrimp
 Diamondback terrapin
 Diving ducks
 Double-crested cormorant
 Dunlin
 Eastern oyster
 Eelgrass
 Eiders
 Fin whale
 Fourspine stickleback
 Glossy ibis
 Goby
 Gray seal
 Great black-backed gull
 Great egret
 Green crab
 Green sea turtle
 Green urchin
 Grubby
 Haddock
 Harbor porpoise
 Harbor seal
 Harlequin duck
 Herring gull
 Hogchoker
 Hudsonian godwit
 Humpback whale
 Jonah crab
 Kemp's ridley sea turtle
 King rail
 Laughing gull
 Leach's storm-petrel
 Least bittern
 Least tern
 Lesser yellowlegs
 Little blue heron
 Loggerhead sea turtle

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Long-finned pilot whale
Longhorn sculpin
Mallard
Minke whale
Mullet
Mummichog
Ninespine stickleback
Northeastern beach tiger beetle
Northern kingfish
Northern pipefish
Northern quahog (hard clam)
Northern right whale
Northern searobin
Northern shrimp
Ocean pout
Ocean quahog
Oldsquaw
Osprey
Oyster toadfish
Pied-billed grebe
Pinfish
Piping plover
Pollock
Rainbow smelt
Red hake
Red knot
Red-breasted merganser
Rock gunnel
Roseate tern
Saddle-backed dolphin
Sanderling
Scaup
Scoters
Scup (porgy)
Sea lamprey
Sea scallop
Semipalmated sandpiper
Sevenspine bay shrimp
Sheepshead minnow

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Shorebirds
Short-billed dowitcher
Shorthorn sculpin
Shortnose sturgeon
Silver hake
Silversides
Skates
Smooth flounder
Snowy egret
Softshell clam
Spiny dogfish
Spot
Striped bass
Summer flounder
Tautog
Threespine stickleback
Wading birds
Waterfowl
Weakfish
White hake
White perch
Windowpane flounder
Winter flounder
Yellow perch
Yellow-crowned night-heron
Yellowtail flounder

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 brevirostrum
Acipenser oxyrhynchus
Alosa aestivalis
Alosa pseudoharengus
Alosa sapidissima
Ammodytes americanus
Anas platyrhynchos
Anas rubripes
Anchoa mitchilli
Anguilla rostrata
Apeltes quadracus
Arctica islandica
Ardea alba
Argopecten irradians
Aythya spp.
Aythya valisineria
Balaenoptera acutorostrata
Balaenoptera physalus
Botaurus lentiginosus
Branta bernicla
Branta canadensis
Brevoortia tyrannus
Bubulcus ibis
Calidris alba
Calidris alpina
Calidris canutus
Calidris pusilla
Callinectes sapidus
Cancer borealis
Cancer irroratus
Carcinus maenas
Caretta caretta
Centropristis striata
Charadrius melodus
Chelonia mydas
Cicindela dorsalis dorsalis

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Clangula hyemalis
Clupea harengus
Crangon septemspinosa
Crassostrea virginica
Cynoscion regalis
Cyprinodon variegatus
Delphinus delphis
Egretta caerulea
Egretta thula
Ensis directus
Eubalaena glacialis
Fundulus heteroclitus
Gadus morhua
Gallinula chloropus
Gasterosteus aculeatus
Globicephala melaena
Gobiosoma spp.
Haematopus palliatus
Haliaeetus leucocephalus
Halichoerus grypus
Hippoglossoides platessoides
Histrionicus histrionicus
Homarus americanus
Ictalurus punctatus
Ixobrychus exilis
Lagenorhynchus acutus
Lagodon rhomboides
Larus argentatus
Larus atricilla
Larus marinus
Leiostomus xanthurus
Lepidochelys kempii
Limnodromus griseus
Limosa haemastica
Macrozoarces americanus
Malaclemys terrapin
Megaptera novaeangliae
Melanitta spp.
Melanogrammus aeglefinus

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Menidia spp.
Menticirrhus saxatilis
Mercenaria mercenaria
Mergus serrator
Merluccius bilinearis
Microgadus tomcod
Morone americana
Morone saxatilis
Mugil spp.
Mya arenaria
Myoxocephalus aeneus
Myoxocephalus octodecemspinosus
Myoxocephalus scorpius
Mytilus edulis
Nyctanassa violacea
Nycticorax nycticorax
Oceanodroma leucorhoa
Opsanus tau
Osmerus mordax
Palaemonetes pugio
Pandalus borealis
Pandion haliaetus
Paralichthys dentatus
Peprilus triacanthus
Perca flavescens
Petromyzon marinus
Phalacrocorax auritus
Phoca vitulina
Phocoena phocoena
Pholis gunnellus
Placopecten magellanicus
Plegadis falcinellus
Pleuronectes americanus
Pleuronectes ferrugineus
Pleuronectes putnami
Pluvialis squatarola
Podilymbus podiceps
Pogonias cromis
Pollachius virens

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Pomatomus saltatrix
Prionotus carolinus
Pungitius pungitius
Raja spp.
Rallus elegans
Rhinoptera bonasus
Rynchops niger
Salmo salar
Salmo trutta (sea run)
Salvelinus fontinalis (sea run)
Scomber scombrus
Scophthalmus aquosus
Somateria mollissima
Somateria spp.
Spisula solidissima
Squalus acanthias
Stenotomus chrysops
Sterna antillarum
Sterna dougallii dougallii
Sterna hirundo
Sterna paradisaea
Strongylocentrotus droebachiensis
Syngnathus fuscus
Tautoga onitis
Tautogolabrus adspersus
Trinectes maculatus
Tringa flavipes
Urophycis chuss
Urophycis tenuis
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, NMFS, Massachusetts DFWELE

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, NMFS, Massachusetts DFWELE

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

NHP

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NHP

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:

G1	Critically imperiled
G1G2	Range rank, critically imperiled to imperiled
G1T1	Critically imperiled species and subspecies
G2	Imperiled
G2G3	Range rank, imperiled to vulnerable
G2T1	Imperiled species, critically imperiled subspecies
G3	Vulnerable
G3T2	Vulnerable species, imperiled subspecies
G4	Apparently secure
G4G5	Range rank, apparently secure to secure
G4T1	Apparently secure species, critically imperiled subspecies
G4T2	Apparently secure species, imperiled subspecies
G4T2T3	Apparently secure species, subspecies rang rank of imperiled to vulnerable
G4T3	Apparently secure species, vulnerable subspecies
G5	Secure
G5T1	Secure species, critically imperiled subspecies
G5T1T2	Secure species, subspecies range rank of critically imperiled to imperiled
G5T2	Secure species, imperiled subspecies
G5T2?	Secure species, imperiled subspecies, inexact rank

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NHP

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

ordinal

5.1.2.1. ATTRIBUTE LABEL:

DATE_PUB

5.1.2.2. ATTRIBUTE DEFINITION:

Date of NHP listing

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

31998

91995

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

CONC

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

JAN

5.1.2.2. ATTRIBUTE DEFINITION:

Present in January

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

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.

MASSACHUSETTS METADATA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

X

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

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:**

X

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

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.

MASSACHUSETTS METADATA

**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.

MASSACHUSETTS METADATA

**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 = spawning;
 if ELEMENT = REPTILE then BREED1 = nesting;
 if ELEMENT = M_MAMMAL then BREED1 = mating

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

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 = eggs;
 if ELEMENT = INVERT then BREED2 = eggs;
 if ELEMENT = REPTILE then BREED2 = hatching;
 if ELEMENT = M_MAMMAL then BREED2 = calving

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

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 = FISH then BREED3 = larvae;

if ELEMENT = INVERT then BREED3 = larvae;

if ELEMENT = REPTILE then BREED3 = interesting;

if ELEMENT = M_MAMMAL then BREED3 = pupping

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

JUL-DEC	3 character abbreviation of start and end month of breed3 activities
-	Not Occurring
N/A	No breed3 activities for this element

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE

DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED4

5.1.2.2. ATTRIBUTE DEFINITION:

Species' breeding or life stage textual summary where:

if ELEMENT = BIRD then BREED4 = fledging;

if ELEMENT = FISH then BREED4 = juveniles;

if ELEMENT = INVERT then BREED4 = juveniles;

if ELEMENT = REPTILE then BREED4 = juveniles;
 if ELEMENT = M_MAMMAL then BREED4 = molting

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

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

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED5

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

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

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

G_SOURCE

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique number

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

S_SOURCE

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique number

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique number

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

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: BIORES

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

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
<u>Attributes</u>	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, or if listing a concentration value or number was not appropriate.

“Potential” was used in a few cases (13) where bird concentrations are suspected to occur, but have not been confirmed. “Historic” is also used for colonial waterbird colonies where no nesting birds were recorded during 1994-1995 surveys. “Historic” colonies were shown on the maps because they could be used in the future by nesting birds. For other colonial waterbird nesting points, the numbers of nests recorded during 1994-1995 surveys were not listed at the request of state wildlife biologists. Nesting concentrations at any particular site may fluctuate seasonally and annually based on local or regional conditions, or other factors.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

POTENTIAL
LOW
LOW-MODERATE
MODERATE
MODERATE-HIGH
HIGH
VERY HIGH
HISTORIC
1-N

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

Potential
Low
Low-moderate
Moderate
Moderate-high
High
Very high
Historic
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:

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:**

1-33

**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:

G_SOURCE

5.1.2.2. ATTRIBUTE DEFINITION:

Geographic source identifier that links to the SOURCES data table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique number

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

S_SOURCE

5.1.2.2. ATTRIBUTE DEFINITION:

Seasonality source identifier that links to the SOURCES data table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique number

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

ELEMENT

5.1.2.2. ATTRIBUTE DEFINITION:

Major categories of biological data

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

BIRD	Birds
FISH	Fish
HABITAT	Habitats
INVERT	Invertebrates
M_MAMMAL	Marine Mammals
REPTILE	Reptiles

**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

5.1. DETAILED DESCRIPTION: BIRDS

Birds are divided into several species subgroups based on taxonomy, morphology, behavior, and oil spill vulnerability and sensitivity. These selected species were included either because of their likelihood of impact by an oil spill, or their special protection status as threatened or endangered. The major types of bird areas depicted in this atlas include: resident and migratory waterfowl concentration areas; migratory shorebird concentration areas; coastal nesting areas for threatened, endangered, and special concern species; and colonial waterbird nesting sites (for seabirds and wading birds). For certain species, such as the endangered roseate tern, other concentration areas (in addition to nesting sites) were depicted when known, such as major feeding areas and migratory staging sites.

Although birds are a major component of the Massachusetts ESI, large widespread or dispersed distributions of offshore birds are not mapped. In general, major coastal embayments such as Nantucket Sound, the entire offshore area within three to four miles of land, and all offshore shoals and banks beyond can be important areas for large numbers of seabirds and certain waterfowl. Similarly, waterfowl can also be abundant in the small bays and coastal ponds during November through February, although the numbers of birds using particular areas may be highly variable.

Expert contacts for coastal and marine birds in Massachusetts include the DFWELE State Ornithologist (508/792-7270, ext. 152); the DFWELE Waterfowl Office (508/792-7270); and the Manomet Observatory for Conservation Sciences (508/224-6521).

For birds, concentration is indicated as “Very High”, “High”, “Moderate”, or “Low”, or as a numerical value representing the number of individuals or breeding pairs occurring in a polygon. “Potential” has been used in a few cases (13) where bird concentrations are suspected to occur, but have not been confirmed. Nesting concentrations at any particular site may fluctuate seasonally and annually based on local or regional conditions, or other factors. Numerical concentration values are mainly used for some waterfowl concentrations (number of individuals) and for piping plover nest sites (≥ 5 or < 5 breeding pairs).

MASSACHUSETTS METADATA

For birds, note that nesting refers to the entire nesting period, including laying, hatching, and fledging.

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

SPECIES ID	NAME
8	Double-crested cormorant
12	Canada goose
13	Brant
16	Mallard
21	Canvasback
27	Oldsquaw
28	Harlequin duck
33	Red-breasted merganser
38	Herring gull
45	Common tern
59	Lesser yellowlegs
60	Red knot
63	Dunlin
64	Short-billed dowitcher
67	Sanderling
71	Black-bellied plover
76	Bald eagle
77	Osprey
80	Arctic tern
86	Least tern
87	Little blue heron
88	Great egret
89	Snowy egret
90	Black-crowned night-heron
92	Great black-backed gull
95	Roseate tern
98	Laughing gull
133	Black skimmer
153	Piping plover
156	Semipalmated sandpiper
178	Least bittern
179	Pied-billed grebe
184	King rail
185	American bittern
186	American black duck
192	Common moorhen
289	Hudsonian godwit
299	Scaup
302	Scoters

SPECIES ID	NAME
1002	Shorebirds
1003	Waterfowl
1004	Wading birds
1014	Diving ducks
1020	Eiders

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 (45), 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

MASSACHUSETTS METADATA

**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: BREED

The data table BREED identifies the life stages and abundances, by month, for each species. (There are no breed activities used for the HABITAT element.)

5.1.1. ENTITY TYPES:

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

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

EL_SPE_SEA

5.1.2.2. ATTRIBUTE DEFINITION:

Concatenation of the first character of the ELEMENT, 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 = spawning;

if EL_SPE_SEA contains "R" then BREED1 = nesting;

if EL_SPE_SEA contains "M" then BREED1 = mating

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

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 = eggs;
 if EL_SPE_SEA contains "I" then BREED2 = eggs;
 if EL_SPE_SEA contains "R" then BREED2 = hatching;
 if EL_SPE_SEA contains "M" then BREED2 = calving

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

N	Not occurring
Y	Occurring

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE

DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED3

5.1.2.2. ATTRIBUTE DEFINITION:

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

if EL_SPE_SEA contains "F" then BREED4 = juveniles;

if EL_SPE_SEA contains "I" then BREED4 = juveniles;

if EL_SPE_SEA contains "R" then BREED4 = juveniles;

if EL_SPE_SEA contains "M" then BREED4 = molting

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

N	Not occurring
Y	Occurring

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED5

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

N
Y

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

Not occurring
Occurring

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: BREED_DT

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

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:

Attributes

5.1.1.2. ENTITY TYPE DEFINITION:

BREED integer
 MONTH integer
 BREED1 character
 BREED2 character
 BREED3 character
 BREED4 character
 BREED5 character

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

BREED

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

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 = spawning;
 if EL_SPE_SEA contains "R" then BREED1 = nesting;
 if EL_SPE_SEA contains "M" then BREED1 = mating

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

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

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

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

BREED2

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

N	Not occurring
Y	Occurring
-	No 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 "F" then BREED3 = larvae;
 if EL_SPE_SEA contains "I" then BREED3 = larvae;
 if EL_SPE_SEA contains "R" then BREED3 = interesting;
 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;
 if EL_SPE_SEA contains "F" then BREED4 = juveniles;
 if EL_SPE_SEA contains "I" then BREED4 = juveniles;
 if EL_SPE_SEA contains "R" then BREED4 = juveniles;
 if EL_SPE_SEA contains "M" then BREED4 = molting

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

N
Y
-

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

Not occurring
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

5.1.2.1. ATTRIBUTE LABEL:

BREED5

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

N
Y
-

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

Not occurring
Occurring
No Breed5 activity for this element

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

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: ESI

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

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<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 intertidal habitats of Massachusetts were originally mapped during overflights conducted in the spring of 1980. They were updated onto 1:25,000 USGS topographic maps by an experienced coastal geologist in September 1997 using 1:48,000 color vertical aerial photography produced in 1994 by NOAA, Remote Sensing Division and National Geodetic Survey (to view these photographs and associated metadata on-line, go to "<http://coast.mit.edu/>"). A series of overflights were conducted on 22-25 September to verify the shoreline classification, using fixed-wing aircraft flown at elevations of 500-1,000 feet and slow air speed. Air support was provided by the USCG.

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

- 1) Shoreline type (substrate, grain size, tidal elevation, origin)
- 2) Exposure to wave and tidal energy
- 3) Biological productivity and sensitivity
- 4) Ease of cleanup

All of these factors are used to determine the relative sensitivity of intertidal habitats. Key to the sensitivity ranking is an understanding of the relationships between: physical processes; substrate; shoreline type; product type; fate and effect; and sediment transport patterns. The intensity of energy expended upon a shoreline by wave action, tidal currents, and river currents directly affects the persistence of stranded oil. The need for shoreline cleanup activities is determined, in part, by the slowness of natural processes in removal of oil stranded on the shoreline.

These concepts have been used in the development of the ESI, which ranks shoreline environments as to their relative sensitivity to oil spills, potential biological injury, and ease of cleanup. Generally speaking, areas exposed to high levels of physical energy, such as wave action and tidal currents, and low biological activity rank low on the scale, whereas sheltered areas with associated high biological activity have the highest ranking. A comprehensive shoreline habitat ranking system has been developed for the entire United States. The shoreline habitats delineated in Massachusetts are listed below in order of increasing sensitivity to spilled oil.

- 1A) Exposed Rocky Shores
- 1B) Exposed, Solid Man-made Structures
- 2A) Exposed Wave-cut Platforms in Bedrock
- 3A) Fine-to Medium-grained Sand Beaches
- 3B) Scarps and Steep Slopes in Sand
- 4) Coarse-grained Sand Beaches
- 5) Mixed Sand and Gravel Beaches
- 6A) Gravel Beaches
- 6B) Riprap
- 7) Exposed Tidal Flats
- 8A) Sheltered Rocky Shores
- 8B) Sheltered, Solid Man-made Structures
- 8C) Sheltered Riprap
- 9A) Sheltered Tidal Flats
- 9B) Vegetated Low Banks
- 10A) Salt- and Brackish-water Marshes
- 10B) Freshwater Marshes
- 10C) Swamps

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. 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.

MASSACHUSETTS METADATA

<p>5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:</p>	<p>5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:</p>
1A	Exposed Rocky Shores
1A/2A	Exposed Rocky Shores/Exposed Wave-cut Platforms in Bedrock
1A/2A/5	Exposed Rocky Shores/Exposed Wave-cut Platforms in Bedrock/Mixed Sand and Gravel Beaches
1A/2A/7	Exposed Rocky Shores/Exposed Wave-cut Platforms in Bedrock/Exposed Tidal Flats
1A/2A/9A	Exposed Rocky Shores/Exposed Wave-cut Platforms in Bedrock/Sheltered Tidal Flats
1A/4	Exposed Rocky Shores/Coarse-grained Sand Beaches
1A/5	Exposed Rocky Shores/Mixed Sand and Gravel Beaches
1A/6A	Exposed Rocky Shores/Gravel Beaches
1A/7	Exposed Rocky Shores/Exposed Tidal Flats
1A/9A	Exposed Rocky Shores/Sheltered Tidal Flats
1A/10A/7	Exposed Rocky Shores/Salt- and Brackish-water Marshes/Exposed Tidal Flats
1B	Exposed, Solid Man-made Structures
1B/2A	Exposed, Solid Man-made Structures/Exposed Wave-cut Platforms in Bedrock
1B/2A/5	Exposed, Solid Man-made Structures/Exposed Wave-cut Platforms in Bedrock/Mixed Sand and Gravel Beaches
1B/2A/7	Exposed, Solid Man-made Structures/Exposed Wave-cut Platforms in Bedrock/Exposed Tidal Flats
1B/4	Exposed, Solid Man-made Structures/Coarse-grained Sand Beaches
1B/4/2A	Exposed, Solid Man-made Structures/Coarse-grained Sand Beaches/Exposed Wave-cut Platforms in Bedrock
1B/4/7	Exposed, Solid Man-made Structures/Coarse-grained Sand Beaches/Exposed Tidal Flats
1B/4/9A	Exposed, Solid Man-made Structures/Coarse-grained Sand Beaches/Sheltered Tidal Flats
1B/5	Exposed, Solid Man-made Structures/Mixed Sand and Gravel Beaches
1B/5/7	Exposed, Solid Man-made Structures/Mixed Sand and Gravel Beaches/Exposed Tidal Flats
1B/6A	Exposed, Solid Man-made Structures/Gravel Beaches
1B/6B	Exposed, Solid Man-made Structures/Riprap
1B/6B/2A	Exposed, Solid Man-made Structures/Riprap/Exposed Wave-cut Platforms in Bedrock

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1B/6B/4	Exposed, Solid Man-made Structures/Riprap/Coarse-grained Sand Beaches
1B/6B/5	Exposed, Solid Man-made Structures/Riprap/Mixed Sand and Gravel Beaches
1B/6B/7	Exposed, Solid Man-made Structures/Riprap/Exposed Tidal Flats
1B/6B/9A	Exposed, Solid Man-made Structures/Riprap/Sheltered Tidal Flats
1B/7	Exposed, Solid Man-made Structures/Exposed Tidal Flats
1B/9A	Exposed, Solid Man-made Structures/Sheltered Tidal Flats
1B/10A	Exposed, Solid Man-made Structures/Salt- and Brackish-water Marshes
1B/10A/9A	Exposed, Solid Man-made Structures/Salt- and Brackish-water Marshes/Sheltered Tidal Flats
2A	Exposed Wave-cut Platforms in Bedrock
2A/5	Exposed Wave-cut Platforms in Bedrock/Mixed Sand and Gravel Beaches
2A/7	Exposed Wave-cut Platforms in Bedrock/Exposed Tidal Flats
2A/9A	Exposed Wave-cut Platforms in Bedrock/Sheltered Tidal Flats
3A	Fine-to Medium-grained Sand Beaches
3A/2A	Fine-to Medium-grained Sand Beaches/Exposed Wave-cut Platforms in Bedrock
3A/7	Fine-to Medium-grained Sand Beaches/Exposed Tidal Flats
3A/9A	Fine-to Medium-grained Sand Beaches/Sheltered Tidal Flats
3B	Scarps and Steep Slopes in Sand
3B/4	Scarps and Steep Slopes in Sand/Coarse-grained Sand Beaches
3B/4/7	Scarps and Steep Slopes in Sand/Coarse-grained Sand Beaches/Exposed Tidal Flats
3B/5	Scarps and Steep Slopes in Sand/Mixed Sand and Gravel Beaches
3B/5/2A	Scarps and Steep Slopes in Sand/Mixed Sand and Gravel Beaches/Exposed Wave-cut Platforms in Bedrock
3B/5/7	Scarps and Steep Slopes in Sand/Mixed Sand and Gravel Beaches/Exposed Tidal Flats

MASSACHUSETTS METADATA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
3B/5/9A	Scarps and Steep Slopes in Sand/Mixed Sand and Gravel Beaches/Sheltered Tidal Flats
3B/6A	Scarps and Steep Slopes in Sand/Gravel Beaches
3B/6A/2A	Scarps and Steep Slopes in Sand/Gravel Beaches/Exposed Wave-cut Platforms in Bedrock
3B/6A/7	Scarps and Steep Slopes in Sand/Gravel Beaches/Exposed Tidal Flats
3B/6B/5	Scarps and Steep Slopes in Sand/Riprap/Mixed Sand and Gravel Beaches
3B/6B/6A	Scarps and Steep Slopes in Sand/Riprap/Gravel Beaches
3B/6B/7	Scarps and Steep Slopes in Sand/Riprap/Exposed Tidal Flats
3B/7	Scarps and Steep Slopes in Sand/Exposed Tidal Flats
3B/9A	Scarps and Steep Slopes in Sand/Sheltered Tidal Flats
3B/10A	Scarps and Steep Slopes in Sand/Salt- and Brackish-water Marshes
3B/10A/9A	Scarps and Steep Slopes in Sand/Salt- and Brackish-water Marshes/Sheltered Tidal Flats
4	Coarse-grained Sand Beaches
4/2A	Coarse-grained Sand Beaches/Exposed Wave-cut Platforms in Bedrock
4/7	Coarse-grained Sand Beaches/Exposed Tidal Flats
4/9A	Coarse-grained Sand Beaches/Sheltered Tidal Flats
4/10A/7	Coarse-grained Sand Beaches/Salt- and Brackish-water Marshes/Exposed Tidal Flats
5	Mixed Sand and Gravel Beaches
5/2A	Mixed Sand and Gravel Beaches/Exposed Wave-cut Platforms in Bedrock
5/7	Mixed Sand and Gravel Beaches/Exposed Tidal Flats
5/9A	Mixed Sand and Gravel Beaches/Sheltered Tidal Flats
5/10A	Mixed Sand and Gravel Beaches/Salt- and Brackish-water Marshes
6A	Gravel Beaches
6A/2A	Gravel Beaches/Exposed Wave-cut Platforms in Bedrock
6A/7	Gravel Beaches/Exposed Tidal Flats
6A/9A	Gravel Beaches/Sheltered Tidal Flats
6B	Riprap
6B/2A	Riprap/Exposed Wave-cut Platforms in Bedrock

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
6B/3A 6B/3A/9A	Riprap/Fine-to Medium-grained Sand Beaches Riprap/Fine-to Medium-grained Sand Beaches/Sheltered Tidal Flats
6B/4 6B/4/2A	Riprap/Coarse-grained Sand Beaches Riprap/Coarse-grained Sand Beaches/Exposed Wave-cut Platforms in Bedrock
6B/4/7	Riprap/Coarse-grained Sand Beaches/Exposed Tidal Flats
6B/5 6B/5/2A	Riprap/Mixed Sand and Gravel Beaches Riprap/Mixed Sand and Gravel Beaches/Exposed Wave- cut Platforms in Bedrock
6B/5/7	Riprap/Mixed Sand and Gravel Beaches/Exposed Tidal Flats
6B/6A 6B/6A/2A	Riprap/Gravel Beaches Riprap/Gravel Beaches/Exposed Wave-cut Platforms in Bedrock
6B/6A/7	Riprap/Gravel Beaches/Exposed Tidal Flats
6B/7	Riprap/Exposed Tidal Flats
6B/9A	Riprap/Sheltered Tidal Flats
6B/10A 6B/10A/9A	Riprap/Salt- and Brackish-water Marshes Riprap/Salt- and Brackish-water Marshes/Sheltered Tidal Flats
8A	Sheltered Rocky Shores
8A/5 8A/5/9A	Sheltered Rocky Shores/Mixed Sand and Gravel Beaches Sheltered Rocky Shores/Mixed Sand and Gravel Beaches/ Sheltered Tidal Flats
8A/7	Sheltered Rocky Shores/Exposed Tidal Flats
8A/9A	Sheltered Rocky Shores/Sheltered Tidal Flats
8B	Sheltered, Solid Man-made Structures
8B/4	Sheltered, Solid Man-made Structures/Coarse-grained Sand Beaches
8B/6B/9A	Sheltered, Solid Man-made Structures/Riprap/Sheltered Tidal Flats
8B/7	Sheltered, Solid Man-made Structures/Exposed Tidal Flats
8B/8A	Sheltered, Solid Man-made Structures/Sheltered Rocky Shores
8B/8C	Sheltered, Solid Man-made Structures/Sheltered Riprap
8B/8C/7	Sheltered, Solid Man-made Structures/Sheltered Riprap/ Exposed Tidal Flats

MASSACHUSETTS METADATA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
8B/8C/9A	Sheltered, Solid Man-made Structures/Sheltered Riprap/ Sheltered Tidal Flats
8B/9A	Sheltered, Solid Man-made Structures/Sheltered Tidal Flats
8B/9B	Sheltered, Solid Man-made Structures/Vegetated Low Banks
8B/10A	Sheltered, Solid Man-made Structures/Salt- and Brackish- water Marshes
8B/10A/7	Sheltered, Solid Man-made Structures/Salt- and Brackish- water Marshes/Exposed Tidal Flats
8B/10A/9A	Sheltered, Solid Man-made Structures/Salt- and Brackish- water Marshes/Sheltered Tidal Flats
8C	Sheltered Riprap
8C/7	Sheltered Riprap/Exposed Tidal Flats
8C/9A	Sheltered Riprap/Sheltered Tidal Flats
9A	Sheltered Tidal Flats
9B	Vegetated Low Banks
9B/2A	Vegetated Low Banks/Exposed Wave-cut Platforms in Bedrock
9B/4	Vegetated Low Banks/Coarse-grained Sand Beaches
9B/4/9A	Vegetated Low Banks/Coarse-grained Sand Beaches/ Sheltered Tidal Flats
9B/5	Vegetated Low Banks/Mixed Sand and Gravel Beaches
9B/7	Vegetated Low Banks/Exposed Tidal Flats
9B/9A	Vegetated Low Banks/Sheltered Tidal Flats
9B/10A	Vegetated Low Banks/Salt- and Brackish-water Marshes
9B/10A/7	Vegetated Low Banks/Salt- and Brackish-water Marshes/ Exposed Tidal Flats
9B/10/9A	Vegetated Low Banks/Salt- and Brackish-water Marshes/ Sheltered Tidal Flats
10A	Salt- and Brackish-water Marshes
10A/3B	Salt- and Brackish-water Marshes/Scarps and Steep Slopes in Sand
10A/4	Salt- and Brackish-water Marshes/Coarse-grained Sand Beaches
10A/4/7	Salt- and Brackish-water Marshes/Coarse-grained Sand Beaches/Exposed Tidal Flats
10A/4/9A	Salt- and Brackish-water Marshes/Coarse-grained Sand Beaches/Sheltered Tidal Flats

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
10A/5	Salt- and Brackish-water Marshes/Mixed Sand and Gravel Beaches
10A/5/2A	Salt- and Brackish-water Marshes/Mixed Sand and Gravel Beaches/Exposed Wave-cut Platforms in Bedrock
10A/5/7	Salt- and Brackish-water Marshes/Mixed Sand and Gravel Beaches/Exposed Tidal Flats
10A/5/9A	Salt- and Brackish-water Marshes/Mixed Sand and Gravel Beaches/Sheltered Tidal Flats
10A/6A	Salt- and Brackish-water Marshes/Gravel Beaches
10A/7	Salt- and Brackish-water Marshes/Exposed Tidal Flats
10A/8A	Salt- and Brackish-water Marshes/Sheltered Rocky Shores
10A/9A	Salt- and Brackish-water Marshes/Sheltered Tidal Flats
10A/9B	Salt- and Brackish-water Marshes/Vegetated Low Banks
10B	Freshwater Marshes
10C	Swamps
10C/10A	Swamps/Salt- and Brackish-water Marshes
U	Unranked

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

ordinal

5.1.2.1. ATTRIBUTE LABEL:

LINE

5.1.2.2. ATTRIBUTE DEFINITION:

Type of geographic feature

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
B	Breakwater
E	Study area extent
F	Flat
H	Hydrography or stream features

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

I
P
S

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

Index
Pier
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:**

1
2
3
5
7
8
9

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

Digital
Overflight
Aerial photography
Digitized from scanned USGS
quadangles
Research Planning, Inc. (index)
Digitized from scanned NOAA
navigational chart
Digital arcs for Stellwagen Bank
NMS

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

ENVIR

5.1.2.2. ATTRIBUTE DEFINITION:

Regional environment

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

E
U

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

Estuarine
Unranked

**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:**

L
W

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

Land
Water

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: FISH

The data layer FISH contains polygons for fish species.

The fish species depicted in the Massachusetts ESI atlas include selected estuarine-dependent, diadromous, and marine species. Species of commercial, recreational, ecological, or conservation interest are included. The ESI data show the general distribution of fish by seasonal salinity zones in selected estuaries and coastal embayments. The data for fish distribution were collected and compiled by NOAA's Strategic Environmental Assessments Division with the assistance of Massachusetts DFWELE, under the Estuarine Living Marine Resources (ELMR) program. Fish distributions by estuary and salinity zone are referred to below as "ELMR data." A description of ELMR methodology for Massachusetts follows under a separate heading. Expert contacts for marine and estuarine fisheries include the DFWELE Division of Marine Fisheries (978/282-0308–North Shore; 508/563-1779–South Shore) and the NMFS (508/495-2000).

Note that ELMR fish distributions were not mapped for offshore marine waters. Likewise, certain estuaries and bays were not included in the ELMR data. Therefore, absence of ELMR data in various water bodies does not mean that important fish resources do not occur there.

General concentration information is left blank for the ELMR data because relative abundances are listed by month in the BREED data table. Each month where an ELMR species is present, a number code indicates the species abundance (1 = no information, 2 = rare, 3 = common, 4 = abundant, 5 = highly abundant). The ELMR abundance codes usually refer to juvenile life stages, even though other life stages may be present. If juveniles are not present, the abundances refer to adults, or larvae if adults and juveniles are not present.

Various life-history stages or activities associated with the ELMR fish data include: spawning (parturition for sharks); eggs; larvae; juveniles; and adults.

MASSACHUSETTS METADATA

The following FISH species (polygons) are found in the Massachusetts ESI atlas:

SPECIES ID	NAME
65	Bluefish
81	Spiny dogfish
84	Rainbow smelt
85	Alewife
86	Blueback herring
87	American shad
88	Winter flounder
89	Cunner
90	White hake
91	Threespine stickleback
92	Fourspine stickleback
95	Mummichog
97	Tautog
98	American eel
99	Atlantic tomcod
101	Shortnose sturgeon
102	Atlantic sturgeon
104	Striped bass
108	Summer flounder
110	Black sea bass
113	Bay anchovy
115	Atlantic menhaden
117	Pinfish
121	Spot
122	Black drum
138	Weakfish
144	Atlantic salmon
145	White perch
146	Atlantic herring
147	Atlantic mackerel
148	Silver hake
149	Atlantic cod
150	Scup (porgy)
152	Yellow perch
153	Northern kingfish
154	Pollock
155	Red hake
156	American sand lance
158	Butterfish
160	Windowpane flounder
199	Rock gunnel

SPECIES ID	NAME
201	Channel catfish
233	Ninespine stickleback
274	Sheepshead minnow
282	Mullet
335	Silversides
366	Hogchocker
467	American plaice
477	Cownose ray
478	Goby
479	Grubby
480	Haddock
481	Longhorn sculpin
482	Northern pipefish
483	Northern searobin
484	Ocean pout
485	Oyster toadfish
486	Shorthorn sculpin
487	Skates
488	Smooth flounder
489	Yellowtail flounder

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 (45), 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

Eelgrass distribution included in this atlas is based on recent digital coverages provided by the Massachusetts Department of Environmental Protection and NOAA’s Coastal Services Center in Charleston, SC.

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

SPECIES ID	NAME
1	Eelgrass

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 (45), 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:**

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. DETAILED DESCRIPTION: HYDRO

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

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<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 socio-economic features, and hydro or water features.

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

WATER_CODE

5.1.2.2. ATTRIBUTE DEFINITION:

Specifies a polygon as either water or land

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:

L	Land
U	Unranked
W	Water

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

LINE

5.1.2.2. ATTRIBUTE DEFINITION:

Type of geographic feature

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

B	Breakwater
F	Flat
H	Hydrography or stream features
I	Index
P	Pier
S	Shoreline

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

SOURCE_ID

5.1.2.2. ATTRIBUTE DEFINITION:

Data source for the ESI

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1	Digital
2	Overflight
3	Aerial photography
5	Digitized from scanned USGS quadangles
7	Research Planning, Inc. (index)
8	Digitized from scanned NOAA navigational chart
9	Digital arcs for Stellwagen Bank NMS

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: INDEX

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

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>GT-Polygons</u>	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 56

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 1:25,000 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 is also included in this field

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

BOSTON NORTH, MA. (1985)
BOSTON SOUTH, MA. (1987)
CHATHAM, MA. (1974)
COTUIT, MA. (1974)
CUTTYHUNK, MA. (1972)
DENNIS, MA. (1974)
DUXBURY, MA. (1974)
EDGARTOWN, MA. (1979)
FALL RIVER, MA.-RI (1985)
FALMOUTH, MA. (1979)
GLOUCESTER, MA. (1984)
GREAT POINT, MA. (1977)
HARWICH, MA. (1974)
HULL, MA. (1984)
HYANNIS, MA. (1979)
IPSWICH, MA. (1985)
LYNN, MA. (1985)
MANOMET, MA. (1977)
MARION, MA. (1977)
MONOMOY POINT, MA. (1977)
NANTUCKET, MA. (1977)
NAUSHON ISLAND, MA. (1977)
NEW BEDFORD NORTH, MA. (1979)
NEW BEDFORD SOUTH, MA. (1977)
NEWBURYPORT, MA.-NH (1987)
NORTH TRURO, MA. (1977)
ONSET, MA. (1967)
ORLEANS, MA. (1977)
PLYMOUTH, MA. (1977)
POCASSET, MA. (1979)
PROVINCETOWN, MA. (1972)
ROCKPORT, MA. (1984)
SAGAMORE, MA. (1979)
SAKONNET POINT, RI-MA. (1984)

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

SALEM, MA. (1985)
SANDWICH, MA. (1972)
SCITUATE, MA. (1984)
SCONTICUT NECK, MA. (1975)
SIASCONSET, MA. (1977)
SNIPATUIT POND, MA. (1977)
SOMERSET, MA. (1985)
SQUIBNOCKET, MA. (1977)
TISBURY GREAT POND, MA. (1977)
TUCKERNUCK ISLAND, MA. (1977)
VINEYARD HAVEN, MA. (1972)
WAREHAM, MA. (1972)
WELLFLEET, MA. (1972)
WESTPORT, RI-MA. (1984)
WEYMOUTH, MA. (1984)
WOODS HOLE, MA. (1967)

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 map is plotted in the final map product

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

45,000
50,000
60,000

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:

0.000

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:

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

The invertebrate species depicted in the Massachusetts ESI atlas include selected estuarine, marine, and terrestrial species. Species of commercial, recreational, ecological, or conservation interest are included. The data show the general distribution of estuarine and marine invertebrates by seasonal salinity zones in selected estuaries and coastal embayments. The data for general estuarine and marine invertebrate distribution were collected and compiled by NOAA's Strategic Environmental Assessments Division with the assistance of Massachusetts DFWELE, under the ELMR program.

Invertebrate distributions by estuary and salinity zone are referred to below as "ELMR data." Expert contacts for marine and estuarine fisheries include the DFWELE Division of Marine Fisheries (978/282-0308–North Shore; 617/727-0394–South Shore).

In addition to the ELMR invertebrate data, the actual locations of bivalve shellfish beds (clams, oysters, mussels, scallops, etc.) were mapped using expert information provided by DFWELE biologists and resource managers. Note that bivalve shellfish are not included in the ELMR data. The shellfish areas depicted represent the major known locations of shellfish beds, particularly beds that are harvested for recreational or commercial purposes. Shellfish beds in some areas may be closed to harvest. Bivalve shellfish are a major component of this data set, due to their commercial and recreational importance as harvested species, and their importance as habitat or prey for many other species. Expert contacts for bivalve shellfish include, the DFWELE Division of Marine Fisheries (978/282-0308–North Shore; 617/727-0394–South Shore). Note that ELMR invertebrate distributions were not mapped for offshore marine waters. Likewise, certain estuaries and bays were not included in the ELMR data. Therefore, absence of ELMR data in various water bodies does not mean that important invertebrate resources do not occur there. In the related BREED data table, the monthly presence indicates the species abundance (1 = no information, 2 = rare, 3 = common, 4 = abundant, 5 = highly abundant). The ELMR abundance codes usually refer to juvenile life stages, even though other life stages may be present. If juveniles are not present, the abundances refer to adults, or larvae if adults and juveniles are not present.

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For invertebrates, locations for the threatened and endangered Northeastern beach tiger beetle were also mapped using information provided by the DFWELE Natural Heritage and Endangered Species Program. Both larval and adult beach tiger beetles use intertidal portions of exposed sand beaches during a two year life-cycle dominated by the larval stage, which is present all year (the adult winged stage is present only during summer). Larvae construct and live in burrows that are inundated regularly by the tides. Adults and larvae actively prey on amphipods and other small invertebrates, and the adults may also scavenge dead fish, crabs, etc. The larvae are directly at risk to oiling, and a single localized event could likely extirpate an entire population. Both larvae and adults could be impacted by loss of prey items such as amphipods during or following a spill (similar to risks associated with shorebirds such as the listed piping plover). Also, larval areas are highly at risk from increased foot and vehicular traffic that could be associated with beach cleanup activities. An expert contact for Northeastern beach tiger beetles and other rare and endangered species is the DFWELE Natural Heritage and Endangered Species Program (508/792-7270).

For non-ELMR invertebrate data, concentration is generally listed as “High,” “Moderate,” or “Low.”

Various life-history stages or activities used for the invertebrate data are: spawning/mating; eggs; larvae; juveniles; and adults.

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

SPECIES ID	NAME
6	Northern shrimp
19	Blue mussel
25	Softshell clam
34	Sea scallop
41	Bay scallop
42	Northern quahog (hard clam)
43	Eastern oyster
45	American lobster
49	Blue crab
77	Atlantic jackknife clam
219	Green urchin
276	Sevenspine bay shrimp
285	Northeastern beach tiger beetle
286	Ocean quahog

SPECIES ID	NAME
287	Atlantic surfclam
289	Daggerblade grass shrimp
303	Atlantic rock crab
304	Green crab
305	Jonah crab

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 (45), 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

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**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. DETAILED DESCRIPTION: MGT

The data layer MGT contains the managed lands polygons.

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>GT-Polygons</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 polygons with a socio-economic, or human-use, feature. This attribute allows direct access to the type of feature instead of linking to the more detailed SOC_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:
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MS	Marine Sanctuary
NP	National Park
P	State Park/Forest
W R	Wildlife Refuge/ Wildlife Management Area

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 (45), element number (11), and record number

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

HUNUM

5.1.2.2. ATTRIBUTE DEFINITION:

An identifier that links directly to the SOC_DAT table.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

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. DETAILED DESCRIPTION: M_MAMMAL

Marine mammals depicted in the Massachusetts atlas include dolphins, whales, and pinnipeds (seals). For pinnipeds, major haul-out sites for harbor seals and pupping and haul-out sites for gray seals are depicted. Though only haul-out and pupping sites are mapped, seals can occur throughout the nearshore waters of Massachusetts. High concentration areas for whales and dolphins are also depicted in the atlas, particularly for areas such as Massachusetts Bay, Cape Cod Bay, and Stellwagen Bank, which are heavily utilized by northern right whales and other species. Though only certain high concentration areas are depicted, whales and dolphins are highly mobile species and can occur throughout most of the coastal and marine waters of Massachusetts. Dolphins, porpoises, and large whales (such as fin whales, minke whales, humpback whales, and right whales) occur frequently in nearshore coastal waters, while sei whales and sperm whales are more restricted to offshore waters near the continental shelf edge. Some dolphins and small whales may also occur in the estuaries and smaller bays. In addition to wide spatial distributions, typical seasonal occurrences and movements of marine mammals indicated in this atlas can also vary substantially from year to year.

Many of the whales included in this atlas are protected as threatened or endangered species, and all marine mammals are protected under the Marine Mammal Protection Act of 1972. Of particular concern, the northern right whale has a very small population size and is at risk from ship strikes, entanglement in fishing gear, and perhaps habitat degradation in important feeding grounds such as Massachusetts and Cape Cod Bays. Under the U.S. Endangered Species Act, designated critical habitat has been defined for right whales in Massachusetts and nearby federal waters. NMFS has also defined additional special consideration areas for right whales and other species that must be considered during spill planning and response activities (see the Oil Spill Planning map). Vessel operators and personnel involved with spill response should be made aware of the potential presence of right whales and other species so that vessel strikes and gear entanglements can be avoided. Alternative response strategies such as the use of chemical oil dispersants or *in situ* burning also require NMFS and other agency consultations in the special consideration areas and any other areas where right whales or other

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threatened and/or endangered species are observed. For up-to-date information on right whale sightings, a “Right Whale Sighting Advisory System” has been established by NOAA and the Massachusetts Division of Marine Fisheries. Maps and information on right whale sightings by date can be viewed at “http://whale.wheelock.edu/whalenet-stuff/reportsRW_NE/”. This site can also be found via the NMFS Northeast Regional Office web site at “<http://www.nero.nmfs.gov/>”.

Expert contacts for marine mammals in Massachusetts are the NMFS Northeast Fisheries Science Center in Woods Hole (508/495-2000); the NMFS Northeast Regional Office in Gloucester (978/281-9300); and the New England Aquarium in Boston (617/973-5200).

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

SPECIES ID	NAME
2	Harbor seal
6	Harbor porpoise
11	Fin whale
12	Minke whale
13	Humpback whale
14	Gray seal
60	Saddle-backed dolphin
81	Northern right whale
83	Long-finned pilot whale
86	Atlantic white-sided dolphin

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 (45), 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

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5.1. DETAILED DESCRIPTION: NESTS

Birds are divided into several species subgroups based on taxonomy, morphology, behavior, and oil spill vulnerability and sensitivity. These species were included either because of their likelihood of impact by an oil spill or their special protection status as threatened or endangered.

Although birds are a major component of the Massachusetts ESI, large wide-spread or dispersed distributions of offshore birds were not mapped. In general, major coastal embayments such as Nantucket Sound, the entire offshore area within three to four miles of land, and all offshore shoals and banks beyond can be important areas for large numbers of seabirds and certain waterfowl.

Colonial coastal waterbird nesting site data from 1994-1995 surveys were included in the data as point locations. If polygonal and point nesting data overlapped for a species, the polygonal data were retained and the point data for that species omitted (see BIRDS data layer for polygonal data).

For most colonial waterbird nesting points, the numbers of nests recorded during 1994-1995 surveys were not listed at the request of state wildlife biologists. Nesting concentrations at any particular site may fluctuate seasonally and annually based on local or regional conditions, or other factors. Concentration was listed as “Historic” for colonial waterbird colonies where no nesting birds were recorded during 1994-1995 surveys. “Historic” colonies were shown on the maps because they could be used in the future by nesting birds.

Expert contacts for coastal and marine nesting birds in Massachusetts include the DFWELE State Ornithologist (508/792-7270, ext. 152) and the Manomet Observatory for Conservation Sciences (508/224-6521).

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

SPECIES ID	NAME
8	Double-crested cormorant
12	Canada goose
16	Mallard
38	Herring gull

SPECIES ID	NAME
45	Common tern
80	Arctic tern
86	Least tern
87	Little blue heron
88	Great egret
89	Snowy egret
90	Black-crowned night-heron
91	Glossy ibis
92	Great black-backed gull
93	Cattle egret
95	Roseate tern
96	Leach's storm-petrel
98	Laughing gull
103	Common eider
120	Yellow-crowned night-heron
133	Black skimmer
152	American oystercatcher
186	American black duck
1007	Colonial waterbirds

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 atlas number (45), element number (5), and record number.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique number

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

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: REPTILES

Reptiles depicted in the Massachusetts atlas are limited to diamondback terrapin and sea turtles. Terrapins occur in estuarine habitats such as salt and brackish marshes and tidal creeks. Sea turtles are only mapped in a few locations where in-water concentrations were reported by data providers (sea turtles do not nest in Massachusetts). The more widespread or dispersed distributions of sea turtles in the study area are not depicted in the data. In general, sea turtles can be found in the major coastal embayments and in nearshore and offshore waters of the study area. In particular, loggerhead, Kemp’s ridley, and green turtles can be found in Cape Cod Bay, and leatherback turtles can occur sporadically throughout nearshore and offshore waters, especially from July-September. It should be noted that the diamondback terrapin is state protected and all sea turtles are protected as threatened or endangered species at the state and federal levels.

An expert contact for diamondback terrapins and other protected reptiles is the DFWELE Natural Heritage and Endangered Species Program (508/792-7270). Expert contacts for sea turtles include the NMFS Northeast Regional Office in Gloucester (978/281-9300) and the New England Aquarium in Boston (617/973-5200).

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

SPECIES ID	NAME
2	Green sea turtle
4	Kemp’s ridley sea turtle
6	Loggerhead sea turtle
7	Diamondback terrapin

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 (45), element number (6), and record number. ID values of 9999 are holes in polygons and do not contain information.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

RARNUM

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

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. DETAILED DESCRIPTION: SALINITY

The data layer SALINITY contains the complete chains and complex polygons for salinity boundaries by Massachusetts estuaries. Fish distributions are based on data compiled by NOAA’s SEA Division under the ELMR Program.

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>Complete Chain</u>	BOUND character SYMBOL number
<u>GT-Polygons</u>	WATER_CODE character ESTUARY character SAL_HIGH character SAL_INC character SAL_LOW character SAL_DEC character UNIQUE_HIGH integer UNIQUE_LOW integer UNIQUE_INC integer UNIQUE_DEC integer

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

BOUND

5.1.2.2. ATTRIBUTE DEFINITION:

Specifies a line as high, low, or transitional salinity boundary

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA’s SEA Division

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
0	Estuary boundary
1	Shoreline
2	Transitional
3	High salinity time period
4	Low salinity time period
5	Transitional
8	Study area boundary
9	Estuary offshore extent

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE

DEFINITION SOURCE:

NOAA's SEA Division

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

SYMBOL

5.1.2.2. ATTRIBUTE DEFINITION:

Map symbol used to portray high and low salinity time periods

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:

0	No symbol
55	Low salinity time period/decreasing salinity
69	Low salinity time period/increasing salinity
190	High salinity time period/decreasing salinity
204	High salinity time period/increasing salinity

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 land or 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:**

L	Land
W	Water

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

NOAA's SEA Division

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
ESTUARY

5.1.2.2. ATTRIBUTE DEFINITION:
Name of estuary

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
NOAA's SEA Division

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Boston Harbor
 Buzzards Bay
 Cape Cod Bay
 Coastal Embayments
 Massachusetts Bay
 Merrimack River
 Nantucket Sound
 Narragansett Bay
 Offshore
 Plum Island Sound
 Vineyard Sound
 Waquoit Bay

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

NOAA's SEA Division

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:

SAL_HIGH

5.1.2.2. ATTRIBUTE DEFINITION:

Salinity type during high time period

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA's SEA Division

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Mixing
Seawater

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

NOAA's SEA Division

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

ordinal

5.1.2.1. ATTRIBUTE LABEL:

SAL_LOW

5.1.2.2. ATTRIBUTE DEFINITION:

Salinity type during low time period

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA's SEA Division

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Mixing
Seawater
Tidal fresh

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

NOAA's SEA Division

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

ordinal

5.1.2.1. ATTRIBUTE LABEL:

SAL_INC

5.1.2.2. ATTRIBUTE DEFINITION:

Salinity type during increasing salinity time periods

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA's SEA Division

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Mixing
Seawater
Tidal fresh

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

NOAA's SEA Division

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

ordinal

5.1.2.1. ATTRIBUTE LABEL:

SAL_DEC

5.1.2.2. ATTRIBUTE DEFINITION:

Salinity type during decreasing salinity time periods

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA's SEA Division

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Mixing
Seawater
Tidal fresh

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

NOAA's SEA Division

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

ordinal

5.1.2.1. ATTRIBUTE LABEL:

UNIQUE_HIGH

5.1.2.2. ATTRIBUTE DEFINITION:

Identification number linking to SEA database (not included)
that was transformed to the SEASONAL and BREED tables

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA's SEA Division

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

0
92
93
112
123
133
143
153
163
172
173
183
193

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE

DEFINITION SOURCE:

NOAA's SEA Division

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

UNIQUE_LOW

5.1.2.2. ATTRIBUTE DEFINITION:

Identification number linking to SEA database (not included)
that was transformed to the SEASONAL and BREED tables

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA's SEA Division

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

0
92
93
111
112
123
132
133
142
143

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

152
153
162
163
171
172
173
183
193

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

NOAA's SEA Division

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

UNIQUE_INC

5.1.2.2. ATTRIBUTE DEFINITION:

Identification number linking to SEA database (not included)
that was transformed to the SEASONAL and BREED tables

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA's SEA Division

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

0
92
93
111
112
123
133
142
143
153
162
163
172
173

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

183

193

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE

DEFINITION SOURCE:

NOAA's SEA Division

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

UNIQUE_DEC

5.1.2.2. ATTRIBUTE DEFINITION:

Identification number linking to SEA database (not included)
that was transformed to the SEASONAL and BREED tables

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA's SEA Division

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

0

92

93

111

112

123

132

133

142

143

152

153

162

163

172

173

183

193

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE

DEFINITION SOURCE:

NOAA's SEA Division

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

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5.1. DETAILED DESCRIPTION: SEASONAL

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

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
<u>Attributes</u>	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
INVERT	Invertebrates
M_MAMMAL	Marine Mammals
REPTILE	Reptiles

**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.

MASSACHUSETTS METADATA

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:
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 (blank) Not present

- 5.1.2.4.1.3. ENUMERATED DOMAIN VALUE
DEFINITION SOURCE:
Research Planning, Inc.
- 5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal
- 5.1.2.1. ATTRIBUTE LABEL:
APR
- 5.1.2.2. ATTRIBUTE DEFINITION:
Present in April
- 5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

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

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

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

- 5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.
- 5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal
- 5.1.2.1. ATTRIBUTE LABEL:
JUN
- 5.1.2.2. ATTRIBUTE DEFINITION:
Present in June
- 5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

MASSACHUSETTS METADATA

**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:

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
(blank) Not present

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

AUG

5.1.2.2. ATTRIBUTE DEFINITION:

Present in August

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

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

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

- 5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
Research Planning, Inc.
- 5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal
- 5.1.2.1. ATTRIBUTE LABEL:
OCT
- 5.1.2.2. ATTRIBUTE DEFINITION:
Present in October
- 5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

MASSACHUSETTS METADATA

**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:

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
(blank) Not present

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

DEC

5.1.2.2. ATTRIBUTE DEFINITION:

Present in December

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

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 layers MGT and SOCECON either directly, using HUNUM, or through the unique ID, using SOC_LUT.

5.1.1. ENTITY TYPES:

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

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

HUNUM

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

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
BOAT RAMP	Boat Ramp
BRIDGE	Bridge
COAST GUARD	Coast Guard
COMMERCIAL FISHING	Commercial Fishing
FERRY	Ferry
HISTORICAL SITE	Historical Site
LOCK OR DAM	Lock or Dam
MANAGEMENT AREA	Use Management Area (ACEC)
MARINA/ANCHORAGE	Marina/Anchorage
MARINE SANCTUARY/RESERVE	Marine Sanctuary/Reserve
NATIONAL PARK	National Park
STATE PARK/FOREST	State Park/Forest
RECREATIONAL BEACH	Recreational Beach
RECREATIONAL FISHING	Recreational Fishing
WASHOVER	Washover
WATER INTAKE	Water Intake
WILDLIFE REFUGE/WMA	Wildlife Refuge/Wildlife Management Area

**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:

A AND T BOATYARD	AMESBURY & SALISBURY MILL VILLAGE HD
ABBOT HALL	ANAWAN CLUB CARETAKER'S HOUSE
ABBOT, EDWIN HOUSE	ANAWAN CLUB CLUBHOUSE
ABBOTSFORD	ANCIENT BURYING GROUND
ABIGAIL ADAMS STATE PARK	ANDREW - SAFFORD HOUSE
ABORN, JOHN HOUSE	ANDREW HARDING BEACH
ACADEMY BUILDING	ANGIER, JOHN B. HOUSE
ACCESS	ANNISQUAM BRIDGE
ACUSHNET CEDAR SWAMP STATE RESERVATION	ANNISQUAM HARBOR LIGHT STATION
ACUSHNET HEIGHTS HISTORIC DISTRICT	ANNISQUAM YACHT CLUB
ACUSHNET STATE WILDLIFE MANAGEMENT AREA	ANTHONY'S BEACH
ADAMS - CROCKER - FISH HOUSE	ANTHONY, DAVID HOUSE
ADAMS - MAGOUN HOUSE	ANTHONY, DAVID M. HOUSE
ADAMS - NERVINE ASYLUM	ANTHONY, HAROLD HORTON HOUSE
ADAMS ACADEMY	APPLETON, NATHAN RESIDENCE
ADAMS BUILDING	APPLETON, SAMUEL BUILDING
ADAMS NATIONAL HISTORIC SITE COMPLEX	APPONAGANSETT BEACH
ADAMS, ABRAHAM HOUSE	APPONEGANSETT MEETING HOUSE
ADAMS, CHARLES - LOCKE, WOODBURY HOUSE	AQUACULTURE
ADAMS, JOHN SCHOOL	ARCADE BUILDING
AFRICAN MEETING HOUSE	ARCADE, THE
AGRICULTURAL HALL	ARLINGTON STREET CHURCH
AHEARN HOUSE - CURRAN, DAVID HOUSE	ARMORY OF THE FIRST CORPS OF CADETS
AIRPORT	ARNOLD ARBORETUM
ALBION STREET, 380	ARTHUR AVENUE BEACH
ALBREE - HALL - LAWRENCE HOUSE	ASH STREET HISTORIC DISTRICT
ALDEN, ARTHUR HOUSE	ASHLEY HOUSE
ALDEN, JOHN HOUSE	ASHWORTH BROTHERS MILL
ALGONQUIN PRINTING COMPANY	ATHENAEUM PRESS BUILDING
ALL SAINTS CHURCH	ATLANTIC AVENUE BEACH
AMELIA EARHART DAM	ATWOOD - HIGGINS COMPLEX HIST. DIST.
AMERICAN NET AND TWINE COMPANY FACTORY	ATWOOD HOUSE AND SAMPSONS POND BEACH
AMERICAN PRINTING - METACOMET MILL	ATWOOD, EPHRAIM HOUSE
AMES BUILDING, THE	AUCOOT BEACH
AMES NOWELL STATE PARK	AUCOOT ROAD BEACH
AMES, JOSIAH A. HOUSE	AUSCOOT BOAT YARD
	AUSTIN BLOCK
	AUSTIN HALL
	AUSTIN, FRANCIS B. HOUSE
	AVON HILL HISTORIC DISTRICT

MASSACHUSETTS METADATA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

AYRE, JOHN HOUSE	BATTERYMARCH BUILDING
B & B CHEMICAL COMPANY	BAXTER MILL
BACHELOR ROW - PEAR TREE- L MAIN ST DIST	BAXTER STREET HISTORIC DISTRICT
BACK BAY ARCHITECTURAL DISTRICT	BAXTER, CAPT. RODNEY J. HOUSE
BACK BAY FENS, SECTIONS OF	BAXTER, CAPT. SHUBAEL HOUSE
BACK BAY HISTORIC DISTRICT	BAXTER, CAPT. SYLVESTER HOUSE
BACON, CLIFTON HOUSE	BAXTER, CHARLES L. HOUSE
BAILEY HOUSE	BAY HEAD SHORES BEACH
BAINBRIDGE, RANDOLPH HOUSE	BAY MARINE
BAKER HOUSE	BAY ST, 1
BAKER'S ISLAND LIGHT STATION	BAY STATE RD - BACK BAY W ARCHITECTURAL
BAKER, BENJAMIN JR. HOUSE	BAY STREET LOBSTER
BAKER, CAPT. SETH JR. HOUSE	BAY VILLAGE HISTORIC DISTRICT
BAKER, NATHANIEL HOUSE	BAYVIEW AVENUE, 32
BAKER, SARAH J. SCHOOL	BAYVIEW BEACH
BAKERS BEACH	BEACH
BALCH, JOHN HOUSE	BEACH - KNAPP DISTRICT
BALDWIN, MARIA HOUSE	BEACH AT GREAT HERRING POND
BALLSTON BEACH	BEACH NEAR STRONG ISLAND
BANK BLOCK	BEACH RESERVATION
BANK STREET BEACH	BEACHWOOD BEACH
BAPTIST PARSONAGE	BEACON HILL HISTORIC DISTRICT
BARDENS BOATYARD	BEACON STREET HISTORIC DISTRICT
BARK STREET SCHOOL	BEARD, PADILLA HOUSE
BARKER, GEORGE A. HOUSE	BEARSE POND ACCESS
BARKER, HENRY F. HOUSE	BEARSE, CAPT. ALLEN H. HOUSE
BARKING CRAB	BEARSE, CAPT. OLIVER HOUSE
BARLOWS BOAT YARD	BEAUPORT
BARLOWS LANDING BEACH	BEDFORD BUILDING, THE
BARNARD MILLS	BEEBE ESTATE
BARNES, HOWARD C. HOUSE	BELCHER - ROWE HOUSE
BARNES, JAMES B. HOUSE	BELL ROCK CEMETERY
BARNES, MELISSA E. AND WALTER S. HOUSE	BELLE ISLE MARSH STATE RESERVATION
BARNSTABLE COUNTY SUPERIOR COURTHOUSE	BELLEVILLE WAREHOUSE
BARNSTABLE MUNICIPAL AIRPORT	BELLINGHAM - CARY, GOV. HOUSE
BARNSTABLE OLD JAIL	BELLINGHAM SQUARE DISTRICT
BARTLETT - RUSSELL - HEDGE HOUSE	BELMONT CLUB - YOUNG, JOHN HOUSE
BASS HOLE AQUACULTURE FACILITY	BELMONT ROAD BEACH
BASS RIVER BEACH AND BOAT ACCESS	BEND OF THE LANE
BASSINGS BEACH/ BRIGGS HARBOR	BENNINK - DOUGLAS COTTAGES
BATELLE LABS	BENTLEY, EMMA HOUSE
BATEMAN, WILLIAM R. HOUSE	BERGER FACTORY
	BERKELEY BUILDING

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

BERKELEY STREET HISTORIC DISTRICT	BOSTON COMMON
BERRY, CAPT. JAMES HOUSE	BOSTON COMMON AND PUBLIC GARDEN
BERTRAM HALL	BOSTON EDISON
BETH ISRAEL SYNAGOGUE	BOSTON EDISON ELECTRIC ILLUMINATING CO.
BETHANY CONGREGATIONAL CHURCH	BOSTON ENGINE CO. NO.32, WORKING THEATER
BEVERLY CENTER HISTORIC DISTRICT	BOSTON HARBOR ISLANDS NRA
BEVERLY DEPOT	BOSTON LIGHT STATION
BEVERLY GRAMMAR SCHOOL	BOSTON NAVAL SHIPYARD
BEVERLY MUNICIPAL AIRPORT	BOSTON PUBLIC GARDEN
BICKFORDS MARINA	BOSTON PUBLIC LIBRARY
BIGELOW BLOCK	BOTTLE HOUSE BLOCK
BIGELOW SCHOOL	BOTTUME, JOHN HOUSE
BIGELOW STREET HISTORIC DISTRICT	BOURNE BACK RIVER ACEC
BILLINGS, FREDERICK HOUSE	BOURNE MARINA
BIOLOGICAL LABORATORY	BOW STREET HISTORIC DISTRICT
BIRD ISLAND LIGHT STATION	BOWDITCH SCHOOL
BLACK BEACH	BOWDITCH, NATHANIEL HOUSE
BLACK BEACH ACCESS	BOWDITCH, WILLIAM INGERSOLL HOUSE
BLACKSTONE BLOCK HISTORIC DISTRICT	BOWEN, L. HOUSE
BLAKE, JAMES HOUSE	BOWEN, NATHAN HOUSE
BLANEY BEACH	BOWKER PLACE
BLISH - GARRET HOUSE	BOYLSTON BUILDING
BLISH POINT BOAT RAMP	BRABROOK, E.H. HOUSE
BLODGETT, ELIZABETH HOUSE	BRACKETT, S. E. HOUSE
BLOSSOM, BARNABUS HOUSE	BRADBURY, WILLIAM F. HOUSE
BLUE MUSSEL HARVEST	BRADDOCK, EDWARD HOUSE
BOARDMAN HOUSE	BRADFORD - SMITH BUILDING
BOARDMAN, STEPHEN HOUSE	BRADFORD - UNION STREET HIST. DIST.
BOAT RAMP	BRADFORD, CAPT. DANIEL HOUSE
BOGUSLAVSKY TRIPLE DECKERS	BRADFORD, CAPT. GAMALIEL HOUSE
BOIT, E. E. HOME FOR AGED WOMEN	BRADFORD, CAPT. GERSHOM HOUSE
BONNER - SNOW HOUSE	BRAMBLE HILL
BONNER, WILLIAM HOUSE	BRANDEIS, LOUIS HOUSE
BORDEN - WINSLOW HOUSE	BRANT ISLAND BEACH ROAD
BORDEN FLATS LIGHT STATION	BRANT POINT LIGHT STATION
BORDEN, ANDREW J. BUILDING	BRATTLE HALL
BORDEN, ARIADNE J. AND MARY A. HOUSE	BRATTLE, WILLIAM HOUSE
BORDEN, N. B. SCHOOL	BRAY, THOMAS FARM HISTORIC DISTRICT
BORDER CITY MILLS	BRAYTON METHODIST EPISCOPAL CHURCH
BORDER CITY MILLS - MILL #2	BRAYTON POINT STATE SALT MARSH
BOSTON AND MAINE RAILROAD DEPOT	BRAYTON POINT STATION
BOSTON ATHENAEUM	BRAZER, SECOND BUILDING
BOSTON CENTER FOR ADULT EDUCATION	

MASSACHUSETTS METADATA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

BREAKHEART RESERVATION	BULFINCH TRIANGLE HISTORIC DISTRICT
BREAKWATER BEACH	BUNKER HILL MONUMENT
BREAKWATER BEACH II	BUNKER HILL SCHOOL
BRIARWOOD BEACH	BURGESS, CHARLES H. HOUSE
BRICK BLOCK	BURGESS, FRANK HOUSE
BRIDGE VILLAGE HISTORIC DISTRICT	BURGIN, CLARENCE HOUSE
BRIGGS, GEORGE I. HOUSE	BURNHAM, DAVID HOUSE
BRIGGS, HORACE HOUSE	BURNHAM, JAMES HOUSE
BRIGHTMAN, HATHAWAY HOUSE	BURNHAM, THOMAS - PATCH, COL. JOHN HOUSE
BRISTOL BEACH	
BRISTOL CO. SUPERIOR COURTHOUSE AND REG.	BURR BROTHERS MARINA
BROAD ST, 102	BUSWELL, CLARA HOUSE
BROAD ST, 5-7	BUTLER FLATS LIGHT STATION
BROAD ST, 50-52	BUZZARDS BAY BEACH
BROAD ST, 64A-64	C K BEACH CLUB
BROAD ST, 66	CABLE, BENJAMIN STICKNEY MEMORIAL HOSP.
BROAD ST, 68-70	CABOT, CAPT. JOHN HOUSE
BROAD ST, 72	CADMAN - WHITE - HANDY HOUSE
BROAD ST, 9	CAHOON HOLLOW BEACH
BROADWAY HISTORIC DISTRICT	CALDWELL BLOCK
BROADWAY WINTER HILL CONGREGATIONAL CHURCH	CALEF, DR. JOHN HOUSE
BROMFIELD ST, 20-30	CALF PASTURE PUMPING STATION
BROOKLINE - BOSTON MILESTONE	CALL, PHILIP HOUSE
BROOKLINE ARTS CENTER	CAMBRIDGE ARMORY
BROOKLINE VILLAGE COMMERCIAL DISTRICT	CAMBRIDGE CITY HALL
BROOKS, CHARLES HOUSE	CAMBRIDGE COMMON HISTORIC DISTRICT
BROOKS, JAMES H. HOUSE	CAMBRIDGE MUTAL FIRE INSURANCE CO. BLDG.
BROOKS, JONATHAN HOUSE	CAMBRIDGE PUBLIC LIBRARY
BROOKS, LUTHER HOUSE	CAMBRIDGE STREET, 1707-1709
BROWN - HODGKINSON HOUSE	CAMBRIDGE STREET, 1715-1717
BROWN HOUSE	CAMPBELL PARK - MEACHAM ROAD HIST. DIST.
BROWN SQUARE HOUSE	CAMPBELL, COLLEN C. HOUSE
BROWN'S MANOR	CANAL ELECTRIC
BROWN, AUSTIN HOUSE	CANARY - HARTNETT HOUSE
BROWN, C. H. COTTAGE	CANEDY, SQUIRE WILLIAM B. HOUSE
BROWN, JOHN IV HOUSE	CAPE ANN MARINA
BROWNS YACHT YARD	CAPE COD AIRPORT
BRYANT - CUSHING HOUSE	CAPE COD MUSEUM OF NATIONAL HISTORY
BRYANT, WILLIAM OCTAGON HOUSE	
BUCK, CHARLES HOUSE	CAPE COD NATIONAL SEASHORE
BUDDY'S TRUCK STOP	
BUFFINGTON, DEA. JOHN HOUSE	

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

CAPE COD NATIONAL SEASHORE BEACHES	CHARLES ST. AFRICAN METH. EPISCOPAL CH.
CAPE COD RAIL TRAIL	CHARLES STREET MEETING HOUSE
CAPE POGE LIGHT	CHARLESTOWN SAVINGS BANK
CAPE POGUE RESERVATION/ EAST BEACH	CHARLTON MILL
CARNEGIE LIBRARY	CHARTER STREET HISTORIC DISTRICT
CARNEY, SGT. WILLIAM H. HOUSE	CHASE - HYDE FARM - MAIN HOUSE
CARPENTER CENTER FOR THE VISUAL ARTS	CHASE GARDEN CREEK STATE SALT MARSH
CARPENTER, COL. THOMAS III HOUSE	CHASE OLIVER THREAD MILL
CARR - OSBORN - DURFEE HOUSE	CHASE, LEMUEL B. HOUSE
CARR ISLAND STATE WILDLIFE SANCTUARY	CHASE, SAMUEL HOUSE
CARR, MARTIN W. SCHOOL	CHATHAM HISTORIC BUSINESS DISTRICT
CARVILL, ALPHONSO AND JEMIMA HOUSE	CHATHAM LIGHT BEACH
CASHMAN PARK	CHATHAM LIGHT STATION
CASTLE HILL - GREAT HOUSE, THE	CHATHAM MUNICIPAL AIRPORT
CATARACT ENGINE COMPANY #3	CHATHAM RAILROAD DEPOT
CEDAR POINT BEACH	CHATHAM WINDMILL
CENTENNIAL AVENUE, 81	CHELSEA CITY HALL
CENTER METHODIST CHURCH	CHELSEA CREEK BEACH
CENTER PARK HISTORIC DISTRICT	CHELSEA SQUARE HISTORIC DISTRICT
CENTERVILLE HISTORIC DISTRICT	CHEQUESSET NECK BEACH
CENTRAL BUILDING (SWEETSER FACT. BLDG.	CHESTER STREET HISTORIC DISTRICT
CENTRAL BURYING GROUND	CHESTNUT COURT HOUSES
CENTRAL CONGREGATIONAL CHURCH	CHESTNUT STREET HIST. DIST. ENLARGED
CENTRAL FIRE STATION	CHESTNUT STREET HISTORIC DISTRICT
CENTRAL GLOUCESTER HISTORIC DISTRICT	CHESTNUT STREET LOCAL HISTORIC DISTRICT
CENTRAL LIBRARY	CHILD, FRANCIS HOUSE
CENTRAL NEW BEDFORD HISTORIC DISTRICT	CHILDREN'S HOME, THE
CENTRAL SQUARE HISTORIC DISTRICT	CHILDS RIVER ACCESS
CENTRAL SQUARE POST OFFICE	CHOATE BRIDGE
CHACE MILLS	CHOATE, RUFUS HOUSE
CHACE, ARNOLD B. ROWHOUSES	CHRIST CHURCH
CHAMBERLAIN, SAMUEL HOUSE	CHUBBUCK, THOMAS JR. HOUSE
CHAPAQUOIT BEACH	CHURCH GREEN BUILDING
CHAPIN MEMORIAL PARK	CHURCH GREEN BUILDINGS
CHARLES PLAYHOUSE	CHURCH OF CHRIST
CHARLES RIVER BASIN HISTORIC DISTRICT	CHURCH OF THE ASCENSION
CHARLES RIVER STATE RESERVATION	CHURCH OF THE NEW JERUSALEM
	CHURCH STREET, 26-28
	CITY HALL HISTORIC DISTRICT
	CLAFLIN - RICHARDS HOUSE
	CLAPP HOUSES
	CLAPPS POND ACCESS

MASSACHUSETTS METADATA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

CLARK'S POINT LIGHT	CONDOR STREET BEACH
CLARK, J. H. HOUSE	CONGREGATION AGUDATH SHOLOM
CLEVELAND LEDGE LIGHT STATION	CONGRESS STREET FIRE STATION
CLEVELAND STREET, 13	CONNELL, WILLIAM M. SCHOOL
CLIFF, ZEBEDEE E. HOUSE	CONSTITUTION BEACH
CLIFFORD - WARREN HOUSE	CONVERSE MEMORIAL BUILDING
CLOUGH, EBENEZER HOUSE	CONVERSE STREET, 39
CLOVERDEN - MANN HOUSE	COOK - OLIVER HOUSE
COAST GUARD	COOKS BROOK BEACH
COAST GUARD RADIO STATION	COOKS POND ACCESS
COAST GUARD STATION	COOPER - DAVENPORT TAVERN WING
COBURN, FRED HOUSE	COOPER - FROST - AUSTIN HOUSE
COCKLE COVE BEACH LANDING	COPP'S HILL BURIAL GROUND
CODDINGTON SCHOOL	COPP'S HILL TERRACE
CODMAN BUILDING (10 LIBERTY SQ. BLDG.)	CORKY ROW HISTORIC DISTRICT
CODMAN SQUARE HISTORIC DISTRICT	CORN HILL BEACH
CODMAN, COL. CHARLES ESTATE	CORNELL MILLS
COFFIN, JETHRO HOUSE	CORNING, SAMUEL HOUSE
COFFIN, TRISTRAM HOUSE	CORPORATION BEACH
COFFINS BEACH	COTTAGE FARM HISTORIC DISTRICT
COGAN, BERNARD HOUSE	COTTAGE FARM LOCAL HISTORIC DISTRICT
COGAN, JAMES HOUSE	COTUIT HISTORIC DISTRICT
COGSWELL'S GRANT	COUGHLIN SCHOOL
COHASSET COMMON HISTORIC DISTRICT	COUNTY STREET HISTORIC DISTRICT
COHASSET YACHT CLUB	COWDREY, GEORGE HOUSE
COKER, BENJAMIN HOUSE	COX - HICKS HOUSE
COLBURN, SARAH FOSTER HOUSE	COX BUILDING
COLD STORAGE BEACH	CRAIGIE ARMS
COLE'S HILL	CRAIGVILLE HISTORIC DISTRICT
COLE, BENJAMIN HOUSE	CRANE BEACH - CASTLE HILL
COLLEGE HOUSE	CRANE POND ST. WILDLIFE MANAGEMENT AREA
COLLINS, WILLIAM HOUSE	CRANE, EDWARD HOUSE
COLONIAL ACRES BEACH	CRANE, FRANK W. HOUSE
COLONIAL BEACON GAS STATION	CRANE, THOMAS PUBLIC LIB. - WOLLASTON BR
COLUMBUS AVE. - WARREN AVE. HIST. DIST.	CRANE, THOMAS PUBLIC LIBRARY
COMMERCIAL FISHING	CRANSTON STREET, 17
COMMERCIAL LOBSTER	CRESCENT MILL
COMMERCIAL PALACE HISTORIC DISTRICT	CRESSY BEACH
COMMERCIAL STREET, 86-88	CROCKER TAVERN
COMMONWEALTH AVENUE MALL	CROCKER, BENOMI - BARNABAS HOUSE
COMMONWEALTH PIER 5	CROCKER, CAPT. ALEXANDER HOUSE
CONANT, EXERCISE HOUSE	CROCKER, EBENEZER JR. HOUSE

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

CROCKER, LOT HOUSE	DEANE - WILLIAMS HOUSE
CROMBIE STREET HISTORIC DISTRICT	DELPHIC CLUB
CRONIN BEACH	DEMAREST LLOYD STATE PARK
CRONIN, WILLIAM HOUSE	DEMPSEY, ADDIS HOUSE
CROSBY HOUSE	DENNIS, JOSIAH MANSE
CROSBY, DANIEL HOUSE	DENNIS, THOMAS HOUSE
CROWELL - BOURNE FARM	DEPOT STREET BEACH
CROWELL, C. C. HOUSE	DERBY STREET LOCAL HISTORIC DISTRICT
CROWINSHIELD, BENJAMIN W. HOUSE	DERBY SUMMER HOUSE
CROWNINSHIELD HOUSE	DERBY WATERFRONT HISTORIC DISTRICT
CUFFE, PAUL HOUSE	DERBY WHARF LIGHTHOUSE
CUMMINGS, E.E. HOUSE	DEROSAY - MCNAMEE HOUSE
CURLEY, JAMES MICHAEL HOUSE	DEVOTION, EDWARD HOUSE
CURTIS, PAUL HOUSE	DICEY, RUSSELL M. HOUSE
CUSHING HOMESTEAD	DIGHTON ROCK
CUSHING, CALEB HOUSE	DIGHTON ROCK STATE PARK
CUSTOM HOUSE AND BONDED WAREHOUSE	DIKE, LYMAN - ORNE, JOSHUA HOUSE
CUSTOM HOUSE DISTRICT	DILL BUILDING
CYCLORAMA BLDG. (CENTER FOR THE ARTS)	DILLAWAY SCHOOL
CYPRESS - EMERSON HISTORIC DISTRICT	DILLINGHAM HOUSE
DALTON, MICHAEL HOUSE	DIONIS BEACH
DAM	DISTRICT 13 POLICE STATION
DANA - PALMER HOUSE	DIVINITY HALL
DANIELS, BLAKE COTTAGE	DODGE HOUSE
DANIELS, CHARLES A. SCHOOL	DODGE, E. P. BUILDING
DANVERS TOWN HALL	DOG FISH BAR BEACH
DANVERSPORT YACHT CLUB	DOGGET, SOLON HOUSE
DARLING - PRINCE HOUSE	DONAGHY, THOMAS SCHOOL
DARLING, SAMUEL HOUSE	DONAHUES MARINA
DAVENPORT - ALLEN AND ENDICOTT FACTORY	DORCHESTER HEIGHTS NATIONAL HIST. SITE
DAVIS - FREEMAN HOUSE	DORCHESTER NORTH BURYING GROUND
DAVIS AND TRIPP MARINA	DORCHESTER POTTERY WORKS
DAVIS, DR. FRANK HOUSE	DORCHESTER-MILTON L. MILLS INDUST. DIST.
DAVIS, EBENEZER HOUSE	DOROTHY Q APARTMENTS
DAVIS, THOMAS ASPINWALL HOUSE	DOUCETTE, PETER TEN FOOTER SHOE SHOP
DAVIS, WILLIAM MORRIS HOUSE	DOW BLOCK
DAVIS/ WEST DENNIS BEACH	DOWNER ROWHOUSES
DAVOL SCHOOL	DOWNER, CUTLER HOUSE
DAWSON BUILDING, THE	DOWNTOWN CHELSEA RESIDENTIAL DISTRICT
DAY, NATHANIEL - DODGE, COL. ISAAC HOUSE	DOWNTOWN FALL RIVER HISTORIC DISTRICT
DEAN, SILAS HOUSE	

MASSACHUSETTS METADATA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

DOWNTOWN HISTORIC DISTRICT	EGYPT BEACH
DOWNTOWN SALEM HISTORIC DISTRICT	ELDREDGE PUBLIC LIBRARY
DRAPER'S POINT PUBLIC LANDING	ELEPHANT ROCK BEACH CLUB
DUDLEY HOUSE	ELEVATOR WORKS
DUDLEY STATION AND ELEVATED N. OF DUDLEY	ELGIN ROAD BEACH
DUDLEY STATION HISTORIC DISTRICT	ELIOT BURYING GROUND
DUNE SHACKS OF PEAKED HILL BARS	ELIOT CONGREGATIONAL CHURCH
DUNVEGAN, THE	ELIOT HALL
DURELL, GEORGE W. SCHOOL	ELIOT HALL (THE FOOTLIGHT CLUB)
DURELL, WALTER HOUSE	ELIOT, JOHN SQUARE HISTORIC DISTRICT
DURFEE MILLS	ELKS BUILDING
DURFEE, B. M. C. HIGH SCHOOL (OLD)	ELLIS, ASA HOUSE
DURGIN, E. A. HOUSE	ELLISVILLE HARBOR ACEC
DUTCH HOUSE, THE	ELLISVILLE HARBOR STATE PARK
DUTCH, SAMUEL HOUSE	EMERALD NECKLACE PARKS
DUXBURY BEACH	EMMETT COTTAGE
DUXBURY BEACH RESERVATION	ENGLEWOOD BEACH
DUXBURY YACHT CLUB	ENGLEWOOD DINER
DYKE - WHEELER HOUSE	ENGLISH HIGH SCHOOL
EAGLE ISLAND STATE NATURAL HERITAGE AREA	ENGLISH STATE SALT MARSH
EARLE ROAD BEACH	ERNESTINA, SCHOONER
EARLE, JOHN M. HOUSE	ESSEX COUNTY COURT BUILDING COMPLEX
EAST CAMBRIDGE HISTORIC DISTRICT	ESSEX INSTITUTE HISTORIC DISTRICT
EAST CAMBRIDGE SAVINGS BANK	ESSEX INSTITUTE MUSEUM
EAST CHOP BEACH AND YTC	ESSEX TOWN HALL - BURNHAM MEM. LIBRARY
EAST CHOP LIGHT	EUSTIS ST. ARCH. CONSERVATION DISTRICT
EAST END DISTRICT	FABENS BUILDING
EAST FALMOUTH HISTORIC DISTRICT	FAIRBORN, T. HOUSE
EAST HORSENECK BEACH	FAIRHAVEN - NEW BEDFORD BRIDGE
EASTERN POINT LIGHT STATION	FAIRHAVEN HIGH SCHOOL AND ACADEMY
EASTHAM STATE MARSH MANAGEMENT AREA	FAIRHAVEN TOWN HALL
EASTVILLE POINT BEACH	FALL RIVER BLEACHERY
EATON DRUG BUILDING	FALL RIVER MUNICIPAL AIRPORT
EDGARTOWN HARBOR LIGHTHOUSE	FALL RIVER PUBLIC LIBRARY
EDGARTOWN LOCAL HISTORIC DISTRICT	FALMOUTH AIRPORT
EDGARTOWN VILLAGE HISTORIC DISTRICT	FALMOUTH HEIGHTS TOWN BEACH
EDGERTON, W. L. HOUSE	FALMOUTH VILLAGE HISTORIC DISTRICT I
EDGEWATER AND ROCKLAND STREET BEACH	FALMOUTH VILLAGE HISTORIC DISTRICT II
EDWARD J. LOPEZ AVENUE, 42	FANEUIL HALL
EGG ROCK STATE WILDLIFE SANCTUARY	FANEUIL, PETER SCHOOL

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

FARRIER, AMASA BOARDING HOUSE	FOLEY, MICHAEL COTTAGE
FARRIER, AMASA HOUSE	FOLLEN STREET HISTORIC DISTRICT
FARWELL - RUSSELL STORE	FOLLEN STREET, 10
FAXON, JOB FRANKLIN HOUSE	FOOTE, EDWARD HOUSE
FAY, ISAAC HOUSE	FORBES HILL STANDPIPE
FEDERAL RESERVE BANK BUILDING	FORBES, CAPT. R. B. HOUSE
FEDERAL STREET HISTORIC DISTRICT	FORE RIVER CLUB HOUSE
FELTON, NATHANIEL JR. HOUSE	FOREST BEACH AND LANDING
FELTON, NATHANIEL SR. HOUSE	FORT INDEPENDENCE
FENWAY - BOYLSTON STREET HIST. DIST.	FORT PHOENIX
FENWAY STUDIOS	FORT PHOENIX BEACH STATE RESERVATION
FERNALD, GEORGE P. HOUSE	FORT PICKERING -FORT WILLIAM -FORT ANNE
FERRY	FORT REVERE STATE RESERVATION
FERRY HOUSE	FORT REVERE TOWER
FIELD'S CORNER MUNICIPAL BUILDING	FORT SEWALL - FORT ON GALE'S HEAD
FILENE'S DEPARTMENT STORE	FORT TABER DISTRICT
FINFISH HARVEST	FORT WARREN
FIQUERIDO'S MARINA	FORT WASHINGTON
FIRE STATION #4	FORT WASHINGTON HISTORIC DISTRICT
FIRST BAPTIST CHURCH	FOSTER SPINNING COMPANY
FIRST BAPTIST CHURCH OF WOLLASTON	FOSTER, ALEXANDER HOUSE
FIRST CHURCH IN ROXBURY	FOSTER, GEN. GIDEON HOUSE
FIRST CHURCH OF JAMAICA PLAIN	FOSTER, JACOB HOUSE
FIRST CHURCH UNITARIAN	FOSTER, WALTER K. HOUSE
FIRST CONGREGATIONAL CHURCH	FOWLE'S NEWS
FIRST ENCOUNTER BEACH	FOWLER HOUSE
FIRST PARISH CHURCH	FOWLER, JOSEPH HOUSE
FIRST RELIGIOUS SOCIETY CHURCH	FOWLERS MARINA
FIRST RELIGIOUS SOCIETY PARISH HALL	FOX HILL SCHOOL
FIRST UNITARIAN CHURCH	FOX ISLAND STATE SALT MARSH
FIRST UNIVERSALIST CHURCH	FRANCIS - ALLYN HOUSE
FISH FLAKE HILL HISTORIC DISTRICT	FRANCIS AVENUE, 26
FISH PIER	FRANCIS, DR. TAPPAN EUSTIS HOUSE
FISHER BEACH	FRANKLIN PARK
FLAX POND ACCESS	FREEMAN'S WHARF
FLENTJE, ERNST HOUSE	FREETOWN STATE FOREST
FLETCHER, JONATHAN HOUSE	FRENCH CABLE HUT
FLINT MILLS	FRENCH CABLE STATION
FLOUR AND GRAIN EXCHANGE	FRIEND STREET, 14
FLYERS BOAT RENTALS	FRIEND, JAMES HOUSE
FLYING HORSES CAROUSEL	FRIENDS MEETING HOUSE
FOGG ART MUSEUM	FRONT STREET BLOCK
FOGG BUILDING	
FOGG LIBRARY	

MASSACHUSETTS METADATA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

FROST, DAVID HOUSE	GLEN MAGNA MANSION
FROST, ELIZABETH TENANTHOUSE	GLENDON ROAD BEACH
FROST, WALTER HOUSE	GLOBE YARN MILLS
FULLER HOUSE	GLOUCESTER CITY HALL
FULLER, ENOCH HOUSE	GLOUCESTER MARINA
FULLER, MARGARET HOUSE	GLOVER HOUSE
FULLER, PETER BUILDING	GLOVER, GEN. JOHN HOUSE
FULLER, WILLIAM GRIFFIN HOUSE	GOFF HOMESTEAD
FULTON - COMMERCIAL STREETS DISTRICT	GOOD HARBOR BEACH
G.A.R. HALL AND MUSEUM	GOODALE, ISAAC HOUSE
G.E. LYNN	GOODSPEED HOUSE
GAINES, JOHN HOUSE	GOODWIN, OZIAS HOUSE
GAINSBORO DRIVE BEACH	GOOSEBERRY NECK BEACH
GALE, GEORGE HOUSE	GOSNOLD STATE WILDLIFE MANAGEMENT AREA
GARDNER - PINGREE HOUSE	GOTT HOUSE
GARDNER, FRANCIS L. HOUSE	GOULD, SAMUEL HOUSE
GARDNER, ISABELLA STEWART MUSEUM	GOVERNMENT ISLAND HISTORIC DISTRICT
GARDNER, JOSEPH HOUSE	GRACE BAPTIST CHURCH
GARDNER, PRESERVED HOUSE	GRACE EPISCOPAL CHURCH
GARDNER, SAMUEL HOUSE	GRAFFAM DEVELOPMENT HISTORIC DISTRICT
GARFIELD STREET HISTORIC DISTRICT	GRAND LODGE OF MASONS
GARRISON, WILLIAM LLOYD HOUSE	GRANDVIEW, THE
GARRISON, WILLIAM LLOYD SCHOOL	GRANITE KEYSTONE BRIDGE
GAUT, SAMUEL HOUSE	GRANITE MILLS
GAY HEAD COAST GUARD STATION	GRANT, BENJAMIN HOUSE
GAY HEAD LIGHTHOUSE	GRASS, HENRY J. HOUSE
GAY, W. ALLAN HOUSE	GRASSY POND STATE NATURAL HERITAGE AREA
GEORGE LANE BEACH	GRAVES LIGHTHOUSE
GERRY, ELBRIDGE HOUSE	GRAY GABLES BEACH
GIBSON, CHARLES JR. HOUSE	GRAY, CAPT. THOMAS HOUSE
GIDDINGS, GEORGE - BURNHAM, THOMAS HOUSE	GRAYS BEACH
GIDDINGS, GEORGE HOUSE AND BARN	GREANY BUILDING
GIDDINGS, LT. SAMUEL HOUSE	GREAT HOLLOW BEACH
GIFFORD FARM	GREEK ORTHODOX CATHEDRAL OF NEW ENGLAND
GILLETTE PLANT	GREEN, DEA. DANIEL HOUSE
GILL, CHARLES HOUSE	GREEN, JONATHAN HOUSE
GILMORE STREET, 15	GREENWOOD STREET, 118
GILMORE, ONSLOW HOUSE	GREENWOOD UNION CHURCH
GILSON HOUSE	GREYS NECK BEACH
GINGERBREAD HILL HISTORIC DISTRICT	GRINNELL, JOSEPH MANSION
GLAD TIDINGS HISTORIC DISTRICT	
GLEASON, EDWARD FRANCIS HOUSE	

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

GULL LANDING BEACH	HARVARD GRADUATE CENTER
GUSTIN, JULIA HOUSE	HARVARD HOUSES HISTORIC DISTRICT
HAFENREFFER BREWERY	HARVARD LAMPOON BUILDING
HAIGH, JOHN HOUSE	HARVARD SQUARE HISTORIC DISTRICT
HAIGIS BEACH	HARVARD SQUARE SUBWAY KIOSK
HAILEY, FRED HOUSE	HARVARD STREET HISTORIC DISTRICT
HAINES, THOMAS HOUSE	HARVARD UNION
HALE - BOYNTON HOUSE	HARVARD YARD HISTORIC DISTRICT
HALE, EDWARD EVERETT HOUSE	HARWICH HISTORIC DISTRICT
HALE, REV. JOHN HOUSE	HASKELL, WILLIAM HOUSE
HALFWAY HOUSE	HASTINGS SQUARE HISTORIC DISTRICT
HALIBUT POINT STATE PARK	HASTY PUDDING CLUB
HALL, ISAAC HOUSE	HATCHERY INTAKE
HALL, MARY - HASKELL HOUSE	HATHAWAY, JAMES D. HOUSE
HALLETT, CAPT. WILLIAM HOUSE	HAVEN, WILBUR FISKE HOUSE
HALLETT, SETH HOUSE	HAWDEN HOUSE
HALLORAN, JOHN HOUSE	HAWKINS, LORENZO D. HOUSE
HAMILTON HALL	HAWLEY, GIDEON HOUSE
HAMILTON HISTORIC DISTRICT	HAWTHORNE CLASS STUDIO
HAMMOND CASTLE	HAYDEN BUILDING
HAMPTON BEACH	HAYDEN, LEWIS HOUSE
HANCOCK CEMETERY	HEAD OF THE MEADOW BEACH
HANCOCK STREET, 104-106	HEAD OF THE PLAINS STATE NAT. HER. AREA
HANCOCK, EBENEZER HOUSE	HEARD, NATHANIEL - LAKEMAN, RICHARD III
HAPGOOD, RICHARD HOUSE	HEMENWAY, DR. HORACE HOUSE
HARBOR HAVEN ASSOCIATES BEACH	HEN COVE BEACH
HARBOR LOBSTER	HENDERSON CARRIAGE REPOSITORY
HARBORVIEW BEACH	HERON ROAD BEACH
HARDING BEACH	HERON WAY MARINA
HARDING'S BEACH	HERRICK, ELLA PROCTOR HOUSE
HARDING'S BEACH POINT	HERRING CREEK BEACH
HARDING, CHESTER HOUSE	HERRING RIVER WATERSHED ACEC
HARDWICK HOUSE	HERSEY, EBENEZER B. HOUSE
HARGRAVES MILL #1	HIBBARD, BENJAMIN HOUSE
HARLOW HOMESTEAD	HICKEY - OSBORNE BLOCK
HARLOW POND STATE NATURAL HERITAGE AREA	HIGGINS, JEDEDIAH HOUSE
HARLOW, OLD FORT HOUSE	HIGH ROCK TOWER & COTTAGE, DAISY COTTAGE
HARLOW, SGT. WILLIAM FAMILY HOMESTEAD	HIGH SCHOOL AVENUE, 25
HARRADEN, EDWARD HOUSE	HIGH STREET DISTRICT
HARRIS FARM	HIGHLAND HOUSE
HARRISWOOD CRESCENT	HIGHLAND LIGHT STATION
HARTHAVEN BEACH AND HARBOR	HIGHLAND, THE

MASSACHUSETTS METADATA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

HIGHLANDS HISTORIC DISTRICT	HOWE, SAMUEL GRIDLEY AND JULIA
HILL HOUSE	WARD HOUS
HILL SCHOOL, THE	HOWES, "TOM SAILOR" HOUSE
HILL, SIDNEY A. HOUSE	HOWLAND, JABEZ HOUSE
HILLSIDE AVENUE HISTORIC DISTRICT	HOXIE, TIMOTHY HOUSE
HINCKLEY HOMESTEAD	HOYT, BENJAMIN HOUSE
HINCKLEY, CAPT. JOSEPH HOUSE	HULL VILLAGE BEACH
HINCKLEY, NYMPHUS HOUSE	HULL VILLAGE HISTORIC DISTRICT
HINCKLEY, S. ALEXANDER HOUSE	HUMAROCK BEACH
HINGHAM BATHING BEACH	HUMPHREYS, SIR JOHN HOUSE
HINGHAM CENTRE HISTORIC DISTRICT	HUNT STREET, 51
HINGHAM YACHT CLUB	HUNT, BENJAMIN HOUSE
HISTORICAL SITE	HURD HOUSE
HIXVILLE VILLAGE HISTORIC DISTRICT	HUTCHINS, HARRISON M. HOUSE
HOLBROOK, DR. AMOS HOUSE	HUTCHINSON - JOCELYN HOUSE
HOLLANDER BLOCKS	HUTCHINSON'S, GOV. HA-HA
HOLLINGSWORTH, ROBERT HOUSE	HYANNIS PONDS STATE WILDLIFE MGT.
HOLMES, OLIVER WENDELL HOUSE	AREA
HOLT, CHAUNCEY HOUSE	HYANNIS PORT HISTORIC DISTRICT
HOMER - LOVELL HOUSE	HYANNIS ROAD HISTORIC DISTRICT
HOMER, JACOB HOUSE	HYDE - TAYLOR HOUSE
HOOK, HIRAM HOUSE	INDEPENDENT CHRISTIAN CHURCH
HOOPER HOUSE	INDIA ST, 25-27
HOOPER, KING MANSION	INGALLS - WHEELER - HORTON
HOOSAC STORES 1, 2 AND 3	HOMESTEAD
HOPKINS, ELISHA HOUSE	INGERSOLL HOUSE
HORNBINE BAPTIST CHURCH	INMAN ROAD BEACH
HORNBINE SCHOOL	INMAN SQUARE HISTORIC DISTRICT
HORSEFOOT PATH BEACH	INMAN STREET, 102-104
HORSENECK BEACH STATE RESERVATION	INMAN STREET, 106-108
HORTICULTURAL HALL (ALSO	INMAN STREET, 110-112
SYMPHONY HALL)	INNER CAPE COD BAY ACEC
HORTON, WELCOME FARM	INTERNATIONAL TRUST COMPANY
HORTONVILLE HISTORIC DISTRICT	BUILDING
HOSE HOUSE #2	IPSWICH RIVER ACCESS
HOSPITAL POINT RANGE LIGHT	IRELAND, GEORGE HOUSE
HOTEL ADELAIDE	IRELAND, SAMUEL HOUSE
HOTEL KEMPSFORD	ISHAM, HERMAN HOUSE
HOTEL WAVERLY, THE	JACOBS FARM
HOUGHTON BEECH TREE	JAMAICA PLAIN NEIGHBORHOOD HOUSE
HOUSE OF SEVEN GABLES	JAMAICA POND BOATHOUSE
HOUSE OF SEVEN GABLES HISTORIC	JAMES HOOK LOBSTER
DISTRICT	JARVIS, THE
HOWARD, WILLIAM HOUSE	JEFFERSON SCHOOL
	JENKINS - WHELDEN FARMSTEAD

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

JENKINS HOMESTEAD	L STREET STATION
JENKINS, FRANKLIN B. HOUSE	LABOR IN VAIN ROAD HOUSE
JENKINS, JOSEPH HOUSE	LAFAYETTE - DURFEE HOUSE
JERICHO BOAT LAUNCH	LAFAYETTE STREET HISTORIC DISTRICT
JESUS MARIE CONVENT	LAKE SNIPATUIT ACCESS
JEWELL, DAVID L. HOUSE	LAKE STREET BEACH
JOHN F. KENNEDY STATE RESERVATION	LAKEMAN, RICHARD - JOHNSON, ARTHUR HOUSE
JOHNSON, J. V. HOUSE	LAMSON, NEWTON HOUSE
JONES, JOHN HOUSE	LAMSON, RUFUS HOUSE
JONES, THOMAS W. HOUSE	LANDING STRIP
JONES, WILLIAM R. HOUSE	LANE, FITZ HUGH HOUSE
JORDAN, DR. CHARLES HOUSE	LANGMAID BUILDING
JUBILEE YACHT CLUB	LANGMAID TERRACE
KATAMA AIR PARK	LARCH FARM
KATAMA PLAINS ST. NATURAL HERITAGE AREA	LARRABEE'S BRICK BLOCK
KEENE, WALTER HOUSE	LATTIMORE - PRATT HOUSE
KENDRICKS, JOHN HOUSE	LAUREL LAKE MILLS
KENNEDY COMPOUND	LAWRENCE LIGHT GUARD ARMORY
KENNEDY PARK	LAWRENCE MODEL LODGING HOUSES
KENNEDY'S BUILDING	LAWSON TOWER
KENNEDY, F. A., STEAM BAKERY	LEATHER DISTRICT
KENNEDY, JOHN FITZGERALD NAT. HIST. SITE	LECHMERE POINT CORPORATION HOUSES
KENNEDY, THE	LECOUNT HOLLOW BEACH
KENNEY, DAVID HOUSE	LEE STREET, 15-17
KERR THREAD MILL	LEE, JEREMIAH MANSION
KEYES, AMOS HOUSE	LEONARD, PATRICK HOUSE
KIMBALL, BENJAMIN HOUSE	LEWIS POINT BEACH
KIMBALL, C. HENRY HOUSE	LEWIS, LAURENCE HOUSE
KIMBALL, JOHN HOUSE	LIBERTY HALL
KIMBALL, SOLOMON HOUSE	LIBERTY PLAIN HISTORIC DISTRICT
KING CAESAR HOUSE	LIBERTY TREE BUILDING
KING PHILIP MILLS	LIBERTY TREE DISTRICT
KING'S CHAPEL BURYING GROUND	LIGHTSHIP NO. 114
KINGS BEACH	LILY POND ACCESS
KINGS'S CHAPEL	LINCOLN HIST. DIST. EXTENSION (PHASE I)
KINGSLEY, CHESTER HOUSE	LINCOLN HIST. DIST. EXTENSION (PHASE II)
KINSMAN, BENJAMIN HOUSE	LINCOLN HIST. DIST. EXTENSION (PHASE III)
KITTREDGE, ALVAH HOUSE	LINCOLN HISTORIC DISTRICT
KLOUS, SEMAN ROWHOUSES	LINCOLN HOUSE
KNIGHT, R. A. - LACOUNT, EUGENE HOUSE	LINCOLN HOUSE CLUB
KNOWLES BEACH	LINCOLN, GEN. BENJAMIN HOUSE
KRESGE AUDITORIUM	

MASSACHUSETTS METADATA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

LINDEN PARK	LUNA, TUGBOAT
LINDEN SQUARE	LUTHER STORE
LINDSEY, WILLIAM HOUSE	LUTHER'S CORNER HISTORIC DISTRICT
LITTLE HARBOR BEACH	LUTHER, WILLIAM HOUSE
LITTLE STATE BEACH	LYNN ARMORY
LITTLE, ARTHUR D. INC. BUILDING	LYNN COMMON HISTORIC DISTRICT
LIVERMORE, WILLIAM HOUSE	LYNN HERITAGE STATE PARK
LOBSTER FISHING	LYNN MASONIC HALL
LOBSTER POUND	LYNN PUBLIC LIBRARY
LOCK AND DAM	LYNN REALTY COMPANY BUILDING #2
LOCKE - BALDWIN - KINSLEY HOUSE	LYNN SHORE STATE RESERVATION
LOCKE - OBER RESTAURANT	LYNN YACHT CLUB
LOCKHARDT, CHARLES H. HOUSE	LYNNWOOD
LODGE, HENRY CABOT RESIDENCE	LYON, T. U. HOUSE
LOGAN INTERNATIONAL AIRPORT	LYONS PARK AND DANE STREET BEACH
LOMBARD, LEWIS HOUSE	M.I.T. CHAPEL
LONG BEACH	M76 BOAT RAMP
LONG ISLAND HEAD LIGHT	MA GENERAL HOSPITAL - BULFINCH BUILDING
LONG PLAIN FRIENDS MEETINGHOUSE	MA GENERAL HOSPITAL - ETHER DOME
LONG POINT LIGHT STATION	MA HISTORICAL SOCIETY BUILDING
LONG WHARF AND CUSTOM HOUSE BLOCK	MA INSTITUTE OF TECHNOLOGY NR DISTRICT
LONG, JAMES HOUSE	MACY, NATHANIEL HOUSE
LONGWOOD HISTORIC DISTRICT	MACY, THOMAS WAREHOUSE
LORD, DAVID APARTMENTS	MAGANSETT BEACH
LORD, ROBERT III - BAKER, SAMUEL HOUSE	MAIN STREET HISTORIC DISTRICT
LORING - GREENOUGH HOUSE	MAIN STREET, 237-239
LORING, GEORGE HOUSE	MAIN STREET, 600
LORING, HARRISON HOUSE	MAIN STREET, 606
LOTHROP, CALEB HOUSE	MAIN STREET, 614
LOVEJOY, ALVAN L. HOUSE	MALIBU BEACH
LOVEJOY, CHARLES HOUSE	MANCHESTER HISTORIC DISTRICT
LOVELL BLOCK	MANCHESTER VILLAGE HISTORIC DISTRICT
LOVELL, CAPT. GEORGE HOUSE	MANLEY, WILLIAM M. HOUSE
LOVELL, NEHEMIAH HOUSE	MANNET BEACH
LOVERING, JOSEPH HOUSE	MANNING, JOSEPH K. HOUSE
LOW BEACH	MANUEL F. CORRELLUS STATE FOREST
LOW, THOMAS HOUSE	MAPLE AVE HISTORIC DISTRICT
LOWELL'S BOAT SHOP	MAPLEWOOD AVENUE, 78
LOWER HIGHLANDS HISTORIC DISTRICT	MARBLEHEAD HISTORIC DISTRICT
LOWER ROXBURY HISTORIC DISTRICT	MARBLEHEAD LIGHT
LOWER UNION STREET HISTORIC DISTRICT	MARCH, SAMUEL HOUSE
LUKE BUILDING	

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

MARCONI - RCA WIRELESS RECEIVING STATION	MAYO BEACH III
MARCONI STATION	MBL/WHOI
MARDEN, JENNIE HOUSE	MCCORMACK, JOHN W. BLDG. AND COURTHOUSE
MARINA	MCINTIRE HISTORIC DISTRICT
MARINA/MARINA ANCHORAGE	MCKAY, DONALD HOUSE
MARKET SQUARE HISTORIC DISTRICT	MECHANICS MILL
MARSHFIELD MUNICIPAL AIRPORT	MEDFORD PIPE BRIDGE
MARSTON MILLS CEMETERY	MEETING HOUSE GREEN DISTRICT
MARSTON MILLS HEARSE HOUSE	MELROSE PUBLIC LIBRARY
MARSTON MILLS METHODIST CHURCH	MELROSE TOWN CENTER HISTORIC DISTRICT
MARSTON, ELIAS HOUSE	MELVIN, ISAAC HOUSE
MARSTON, WILLIAM HOUSE	MEMORIAL HALL
MARTHA'S VINEYARD AIRPORT	MENANHANT YACHT CLUB
MARTHAS VINEYARD CAMPGROUND HIST. DIST.	MENAUHANT BEACH
MARTIN - MAXWELL ESTATE	MENTZNER, W. C. HOUSE
MARTIN FARM	MERCHANT, WILLIAM - CHOATE HOUSE
MARTIN H. BURNS STATE WILDLIFE MGT. AREA	MERKEL BEACH
MARY BESSE PARK/ PIER	MERRIFIELD "ROSEBANK" HOUSE
MARY O'MALLEY WATERFRONT PARK ST. RES.	MERRILL ESTATE
MASHNEE VILLAGE BEACH	MERRILL'S WHARF HISTORIC DISTRICT
MASHPEE NATIONAL WILDLIFE REFUGE	MERRIMAC HAT COMPANY MILLS
MASHPEE PINE BARRENS ST. NAT. HER. AREA	METROPOLITAN DIST. COMM. PUMPING HOUSE
MASON, JOSIAH JR HOUSE	METROPOLITAN STORAGE WAREHOUSE
MASONIC TEMPLE	METROPOLITAN THEATRE
MASSACHUSETTS FIELDS SCHOOL	METROPOLITAN YACHT CLUB
MASSACHUSETTS HALL	MIACOMET HEATH STATE NATURAL HER. AREA
MASSACHUSETTS MENTAL HEALTH CENTER	MIDDLESEX FELS RESERVOIRS HIST. DIST.
MASSACHUSETTS SCHOOL OF ART	MIDDLESEX FELS STATE RESERVATION
MASSACHUSETTS STATE HOUSE	MILESTONE, 1767
MASSASOIT FIREHOUSE #5	MILK ISLAND STATE WILDLIFE SANCTUARY
MASSASOIT NATIONAL WILDLIFE REFUGE	MILL WAY HISTORIC DISTRICT
MASSASOIT STATE PARK	MILLARD - SOUTHER - GREEN HOUSE
MATTAPOISETT BOAT YARD AND YACHT CLUB	MILLER, EDWARD HOUSE
MAUDSLAY STATE PARK	MILLETT STREET, 11
MAYFLOWER BEACH	MILLICENT LIBRARY
MAYO BEACH	MILLYARD HOLLOW FRAME DAM
MAYO BEACH I	MILTON CENTRE HISTORIC DISTRICT
MAYO BEACH II	MILTON HILL HISTORIC DISTRICT
	MINOT BEACH

MASSACHUSETTS METADATA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

MINOT'S LEDGE LIGHT	NANUMET HEIGHTS BEACH
MISSION HILL TRIANGLE HISTORIC DISTRICT	NARRAGANSETT MILLS
MONOMOY NATIONAL WILDLIFE REFUGE	NARROWS HISTORIC DISTRICT
MONOMOY POINT LIGHTHOUSE	NATIONAL MONUMENT TO THE FOREFATHERS
MONROE, BESSIE HOUSE	NATIONAL SHAWMUT BANK BUILDING
MONTROSE, THE	NAUSET BEACH
MONUMENT BEACH	NAUSET BEACH LIGHT
MONUMENT SQUARE HISTORIC DISTRICT	NAVAL HOSPITAL, BOSTON HISTORIC DISTRICT
MOORE - HILL HOUSE	NED POINT LIGHT
MORAIN FARM	NEDS POINT BEACH
MORELAND STREET HISTORIC DISTRICT	NEEL ROAD BEACH
MORRIS ISLAND DIKE AND BEACH	NELL, WILLIAM C. RESIDENCE
MORSE, TIMOTHY HOUSE	NELSON, JOHN R. HOUSE
MOSCOW STREET, 1-7	NEPONSET RIVER ESTUARY ACEC
MOSHUP BEACH	NEPONSET RIVER STATE RESERVATION
MOUND STREET BEACH	NEW BEDFORD HIST. DIST. (WATERFRONT)
MOUNT PLEASANT - SOUTH STREET HIST. DIST	NEW BEDFORD MUNICIPAL AIRPORT
MOUNT PLEASANT HISTORIC DISTRICT	NEW BEDFORD YACHT CLUB
MOUNT VERNON STREET HISTORIC DISTRICT	NEW CHARLES RIVER DAM
MOUNT WOLLASTON CEMETERY	NEW ENGLAND AQUARIUM
MOVERS'BLOCK	NEW ENGLAND CONSERVATORY OF MUSIC
MUNICIPAL GROUP HISTORIC DISTRICT	NEW ENGLAND HEBREW ACADEMY
MUNROE BUILDING	NEW ENGLAND HOSP. FOR WOMEN & CHILDREN -
MUNROE, BENJAMIN HOUSE	NEW ENGLAND HOSP. FOR WOMEN AND CHILDREN
MUNROE, EDWIN AND BENJAMIN HOUSE	NEW ENGLAND TELEPHONE BUILDING
MUNROE, ROBERT HOUSE	NEW OLD SOUTH CHURCH
MURPHY, WILLIAM HOUSE	NEW RIDING CLUB
MURRAY, WILLIAM HOUSE	NEWBURY HISTORIC DISTRICT
MUSEUM BEACH	NEWBURYPORT AIRFIELD
MYLES STANDISH STATE FOREST	NEWBURYPORT HARBOR FRONT RANGE LIGHT
MYLES STANDISH STATE MONUMENT	NEWBURYPORT HARBOR LIGHT
MYSTIC RIVER STATE RESERVATION	NEWBURYPORT HARBOR REAR RANGE LIGHT
NAHANT BEACH/ LYNN SHORE ST. RESERVATION	NEWBURYPORT HISTORIC DISTRICT
NAHANT CIVIC HISTORIC DISTRICT	NEWCOMB HOLLOW BEACH
NAHANT TOWN HALL	NEWCOMB PLACE
NANTASKET BEACH STATE RESERVATION	NEWCOMB, JOHN HOUSE
NANTASKET PIER	NEWELL FARM
NANTUCKET HISTORIC DISTRICT	
NANTUCKET MEMORIAL AIRPORT	
NANTUCKET NATIONAL WILDLIFE REFUGE	

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

NEWHALL, LUCIAN HOUSE	OAKES, EDWARD HOUSE
NEWMAN - FISKE - DODGE HOUSE	ODD FELLOW'S HALL
NEWMAN, ANDREW HOUSE	ODD FELLOW'S HALL 1
NEWSPAPER ROW	ODD FELLOWS BUILDING
NICHOLS, JOHN F. HOUSE	ODD FELLOWS HALL
NICKERSON BEACH/ CHAPPEL ROCK	OFF CRAIGVLE BEACH
NICKERSON MANSION - FIELDSTONE HALL	OLD BURYING GROUND
NICKERSON STATE PARK	OLD CAMBRIDGE BAPTIST CHURCH
NILES BEACH	OLD CAMBRIDGE HISTORIC DISTRICT
NILES, LOUVILLE HOUSE	OLD CAMBRIDGEPORT HISTORIC DISTRICT
NOBILITY HILL HISTORIC DISTRICT	OLD CASTLE
NOBSKA POINT LIGHT STATION	OLD CEMETERY
NOMANS LAND ISLAND NAT. WILDLIFE REFUGE	OLD CITY HALL
NOQUOCHOKE ST. WILDLIFE MANAGEMENT AREA	OLD COLONY TRUST COMPANY BUILDING
NORFOLK STREET HISTORIC DISTRICT	OLD CORNER BOOKSTORE, THE
NORTH ABINGTON DEPOT	OLD COUNTY COURTHOUSE
NORTH ATLANTIC LOBSTER	OLD FARM
NORTH AVE CONGREGATIONAL CHURCH	OLD GARRISON HOUSE
NORTH BEACH	OLD HIGGINS FARM WINDMILL
NORTH BEDFORD HISTORIC DISTRICT	OLD KINGS HIGHWAY REGIONAL HIST. DIST.
NORTH BURIAL GROUND	OLD MEDFORD HIGH SCHOOL
NORTH CHRISTIAN CONGREGATIONAL CHURCH	OLD MIDDLESEX COUNTY SUPERIOR COURTHOUSE
NORTH FALMOUTH HISTORIC DISTRICT	OLD MILL
NORTH SCITUATE BEACH	OLD NORTH CHURCH
NORTH SHORE BEACH	OLD PARSONAGE
NORTH SHORE BOAT WORKS	OLD POST OFFICE BUILDING
NORTH SHORE STATE SALT MARSH	OLD SHIP MEETINGHOUSE
NORTHERN AVENUE DRAW BRIDGE	OLD SHIP STREET HISTORIC DISTRICT
NORTHSIDE HISTORIC DISTRICT	OLD SHIPBUILDER'S HISTORIC DISTRICT
NORTON POINT BEACH	OLD SILVER BEACH
NOTRE DAME SCHOOL	OLD SOUTH CHURCH
NOWLAND, J. MARTIN HOUSE	OLD SOUTH MEETING HOUSE
NOYES, JAMES HOUSE	OLD STATE HOUSE
NURSE, REBECCA HOUSE	OLD STORY FARM
NYE, BENJAMIN HOMESTEAD	OLD THIRD DISTRICT COURTHOUSE
O'SHEA BUILDING NO. 1	OLD TOWN CENTER HISTORIC DISTRICT
O'SHEA BUILDING NO. 2	OLD TOWN HALL HISTORIC DISTRICT
OAK BLUFFS CHRISTIAN UNION CHAPEL	OLD TOWN HISTORIC DISTRICT
OAK GROVE CEMETERY	OLD TOWN HOUSE
OAK STREET, 52	OLD WEST CHURCH
OAKDALE AVENUE BEACH	OLIVERS POND STATE NATURAL HERITAGE AREA

MASSACHUSETTS METADATA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

OLMSTED PARK SYSTEM	PEABODY MUS.OF SALEM-E.INDIA
ON-I-SET WIGWAM	MARINE HALL
ONSET BEACH	PEABODY, GEORGE HOUSE
OPPOSITION HOUSE	PEABODY, JOHN P. HOUSE
ORCHARD BEACH	PECK - BOWEN HOUSE
OSBORN STREET GRAMMAR SCHOOL	PEGGOTTY BEACH
OSTERVILLE BAPTIST CHURCH	PEIRCE - NICHOLS HOUSE
OTIS - WYMAN HOUSE	PEMBERTON BEACH
OTIS AIR FORCE BASE	PENIKESE ISLAND STATE WILDLIFE
OTIS, FIRST HARRISON GRAY HOUSE	SANCTUARY
OTIS, SECOND HARRISON GRAY HOUSE	PENNIMAN, CAPT. EDWARD HOUSE AND
OUR LADY OF GOOD VOYAGE CHURCH	BARN
OWEN LITTLE WAY BEACH	PERKINS, CAPT. MATTHEW HOUSE
OYSTER POND BEACH	PERKINS, JOHN - HODGKINS HOUSE
PADANARAM VILLAGE HISTORIC	PERKINS, JOHN HOUSE
DISTRICT	PERLEY'S MARINA AND TOWN LANDING
PAINE - DODGE HOUSE	PERRY BEACH
PAINES CREEK LANDING AND BEACH	PETTENGILL, C. F. HOUSE
PALMER'S ISLAND LIGHT STATION	PHILLIPS, FRANKLIN HOUSE
PAMET HARBOR YACHT CLUB	PHINNEY - SMITH HOUSE
PARAMOUNT THEATRE	PHINNEY, WILLIAM HOUSE
PARK	PHIPPS STREET BURYING GROUND
PARK STREET DISTRICT	PHOENIX BUILDING
PARK STREET RAILROAD STATION	PIANO ROW HISTORIC DISTRICT
PARKER - BURNETT HOUSE	PICARD, ISRAEL HOUSE
PARKER HOUSE	PICKERING, REV. THEOPHILUS HOUSE
PARKER MILLS HISTORIC DISTRICT	PICTURE LAKE ACCESS
PARKER RIVER BEACH	PIERCE - HICHBORN HOUSE
PARKER RIVER NATIONAL WILDLIFE	PIERCE BEACH
REFUGE	PIERCE HOUSE
PARKER RIVER/ESSEX BAY ACEC	PIERCE, CAPT. MIAL HOUSE
PARKERS BOAT YARD	PIERCE, WILLIAM ROWHOUSES
PARKMAN, FRANCIS HOUSE	PILGRIM HALL
PARKWOOD BEACH	PILGRIM MEMORIAL STATE PARK
PARSONAGE FOUNDATION SITE	PILGRIM MILLS
PATCH, EMELINE HOUSE	PILGRIM NUCLEAR POWER STATION
PATTILLO, JAMES W. HOUSE	PILL HILL HISTORIC DISTRICT
PAVILLION BEACH	PILL HILL LOCAL HISTORIC DISTRICT
PAWSEY BEACH	PINE STREET SCHOOL
PEABODY CENTRAL FIRE STATION	PINEY POINT BEACH
PEABODY CITY HALL	PINKHAM HOUSE
PEABODY CIVIC CENTER	PJ'S LOBSTER
PEABODY COURT APARTMENTS	PLEASANT - SCHOOL STREET HIST. DIST.
PEABODY INSTITUTE LIBRARY	PLEASANT AVENUE HISTORIC DISTRICT
	PLEASANT BAY ACEC

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

PLEASANT BAY BEACH	PROCTOR, THOMAS E. BUILDING
PLEASANT ROAD BEACH	PROSPECT CONGREGATIONAL CHURCH
PLEASANT VIEW AIRPORT	PROSPECT HILL TOWER AND OBSERVATORY
PLUM COVE BEACH	PROVINCETOWN HISTORIC DISTRICT
PLUM ISLAND AIRPORT	PROVINCETOWN MUNICIPAL AIRPORT
PLUM ISLAND POINT BEACH	PROVINCETOWN PUBLIC LIBRARY
PLYMOUTH ANTIQUARIAN HOUSE	PT BOAT 617
PLYMOUTH HISTORIC DISTRICT	PT BOAT 796
PLYMOUTH LIGHT STATION (GURNET)	PUNCHARD - DUNLARD HOUSE
PLYMOUTH LONG BEACH	PURITAN HOUSE
PLYMOUTH MUNICIPAL AIRPORT	PUTNAM, DEA. EDWARD JR. HOUSE
PLYMOUTH POST OFFICE BUILDING	PUTNAM, GENERAL ISRAEL HOUSE
PLYMOUTH ROCK	PUTNAM, JAMES JR. HOUSE
PLYMOUTH VILLAGE HISTORIC DISTRICT	QUAMHASSET ROAD BEACH
POCASSET FIREHOUSE #7	QUARRY STREET, 108-112
POCASSET RIVER ACEC	QUEQUECHAN CLUB
POINT ALLERTON LIFESAVING STATION	QUEQUECHAN VALLEY MILLS HISTORIC DIST.
POINT INDEPENDENCE BEACH	QUINCY CENTER LOCAL HISTORIC DISTRICT
POINT OF PINES BEACH	QUINCY ELECTRIC LIGHT AND POWER COMPANY
POINT OF PINES YACHT CLUB	QUINCY HOMESTEAD
POINT OF ROCKS BEACH	QUINCY MARKET
POLPIS HARBOR	QUINCY POINT FIRE STATION
POND HILL SCHOOL	QUINCY POLICE STATION
POOLE, GEORGE HOUSE	QUINCY QUARRIES SITE STATE RESERVATION
POPE'S BEACH	QUINCY SCHOOL
POPPONESSET BEACH	QUINCY TOWN HALL
POPPONESSET BEACH (PRIVATE)	QUINCY, JOSIAH HOUSE
POPPONESSETT BEACH	RACE POINT LIGHT STATION
PORCELLIAN CLUB	RAM ISLAND STATE WILDLIFE SANCTUARY
PORT ROYAL HOUSE, THE	RAYCROFT BEACH
PORTLAND STREET, 138-142	RAZOR CLAM HARVEST
PRATT - FAXON HOUSE	REA - PROCTOR HOMESTEAD
PRATT AVENUE BEACH	REA - PUTNAM - FOWLER HOUSE
PRATT, DEXTER HOUSE	READ, CHENEY HOUSE
PRESCOTT STREET, 16	READ, NATHAN HOUSE
PRESCOTT, GUSTAVUS G. HOUSE	REARDON, EDMUND HOUSE
PRESCOTT, WILLIAM HICKLING HOUSE	RECORD, JONATHAN DEXTER HOUSE
PRESTON - FOSTER HOUSE	RECREATIONAL FISHING
PRINCE - OSBORNE HOUSE	RED RIVER BEACH
PRINCETON ST. ARCHITECTURAL CONSERVATION	
PRINCETON, THE	
PROCTOR STREET, 6	
PROCTOR, JOHN HOUSE	

MASSACHUSETTS METADATA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

REED, TIMOTHY HOUSE	ROTCH - JONES - DUFF HOUSE
REHOBOTH VILLAGE HISTORIC DISTRICT	ROTCH, WILLIAM HOUSE
REVERE BEACH RESERVATION	ROUGHAN HALL
REVERE, PAUL HOUSE	ROUND HILL BEACH
REVERSIBLE COLLAR COMPANY BUILDING	ROUND HOUSE
REXHAME BEACH	ROWELL HOUSE
RHODEHOUSE, NELSON HOUSE	ROXBURY HIGHLANDS HISTORIC DISTRICT
RICES BEACH	ROXBURY PRESBYTERIAN CHURCH
RICHARDS, ALFRED H. HOUSE	ROXBURY STANDPIPE
RICHARDS, ELLEN SWALLOW HOUSE	ROYALL, ISAAC HOUSE
RICHARDS, THEODORE W. HOUSE	RUGGLES PARK
RICHARDSON BLOCK	RUMNEY MARSH STATE RESERVATION
RICHARDSON, DR. SOLON O. HOUSE	RUMNEY MARSHES ACEC
RICHARDSON, JOHN HOUSE	RUSSELL - HOWLAND HOUSE
RICHMOND COURT	RUSSELL, EDWARD HOUSE
RICKER, GEORGE AND JEREDIAH HOUSE	RUSSELL, PHILEMON HOUSE
RIDGEVALE BEACH	RUSSELL, SUSAN HOUSE
RIVER STREET FIREHOUSE	RUSSELLS MILLS VILLAGE HISTORIC DISTRICT
RIVERBANK COURT HOTEL	RUSSIA WHARF BUILDINGS
RIVERSIDE BEACH	RUST, NATHANIEL MANSION
RIVIERA, THE	RYDER BEACH AND LANDING
ROBBINS, HENRY HOUSE	RYMES, CHRISTOPHER HOUSE
ROBBINS, JOSEPH HOUSE	S. STATION INTERLOCKING SYSTEM - TOWER 1
ROBERTS BROTHERS HOUSE	SACRED HEART CH.,RECTORY,SCH.,& CONVENT
ROBINSON, ENOCH HOUSE	SACRED HEART SCHOOL
ROBINSON, JAMES HOUSE	SAGAMORE BEACH
ROBINSON, WILLIAM HOUSE	SAGAMORE MILL NO. 2
ROCHESTER STATE WILDLIFE MANAGEMENT AREA	SAGAMORE MILLS NO. 1 AND 3
ROCKLAND HIGH SCHOOL	SAINT AIDAN'S CHURCH AND RECTORY
ROCKLAND MEMORIAL LIBRARY	SAINT ANNES CHURCH AND PARISH COMPLEX
ROCKLAND TRUST COMPANY	SAINT AUGUSTINE CHAPEL & CEMETERY
ROCKPORT DOWNTOWN MAIN ST. HIST. DIST.	SAINT BOTOLPH STREET AREA ARCHITECTURAL
ROCKS VILLAGE HISTORIC DISTRICT	SAINT CLOUD HOTEL
ROCKY GUTTER ST. WILDLIFE MGT. AREA	SAINT JAMES EPISCOPAL CHURCH
ROCKY HILL MEETING HOUSE	SAINT JOSEPH'S ORPHANAGE
RODMAN CANDLE WORKS	SAINT JOSEPH'S ROMAN CATHOLIC CHURCH
RODMAN, BENJAMIN HOUSE	SAINT LOUIS CHURCH
ROGERS, CAPT. RICHARD HOUSE	
ROGERS, REV. NATHANIEL HOUSE	
RONAN, MARY T. SCHOOL	
ROSEBUD DINER	
ROSS TAVERN	

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

SAINT MARY OF THE ASSUMPTION COMPLEX	SAUGUS IRON WORKS NAT'L HISTORICAL SITE
SAINT MICHAEL'S EPISCOPAL CHURCH	SAUGUS IRON WORKS NATIONAL HISTORIC SITE
SAINT PATRICK'S CHURCH	SAUGUS TOWN HALL
SAINT PAUL'S CHURCH	SAUNDERS, CHARLES HICKS HOUSE
SAINT PAUL'S RECTORY	SAUNDERS, WILLIAM HOUSE
SAINT STEPHEN'S CHURCH	SAVOY THEATER (OPERA HOUSE)
SAINT STEPHEN'S MEMORIAL CHURCH	SAWIN - COBB - WILSON HOUSE
SALEM - AUBURN STREETS HISTORIC DISTRICT	SAWIN, EZEKIEL HOUSE
SALEM CITY HALL	SAXON THEATRE (MAJESTIC - EMERSON)
SALEM COMMON HISTORIC DISTRICT	SCHOONER ADVENTURE
SALEM COMMUTER FERRY TERMINAL	SCHUEBELER, CHARLES HOUSE
SALEM LAUNDRY	SCUDDER, JOSIAH JR. HOUSE
SALEM MARITIME NATIONAL HISTORIC SITE	SCUSSET BEACH RESERVATION
SALEM NEWS PUBLISHING COMPANY BUILDING	SEA PLANE BASIN
SALEM OLD TOWN HALL	SEA SCALLOP HARVEST
SALEM POWER STATION	SEA STREET BEACH
SALEM RAILROAD SIGNAL TOWER	SEACONNET MILL
SALEM STATE COLLEGE INTAKE	SEAGULL BEACH
SALEM STREET BURYING GROUND	SEAPORT STUDIO
SALEM VILLAGE HISTORIC DISTRICT	SEARS CRESCENT AND SEARS BLOCK
SALEM WILLOWS HISTORIC DISTRICT	SEARS ROEBUCK & COMPANY MAIL ORDER STORE
SALISBURY BEACH STATE RESERVATION	SEARS, DAVID HOUSE
SALT POND BEACH	SEAVIEW BEACH
SAMPSON FOLLY - SAMPSON, JOSIAH HOUSE	SECOND CAMBRIDGE SAVINGS BANK BUILDING
SANDS, HIRAM HOUSE	SECOND UNITARIAN CHURCH
SANDS, IVORY HOUSE	SECOND WATERHOUSE HOUSE
SANDWICH STATE FISH HATCHERY	SEDDON TAVERN
SANDY BEACH	SENATE RECEPTION ROOM
SANDY GUNROCK BEACH	SEVER HALL
SANDY NECK CULTURAL RESOURCES DISTRICT	SEWALL - SCRIPTURE HOUSE
SANDY NECK/BARNSTABLE HARBOR ACEC	SHADY HILL HISTORIC DISTRICT
SANDY POINT ACCESS AREA	SHAWME CROWELL STATE FOREST
SANDY POINT STATE RESERVATION	SHAWMUT YACHT CLUB
SANFORD SPINNING COMPANY	SHAWS BOAT YARD
SANKATY HEAD LIGHT	SHEDD, WILLIAM HOUSE
SANTO CRISTO CHURCH	SHELL OIL COMPANY "SPECTACULAR" SIGN
SANTUIT HISTORIC DISTRICT	SHELLFISH HARVEST
	SHELLFISH HARVEST SITE
	SHELLFISH LEASE AREA
	SHELLFISH RELAY SITE

MASSACHUSETTS METADATA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

SHEPARD BLOCK	SOUTH CAPE BEACH STATE PARK
SHEPPARD, EBEN W. HOUSE	SOUTH DENNIS HISTORIC DISTRICT
SHIP SHOP MARINA	SOUTH END DISTRICT
SHIPYARD LANE BEACH	SOUTH END LANDMARK DISTRICT
SHIRLEY - EUSTIS HOUSE	SOUTH GREEN DISTRICT
SHORE ROAD BEACH I	SOUTH HARWICH METHODIST CHURCH
SHORE ROAD BEACH II	SOUTH MIDDLE BEACH
SHORT BEACH	SOUTH SCHOOL
SHORT HOUSE	SOUTH SHORE STATE SALT MARSH
SHUBAEL POND ACCESS	SOUTH STATION HEADHOUSE
SHUBERT THEATRE	SOUTH STATION WAITING ROOM
SIDELINGER, GEORGE A. HOUSE	SOUTH SWANSEA UNION CHURCH
SILVER SHELL BEACH	SOUTH VILLAGE ROAD BEACH
SIMCOCK HOUSE	SOUTH WATUPPA BOAT RAMP
SIMMONS BEACH	SOUTH WEYMOUTH NAVAL AIRSTATION
SKAKET BEACH	SOUTH YARMOUTH - BASS RIVER HIST. DIST.
SLADE SPICE MILL	SOUTHER TIDE MILL
SLY POND STATE NATURAL HERITAGE AREA	SOUTHWICK STRAUSS TANNERY
SMITH BEACH	SOUTHWICK, JOHN HOUSE
SMITH HOUSE	SPARROW, RICHARD HOUSE
SMITH, A. C. AND COMPANY GAS STATION	SPEAR, SETH HOMESTEAD
SMITH, AARON HOUSE	SPELAN, MICHAEL HOUSE
SMITH, HAZADIAH HOUSE	SPENCER - PIERCE - LITTLE BARN
SMITH, JOHN HOUSE	SPENCER - PIERCE - LITTLE HOUSE
SMITH, JOHN MACE HOUSE	SPINDLE ROCK BEACH CLUB
SMITH, MATTHIAS HOUSE	SPINNEY, LAWRENCE HOUSE
SMITH, SAMUEL TAVERN SITE	SPRAGUE HOUSE
SMUGGLER'S HOUSE	SPRING HILL HISTORIC DISTRICT
SNOW, LEMUEL JR. HOUSE	SPRING POINT BEACH
SO. BARRIER BCH. ST. FISH. & WILD. AREA	SPRING STREET, 54
SO. TRIANGLE POND ST. NATURAL HER. AREA	SPRING, ANDREW CRAIGIE HOUSE
SOLDIERS AND SAILORS MEMORIAL BLDG.	SPURR, ELIPHALET HOUSE
SOMERSET MARINA	SQUEATEAGUE HARBOR BEACH
SOMERSET STATION	SQUIBNOCKET BEACH
SOMERSET YACHT CLUB	ST. JOSEPH'S ROMAN CATH. CH. COMPLEX
SOMERVILLE CITY HALL	ST. MARY'S RC. CATHEDRAL AND RECTORY
SOMERVILLE HISTORICAL SOCIETY	ST. NICHOLAS ORTHODOX CHURCH AND RECTORY
SOMERVILLE JOURNAL BUILDING	ST. PAUL'S CH., CHAPEL & PARISH HOUSE
SOMERVILLE THEATRE	STACY, GEORGE O. HOUSE
SOULE, LAWRENCE HOUSE	STAFFORD MILLS
SOUTH BEACH	STANDISH, JAMES H. HOUSE
	STANSTEAD, THE

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

STATE BOAT RAMP	SWEETSER, WARREN HOUSE
STATE FISHING PIER	SWIFT, E. E. C. STORE
STATE LOBSTER HATCHERY	SWIFTS BEACH
STATE LUNATIC HOSPITAL AT DANVERS	SYLVESTER, JOHN HOUSE
STATEN STREET, 7	SYMPHONY HALL (ALSO
STEARNS, R. H. - WATERMAN, FOSTER	HORTICULTURAL HALL)
BLDG.	TAHANTO BEACH
STEARNS, R. H. BUILDING	TAPLEY BUILDING
STEBBINS, ELIZA HOUSE	TARPAULIN COVE STATE WILDLIFE
STEELE HOUSE	SANCTUARY
STEELE, JOHN DOUBLE HOUSE	TAUNTON MUNICIPAL AIRPORT
STELLWAGEN BANK NMS	TAUNTON YACHT CLUB
STICKNEY - SHEPARD HOUSE	TAY, JESSE HOUSE
STOCK EXCHANGE BUILDING	TAYLOR - BRAY FARM
STODDARD, BELA HOUSE	TAYLOR, ADONIRAM HOUSE AND STABLE
STODDER'S NECK STATE RESERVATION	TAYLORS POINT BEACH
STONEHAM ALMSHOUSE	TELEGRAPH HILL
STONEHAM FIRE STATION	TEMPEST KNOB BOAT RAMP
STONEHAM PUBLIC LIBRARY	TEMPLE PLACE HISTORIC DISTRICT
STONY BEACH	TEN POUND ISLAND LIGHT
STORY GRAMMAR SCHOOL	TENEAN BEACH
STORY, ISAAC HOUSE	TERN HARBOR MARINA
STORY, JOSEPH HOUSE	TEXTILE DISTRICT
STRAIGHTSMOUTH ISLAND LIGHT	THACHER ISLAND NATIONAL WILDLIFE
STREET CLOCK	REFUGE
SUFFOLK COUNTY COURT HOUSE	THACHERS BEACH
SUFFOLK COUNTY JAIL	THAD ELLIS WETLAND ST. NAT. HER.
SUMMER ST, 83-87	AREA
SUMMER ST, 89-95	THE BEACON
SUMNER HILL HISTORIC DISTRICT	THE COLONY HISTORIC DISTRICT
SUMNER, CHARLES HOUSE	THE OLD MILL
SUNKEN MEADOW BEACH	THIRD MEETING HOUSE
SUNSET MARINE	THOMAS - WEBSTER ESTATE
SUPERIOR COURTHOUSE AND BARTLET	THOMAS, ANTHONY HOUSE
MALL	THOMPSON STREET SCHOOL
SURF CLAM BAIT HARVEST	THOMSON, ELIHU HOUSE
SURF CLAM HARVEST	THORNDIKE, CAPT. JOHN HOUSE
SURF DRIVE BEACH	THUMPERTOWN BEACH
SURFSIDE BEACH	TILTON, D. HORACE HOUSE
SUTTON BLOCK	TIMES AND OLYMPIA BUILDINGS
SWALLOW, MORTON T. HOUSE	TITCOMB, BENAIAH HOUSE
SWAMPSCOTT FISH HOUSE	TOBEY HOMESTEAD
SWANSEA VILLAGE HISTORIC DISTRICT	TOBEY, JOSIAH HOUSE
SWEETSER, MICHAEL HOUSE	TOUSSAINT, WINAND HOUSE

MASSACHUSETTS METADATA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

TOWER - WILDER HISTORIC DIST. EXTENSION	U. S. POST OFFICE - AMESBURY BRANCH, OLD
TOWER - WILDER HISTORIC DISTRICT	U. S. POST OFFICE - BEVERLY MAIN BRANCH
TOWN AQUACULTURE SITE	U. S. POST OFFICE - CHELSEA BRANCH
TOWN BEACH	U. S. POST OFFICE - LYNN MAIN BRANCH
TOWN BOUNDARY MARKER	U. S. POST OFFICE - MEDFORD MAIN
TOWN HALL SQUARE HISTORIC DISTRICT	U. S. POST OFFICE - MILTON MAIN
TOWN HILL HISTORIC DISTRICT	U. S. POST OFFICE - QUINCY MAIN BRANCH
TOWN LANDING/ HEAD OF MEADOW BEACH	U. S. POST OFFICE - SALEM MAIN BRANCH
TOWN PIER	U. S. POST OFFICE - SANTUIT BRANCH
TOWN STABLE	U.S. POST OFFICE GARAGE
TRADE WIND AIRPORT	UNCLE HARVEY'S POND ACCESS
TREADWELL - SPARKS HOUSE	UNION #2 ENGINE HOUSE
TREADWELL, NATHANIEL - HALE HOUSE	UNION MILLS
TREMONT NAIL FACTORY DISTRICT	UNION RAILWAY CAR BARN
TREMONT POND ACCESS	UNION STREET RWY. CARBARN & REPAIR SHOP
TREMONT ST.BLOCK BTW AVERY & BOYLSTON	UNION WHARF
TREMONT STREET SUBWAY	UNITARIAN SOCIETY IN FALL RIVER
TREMONT TEMPLE BAPTIST CHURCH	UNITARIAN UNIVERSALIST CH. & PARSONAGE
TRINITY CHURCH	UNITED FIRST PARISH CHURCH
TRINITY EPISCOPAL CHURCH	UNITED PARISH - HARVARD CHURCH
TRINITY NEIGHBORHOOD HOUSE	UNITED SHOE MACHINERY CORP. CLUBHOUSE
TRINITY RECTORY	UNITED SHOE MACHINERY CORPORATION BLDG
TRINITY UNITED METHODIST CHURCH	UNITED STATES CUSTOM HOUSE
TRIPPS BOAT YARD	UNITED STATES CUSTOMS HOUSE
TROTTER, WILLIAM MONROE HOUSE	UNIVERSITY HALL
TROUT HATCHERY	UNIVERSITY MUSEUM
TRUESDALE HOSPITAL COMPLEX	UPHAM'S CORNER MARKET
TRUNK RIVER BEACH	UPHAM, PHINEAS HOUSE
TUCKER FARM HISTORIC DISTRICT	UPPER MAGAZINE STREET HISTORIC DISTRICT
TUCKER, DR. HARRISON A. COTTAGE	URBAN ROWHOUSE
TUCKERMAN, WILLIAM F. HOUSE	US POST OFFICE - NEWBURYPORT MAIN BRANCH
TUCKERS BEACH	US POST OFFICE - PROVINCETOWN MN. BRANCH
TUFTS, NATHAN PARK	US POST OFFICE - SOMERVILLE MAIN BRANCH
TUFTS, PETER AND OLIVER HOUSE	US POST OFFICE - WEYMOUTH LANDING BRANCH
TUFTS, PETER HOUSE	
TUFTS, REV. JOHN HOUSE	
TURNBULL, R. P. HOUSE	
TWIN LIGHTS HISTORIC DISTRICT	
TWIN LIGHTS NORTH TOWER	
TWIN SISTERS OF NAUSET LIGHTHOUSES	
TWITCHELL, GINERY HOUSE	
U. S. CUSTOM HOUSE	

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

USS CASSIN YOUNG	WATER INTAKE
USS CONSTITUTION (OLD IRONSIDES)	WATERS, CHARLES HOUSE
USS JOSEPH P. KENNEDY	WAVERLY APARTMENTS
USS LIONFISH	WEBB MEMORIAL STATE PARK
USS MASSACHUSETTS	WEBCOWIT CLUB
VALENTINE - FRENCH HOUSE	WEBSTER, DANIEL LAW OFFICE AND LIBRARY
VALENTINE SOAP WORKERS' COTTAGE	WEEKS, BARZILLAI HOUSE
VAMP BUILDING	WEIR RIVER ACEC
VEAZIE, WILLIAM ROWHOUSES	WELCH, REV. MOSES HOUSE
VERMONT BUILDING	WELLFLEET CENTER HISTORIC DISTRICT
VINAL, ALBERT HOUSE	WELLFLEET HARBOR ACEC
VINEYARD HAVEN YACHT CLUB	WELLFLEET TOWN PIER
WADE, JOHN HOUSE	WENHAM HISTORIC DISTRICT
WADE, JONATHAN HOUSE	WESLEY METHODIST CHURCH
WADE, MARY HOUSE	WESLEYAN ASSOCIATION BUILDING
WADSWORTH SCHOOL	WESSAGTUSSETT YACHT CLUB
WAH WAH TAYSEE BEACH	WESSAGUSSET BEACH
WAINWRIGHT, CAPT. JOHN - TREADWELL HOUSE	WEST - COGSWELL HOUSE
WAITT BRICK BLOCK	WEST BARNSTABLE TOWN BOUNDARY MARKER
WAKEFIELD PARK HISTORIC DISTRICT	WEST BARNSTABLE VILLAGE HISTORIC DIST.
WALDO - CALDWELL, JOHN HOUSE	WEST BEACH
WALKDEN FARM	WEST CONCORD ST, 96
WALKER BUILDING, THE	WEST DENNIS TOWN RAMP
WALKER GARAGE	WEST FALMOUTH HISTORIC DISTRICT
WALKER, PETER HOUSE	WEST NEWBURY TRAINING FIELD HIST. DIST.
WALKER, WILLIAM HOUSE	WEST SCHOOLHOUSE
WALSH, JOHN HOUSE	WEST SOMERVILLE BRANCH LIBRARY
WAMPANOAG MILL	WEST STREET HISTORIC DISTRICT
WAQUOIT BAY ACEC	WEST TISBURY HISTORIC DISTRICT
WAQUOIT BAY NAT. ESTUARINE RES. RESERVE	WESTPORT POINT HISTORIC DISTRICT
WAQUOIT HISTORIC DISTRICT	WESTPORT YACHT CLUB
WARD, JOHN HOUSE	WESTWOOD ROAD HISTORIC DISTRICT
WARD, JOSHUA HOUSE	WEWEANTIC BEACH
WARE HALL	WEYMOUTH BACK RIVER ACCESS
WARREN, H. HOUSE	WEYMOUTH CIVIC DISTRICT
WARREN, H. M. PUBLIC SCHOOL	WEYMOUTH/HINGHAM BACK RIVER ACEC
WASH OVER	WHALES BEACH
WASHINGTON SCHOOL	WHEELER - INGALLS HOUSE
WASHINGTON SQUARE HISTORIC DISTRICT	WHEELER, AARON HOUSE
WASHINGTON STREET HISTORIC DISTRICT	WHIPPLE, JOHN HOUSE
WASHINGTON STREET THEATRE DISTRICT	

MASSACHUSETTS METADATA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

WHITE - ELLERY HOUSE	WINTHROP, DEANE HOUSE
WHITE - PRESTON HOUSE	WIRTH, JACOB BUILDING
WHITE HORSE BEACH	WITHEY, S.B. HOUSE
WHITE PLACE HISTORIC DISTRICT	WIXON PIER
WHITE, CHARLES E. HOUSE	WOLLASTON FIRE STATION
WHITECREST BEACH	WOLLASTON THEATRE
WHITING, PEREZ HOUSE	WOLLASTON UNITARIAN CHURCH
WHITMAN, JOSIAH B. HOUSE	WOMAN'S CLUB OF FALL RIVER
WHITTEMORE HOUSE	WOMPATUCK STATE PARK
WHITTIER, JOHN GREENLEAF HOUSE	WOOD END LIGHT LOOKOUT STATION
WIANNO CLUB	WOOD NECK BEACH
WIANNO HISTORIC DISTRICT	WOOD, CHARLES HOUSE
WIGGLESWORTH BUILDING	WOOD, J.A. HOUSE
WILBUR THEATRE	WOODBERRY - QUARRELS HOUSE
WILD HARBOR ACCESS	WOODBERRY, PETER HOUSE
WILEY STREET, 28	WOODBIDGE, THOMAS MARCH HOUSE
WILEY, CALEB HOUSE	WOODS HOLE HISTORIC DISTRICT
WILLARD STREET, 92	WOODS HOLE SCHOOL
WILLCOMB, JOSEPH HOUSE	WOODS, JOHN HOUSE
WILLIAM FORWARD ST. WILDLIFE MGT. AREA	WOODVILLE SCHOOL
WILLIAM STREET HISTORIC DISTRICT	WOODWARD - PARSONS HOUSE
WILLIAMS - LINSOTT HOUSE	WOODWARD INSTITUTE
WILLIAMS, CHARLES HOUSE	WORCESTER, FREDERICK HOUSE
WILLIAMS, CHARLES JR. HOUSE	WORTHEN, DANIEL HOUSE
WILLIAMS, F. G. HOUSE	WRIGHT HOUSE
WILLIAMS, MICAH HOUSE	WRIGHT, ELISHA HOMESTEAD
WILLIS FISHING PIER	WRIGHT, HENRY HOUSE
WILLIS, STILLMAN HOUSE	WYATT, GEORGE HOUSE
WILSON, SHOREBORNE HOUSE	WYNDERMERE BLUFFS BEACH
WINFIELD HOUSE	WYOMING MILLS
WING FORT HOUSE	Y.M.C.A BUILDING
WING'S NECK LIGHT	YANKEE LOBSTER
WINSHIP, CHARLES HOUSE	YARMOUTH CAMP GROUND HISTORIC DISTRICT
WINSLOW, KENELM HOUSE	YOUNG MEN'S CHRISTIAN UNION
WINSLOW, LUTHER JR. HOUSE	YOUTH'S COMPANION BUILDING
WINTER STREET HISTORIC DISTRICT	ZEITERION THEATER
WINTHROP BEACH	ZYLPHA ROAD BEACH
WINTHROP BUILDING	

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.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

ACEC Program

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.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

(508) 291-0950
(508) 678-5283
(508) 678-8321
(617) 934-0571
268-4061
423-0337
542-1992
(617) 727-3160, ext. 552
884-0707

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

Research Planning, Inc.

55.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

G_SOURCE

5.1.2.2. ATTRIBUTE DEFINITION:

Geographic source identifier that links to the SOURCES data table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique link

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

A_SOURCE

5.1.2.2. ATTRIBUTE DEFINITION:

Attribute source identifier that links to the SOURCES data table

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

1-N

Unique link

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1. DETAILED DESCRIPTION: SOC_LUT

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

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<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 SOC_LUT and SOC_DAT

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links SOC_LUT to the SOCECON and MGT data layers

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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5.1. DETAILED DESCRIPTION: SOCECON

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

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<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 socio-economic, 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 (Point)
A2	Access (Point)
AQ	Aquaculture (Point)
B	Recreational Beach (Point)
BR	Boat Ramp (Point)
CF	Commercial Fishing (Point)
CG	Coast Guard (Point)
F	Ferry (Point)
HS	Historical Site (Point)
LD	Lock or Dam (Point)
M	Marina/Anchorage (Point)
MA	Management Area (ACEC) (Point)

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
P	Park (Point)
R	Bridge (Chain)
RF	Recreational Fishing (Point)
WI	Water Intake (Point)
WO	Washover (Point)

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

ID

5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the SOC_LUT table. ID is a concatenation of atlas number (45), element number (10), and record number.

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

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

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

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: SOURCES

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

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:

Attributes

5.1.1.2. ENTITY TYPE DEFINITION:

SOURCE_ID	integer
ORIGINATOR	character
DATE_PUB	integer
TITLE	character
DATA_FORMAT	character
PUBLICATION	character
SCALE	character
TIME_PERIOD	character

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

SOURCE_ID

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

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:

ORIGINATOR

5.1.2.2. ATTRIBUTE DEFINITION:

Author of the data set

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Begley, M., MDEP, Providence
Bergan, J., DFWELE (Westboro)
Blodgett, B., DFWELE/DFW
Brady, P., DMF (Pocasset)
Burrell, D., DFWELE/DFW
Cooper, A. and H. Clish, MCZM
DFWELE, DFW
Division of Marine Fisheries, DFWELE
Early, G., New England Aquarium
Gault, C., Waquoit Bay NEER
Geist, M.A. (ed.)
Goldstein, P., American Museum of Natural
History
Hain, J., NMFS/NEFSC (Principal Contact)
Hain, J.H.W., et al.
Harrington, B. and E. Perry
Harrington, B., Manomet Observatory
Heusmann, H., DFWELE/DFW
Howe, A., DMF, DFWELE
Iwanowicz, R., DMF (Newburyport)
Janik, D. and B. Gass, MCZM, NERO
Jury, S.H., J.D. Field, S.L. Stone, D.M. Nelson, and
M.E. Monaco
Massachusetts Department of Environmental
Protection and NOAA Coastal Services Center
Massachusetts Natural Heritage and Endangered
Species Program
MASSGIS, EOE, Boston, MA
McKenna, S., MCZM, Barnstable
Metropolitan Area Planning Commission
NOAA, SEA Division and Massachusetts DMF,
DFWELE
Packard, R. and J. Hutchinson, DEP-ER
Parsons, K., Manomet Observatory
Payne, P.M. and L.A. Selzer
Perkins, R., et al., MDEP-NERO

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Plough, J. DMF, DFWELE
 Plymouth-Salisbury, Massachusetts Area
 Committee
 Public Access Board, DFWELE
 Rand McNally and Company
 Research Planning, Inc.
 Resource Management Project at UMass
 Reynolds, M. and M. Adams, NPS, CCNSS
 Rhode Island-Southeastern Massachusetts Area
 Committee
 Roach, D., DFWELE
 Rough, V.
 South Shore Shellfish Program, DFWELE, DMF
 Steinitz, M., Massachusetts Historical
 Commission
 Stellwagen Bank National Marine Sanctuary
 Stone, S.L., T.A. Lowery, J.D. Field, S.H. Jury, D.M.
 Nelson, and M.E. Monaco
 U.S. Fish and Wildlife Service, Real Estate
 Division
 U.S. Geological Survey
 Waring, G., NMFS/NEFSC
 Waring, G.T., D.L. Palka, K.D. Mullin, J.H.W.
 Hain, L.J. Hansen, and K.D. Bisack
 Zeroka, R., MCZM

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

DATE_PUB

5.1.2.2. ATTRIBUTE DEFINITION:

Date of data collection or publication

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
 DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
 VALUE DEFINITION:**

1-N

The first two integers are the month and the last four are the year. If month is unknown, only the four-digit year is entered

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE

DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

TITLE

5.1.2.2. ATTRIBUTE DEFINITION:

Title of the source data set or document

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Originator who provided data, or RPI for personal interviews with resource experts

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Additional Access Locations for Massachusetts Coastal Area

Additional Boat Ramp Locations for Massachusetts Coastal Area

Additional Socioeconomic Resources for Massachusetts Coastal Area

Anadromous Fish Seasonality for the North Shore (New Hampshire to Boston)

Anadromous Fish Seasonality for the South Shore (Cape Cod to Rhode Island)

Areas of Critical Environmental Concern

Bird Updates to NHESP Coastal Rare Species Habitats Sensitive to Oil Spills Map

Black Sea Bass Distribution for Massachusetts Coastal Area

Boat Ramps, Marinas

Boundary for Stellwagen Bank National Marine Sanctuary

Coastal Rare Species Habitats Sensitive to Oil Spills

Distribution and Abundance of Fishes and Invertebrates in Mid-Atlantic Estuaries

Distribution and Abundance of Seal Haul-outs in Massachusetts

Distribution and Abundance of Fishes and Invertebrates in North Atlantic Estuaries

Draft Updates to the Plymouth to Salisbury, Massachusetts Area Contingency Plan (ACP)

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Eelgrass and Associated Data for Massachusetts
 Estuarine Living Marine Resources
 Gray Seals in Nantucket Sound, Massachusetts,
 Winter and Spring 1994
 Important Shorebird Staging Sites Meeting
 Western Hemisphere Shorebird Reserve
 Network Criteria in the U.S.
 Land Use Data Layer
 Massachusetts Anadromous Fish Datalayer
 Massachusetts Coastal Colonial Waterbird
 Inventory
 Miscellaneous Resources for Waquoit Bay
 National Estuarine Research Reserve
 National Wildlife Refuge Boundaries for Region
 5
 Potential Waterfowl Concentration Areas and
 Other Resources for Coastal Massachusetts
 Potential Waterfowl Concentration Areas for
 Cape Cod Bay, Nantucket Sound, and Vicinity
 Protected and Recreational Open Space Datalayer
 Public Access Board Sites Data Layer
 Rand McNally Business Traveler's Road Atlas
 and Guide to Major Cities
 Rhode Island and Southeastern Massachusetts
 Area Contingency Plan (ACP)
 Sea Run Brook and Brown Trout Steams and
 Seasonality
 Seal Haul-out Sites for Various Coastal Locations
 Seasonality and Life-history of the Northeastern
 Beach Tiger Beetle
 Shellfish Beds, Harvest Areas, and Lease Sites for
 the S. Shore of Massachusetts
 Shellfish Resources of the Massachusetts Coast
 1978
 Shorebird Concentration Areas of Major
 Importance for Coastal Massachusetts
 State Register of Historic Places Datalayer
 The Distribution, Abundance, and Selected Prey of
 the Harbor Seal, *Phoca vitulina concolor*, in
 Southern New England
 The Fin Whale, *Balaenoptera physalus*, in Waters
 of the NE US Continental Shelf
 U.S. Atlantic and Gulf of Mexico Marine Mammal
 Stock Assessments-1996

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

USGS Topographic Quadrangles
Various Socioeconomic and Biological Resources
for Massachusetts Coastal Area
Various Resources for Massachusetts Coastal Area
Wading Bird and Forging Site Locations for
Massachusetts Coastal Area
Waquoit Bay National Estuarine Research
Reserve
Whale Sightings Distribution for Large-Whale
TRT and CETAP Project

**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:

DATA_FORMAT

5.1.2.2. ATTRIBUTE DEFINITION:

The format of the source data set

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Digital Point
Digital Polygons
Expert Knowledge
Hardcopy Maps
Hardcopy Maps, Text Document
Hardcopy Tables
Text Document

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

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

PUBLICATION

5.1.2.2. ATTRIBUTE DEFINITION:

Additional citation information

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Database Contact: Mark Monaco and D.M. Nelson
DFWELE

DFWELE GIS, Contact (617) 727-1614

DFWELE, DFW, MA, Westboro

ELMR Report No. 12, NOAA/ NOS Strategic
Environmental Assessments Division, Silver
Spring, MD 280 pp.

ELMR Report No. 13, NOAA/ NOS Strategic
Environmental Assessments Division, Silver
Spring, MD 221 pp.

Final Report to the Marine Mammal
Commission, Contract #T10155615, 28 pp.

Marine Mammal Science 5(2), pp. 173-192

Massachusetts Coastal Zone Management, Boston,
MA

Massachusetts Historical Commission, Office of
the Secretary of the Commonwealth

MASSGIS, 20 Somerset Street, Boston, MA 02108,
(617) 727-5229

MDEM, Division of Forests and Parks–Region 1,
Waquoit, MA 113 pp.

National Marine Fisheries Service, Northeast
Fisheries Science Center, Woods Hole, MA

NOAA Coastal Services Center, 2234 S. Hobson
Avenue, Charleston, SC 29405

NOAA Technical Memorandum
NMFS–Northeast Fisheries Science Center, 114
US Dept. of Commerce, NOAA, NEFSC,
Woods Hole, MA 250 pp.

Rand McNally and Company, Post Office Box
7600, Chicago, IL 60680, 128 pp.

Rep. International Whaling Commission, 42:653-
669

Program Contacts: M. Hickey and F. Germano
U.S. Coast Guard, Marine Safety Office, Boston,
MA

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

U.S. Coast Guard, Marine Safety Office,
Providence, RI
U.S. Department of the Interior, Fish and Wildlife
Service, 121 pp.
U.S. Fish and Wildlife Service, Regional Office,
Hadley, MA
U.S. Geological Service, Woods Hole Field Center,
384 Woods Hole Road, Quissett Campus,
Woods Hole, MA 02543
U.S. Geological Survey, Reston, VA

**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:

Source scale denominator

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

1 inch = 10 miles
24000
24000 - 25000
25000
100000
N/A
Unknown
Various

**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:

TIME_PERIOD

5.1.2.2. ATTRIBUTE DEFINITION:

Date(s) of data collection

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

1966-1989

1971-1992

1977-1997

1978

1978-1982

1978-1995

1983-1986

1988-1997

1992

1993

1994

1994-1995

1995

1996

1997

1997-1998

1998

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: SPECIES

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

5.1.1. ENTITY TYPES:

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

5.1.2. ATTRIBUTES:

5.1.2.1. ATTRIBUTE LABEL:

SPECIES_ID

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

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

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

NAME

5.1.2.2. ATTRIBUTE DEFINITION:

Species common name

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Alewife
American bittern
American black duck
American eel
American lobster
American oystercatcher
American plaice
American sand lance
American shad
Arctic tern
Atlantic cod
Atlantic herring
Atlantic jackknife clam
Atlantic mackerel
Atlantic menhaden
Atlantic rock crab
Atlantic salmon
Atlantic sturgeon
Atlantic surfclam
Atlantic tomcod
Atlantic white-sided dolphin
Bald eagle
Bay anchovy
Bay scallop
Black drum
Black sea bass
Black skimmer
Black-bellied plover
Black-crowned night-heron
Blue crab
Blue mussel
Blueback herring

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Bluefish
 Brant
 Brook trout (sea run)
 Brown trout (sea run)
 Butterfish
 Canada goose
 Canvasback
 Cattle egret
 Channel catfish
 Colonial waterbirds
 Common eider
 Common moorhen
 Common tern
 Cownose ray
 Cunner
 Daggerblade grass shrimp
 Diamondback terrapin
 Diving ducks
 Double-crested cormorant
 Dunlin
 Eastern oyster
 Eelgrass
 Eiders
 Fin whale
 Fourspine stickleback
 Glossy ibis
 Goby
 Gray seal
 Great black-backed gull
 Great egret
 Green crab
 Green sea turtle
 Green urchin
 Grubby
 Haddock
 Harbor porpoise
 Harbor seal
 Harlequin duck

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Herring gull
Hogchoker
Hudsonian godwit
Humpback whale
Jonah crab
Kemp's ridley sea turtle
King rail
Laughing gull
Leach's storm-petrel
Least bittern
Least tern
Lesser yellowlegs
Little blue heron
Loggerhead sea turtle
Long-finned pilot whale
Longhorn sculpin
Mallard
Minke whale
Mullet
Mummichog
Ninespine stickleback
Northeastern beach tiger beetle
Northern kingfish
Northern pipefish
Northern quahog (hard clam)
Northern right whale
Northern searobin
Northern shrimp
Ocean pout
Ocean quahog
Oldsquaw
Osprey
Oyster toadfish
Pied-billed grebe
Pinfish
Piping plover
Pollock
Rainbow smelt

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Red hake
 Red knot
 Red-breasted merganser
 Rock gunnel
 Roseate tern
 Saddle-backed dolphin
 Sanderling
 Scaup
 Scoters
 Scup (porgy)
 Sea lamprey
 Sea scallop
 Semipalmated sandpiper
 Sevenspine bay shrimp
 Sheepshead minnow
 Shorebirds
 Short-billed dowitcher
 Shorthorn sculpin
 Shortnose sturgeon
 Silver hake
 Silversides
 Skates
 Smooth flounder
 Snowy egret
 Softshell clam
 Spiny dogfish
 Spot
 Striped bass
 Summer flounder
 Tautog
 Threespine stickleback
 Wading birds
 Waterfowl
 Weakfish
 White hake
 White perch
 Windowpane flounder
 Winter flounder

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Yellow perch
Yellow-crowned night-heron
Yellowtail flounder

**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 brevirostrum
Acipenser oxyrhynchus
Alosa aestivalis
Alosa pseudoharengus
Alosa sapidissima
Ammodytes americanus
Anas platyrhynchos
Anas rubripes
Anchoa mitchilli
Anguilla rostrata
Apeltes quadracus
Arctica islandica
Ardea alba
Argopecten irradians
Aythya spp.
Aythya valisineria
Balaenoptera acutorostrata
Balaenoptera physalus
Botaurus lentiginosus
Branta bernicla

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Branta canadensis
Brevoortia tyrannus
Bubulcus ibis
Calidris alba
Calidris alpina
Calidris canutus
Calidris pusilla
Callinectes sapidus
Cancer borealis
Cancer irroratus
Carcinus maenas
Caretta caretta
Centropristis striata
Charadrius melodus
Chelonia mydas
Cicindela dorsalis dorsalis
Clangula hyemalis
Clupea harengus
Crangon septemspinosa
Crassostrea virginica
Cynoscion regalis
Cyprinodon variegatus
Delphinus delphis
Egretta caerulea
Egretta thula
Ensis directus
Eubalaena glacialis
Fundulus heteroclitus
Gadus morhua
Gallinula chloropus
Gasterosteus aculeatus
Globicephala melaena
Gobiosoma spp.
Haematopus palliatus
Haliaeetus leucocephalus
Halichoerus grypus
Hippoglossoides platessoides
Histrionicus histrionicus

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Homarus americanus
Ictalurus punctatus
Ixobrychus exilis
Lagenorhynchus acutus
Lagodon rhomboides
Larus argentatus
Larus atricilla
Larus marinus
Leiostomus xanthurus
Lepidochelys kempii
Limnodromus griseus
Limosa haemastica
Macrozoarces americanus
Malaclemys terrapin
Megaptera novaeangliae
Melanitta spp.
Melanogrammus aeglefinus
Menidia spp.
Menticirrhus saxatilis
Mercenaria mercenaria
Mergus serrator
Merluccius bilinearis
Microgadus tomcod
Morone americana
Morone saxatilis
Mugil spp.
Mya arenaria
Myoxocephalus aeneus
Myoxocephalus octodecemspinosus
Myoxocephalus scorpius
Mytilus edulis
Nyctanassa violacea
Nycticorax nycticorax
Oceanodroma leucorhoa
Opsanus tau
Osmerus mordax
Palaemonetes pugio
Pandalus borealis

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Pandion haliaetus
Paralichthys dentatus
Peprilus triacanthus
Perca flavescens
Petromyzon marinus
Phalacrocorax auritus
Phoca vitulina
Phocoena phocoena
Pholis gunnellus
Placopecten magellanicus
Plegadis falcinellus
Pleuronectes americanus
Pleuronectes ferrugineus
Pleuronectes putnami
Pluvialis squatarola
Podilymbus podiceps
Pogonias cromis
Pollachius virens
Pomatomus saltatrix
Prionotus carolinus
Pungitius pungitius
Raja spp.
Rallus elegans
Rhinoptera bonasus
Rynchops niger
Salmo salar
Salmo trutta (sea run)
Salvelinus fontinalis (sea run)
Scomber scombrus
Scophthalmus aquosus
Somateria mollissima
Somateria spp.
Spisula solidissima
Squalus acanthias
Stenotomus chrysops
Sterna antillarum
Sterna dougallii dougallii
Sterna hirundo

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

Sterna paradisaea
 Strongylocentrotus droebachiensis
 Syngnathus fuscus
 Tautoga onitis
 Tautogolabrus adspersus
 Trinectes maculatus
 Tringa flavipes
 Urophycis chuss
 Urophycis tenuis
 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
INVERT	Invertebrates
M_MAMMAL	Marine Mammals
REPTILE	Reptiles

**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:

algae
amphibian
bird
bivalve
crab
diadromous
diving
e_nursery
e_resident
freshwater
gull_tern
insect
m_benthic
passerine
pinniped
plant
raptor
sav
shorebird
shrimp
turtle
wading
waterfowl
wetland

**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:

The Nature Conservancy's Global Conservation Status Ranking (G-RANK) (see Master, 1991, Conservation Biology, 5:559-563, for full definitions)

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

The Nature Conservancy (TNC)

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:

G1	Critically imperiled
G3	Vulnerable
G4	Apparently secure
G4G5	Range rank, apparently secure to secure
G4T1T2	Apparently secure species, subspecies range rank critically imperiled to imperiled
G4T3	Apparently secure species, vulnerable subspecies
G5	Secure

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

The Nature Conservancy (TNC)

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

ordinal

5.1.2.1. ATTRIBUTE LABEL:

DATE_PUB

5.1.2.2. ATTRIBUTE DEFINITION:

Date of NHP listing

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:

0	No NHP rank
11996	Date of NHP rank
11998	Date of NHP rank
51996	Date of NHP rank
51997	Date of NHP rank
71994	Date of NHP rank

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
71996	Date of NHP rank
81997	Date of NHP rank
111996	Date of NHP rank

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:
The Nature Conservancy (TNC)

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

5.1.2.1. ATTRIBUTE LABEL:
EL_SPE

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:
Research Planning, Inc.

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

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

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:
nominal

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5.1. DETAILED DESCRIPTION: STATUS

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

5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:	
<u>Attributes</u>	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
INVERT	Invertebrates
M_MAMMAL	Marine Mammals
REPTILE	Reptiles

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:**

MA

Massachusetts

**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, NMFS, Massachusetts
DFWELE

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

T_E

5.1.2.2. ATTRIBUTE DEFINITION:

Threatened and endangered status

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN
VALUE DEFINITION:**

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

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

USFWS, NMFS, Massachusetts
DFWELE

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

DATE_PUB

5.1.2.2. ATTRIBUTE DEFINITION:

Date of T or E listing

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

51997

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

USFWS, NMFS, Massachusetts DFWELE

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

5.1.2.1. ATTRIBUTE LABEL:

EL_SPE

5.1.2.2. ATTRIBUTE DEFINITION:

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

5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

6.0. DISTRIBUTION INFORMATION

6.1. DISTRIBUTOR

6.1.1. CONTACT PERSON PRIMARY

6.1.1.1. CONTACT PERSON:

John Kaperick

6.1.1.2. CONTACT ORGANIZATION:

NOAA, Office of Response and Restoration

6.1.4. CONTACT ADDRESS

6.1.4.1. ADDRESS TYPE:

Physical Address

6.1.4.2. ADDRESS:

7600 Sand Point Way N.E.

6.1.4.3. CITY:

Seattle

6.1.4.4. STATE OR PROVINCE:

W A

6.1.4.5. POSTAL CODE:

98115-6349

6.1.5. CONTACT VOICE TELEPHONE:

(206) 526-6400

6.1.7. CONTACT FACSIMILE TELEPHONE:

(206) 526-6329

6.2. RESOURCE DESCRIPTION:

ESI Atlas for Massachusetts

6.3. DISTRIBUTION LIABILITY:

Although this data set has been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.

6.5. CUSTOM ORDER PROCESS

Contact NOAA for distribution options (see 6.1.1.).

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7.0. METADATA REFERENCE INFORMATION

7.1. METADATA DATE:

200004

7.2. METADATA REVIEW DATE:

200004

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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