Appendices

1a **Rhode Island CWCS Data Sources**

1b **Rhode Island's Wildlife Species Status and Abundance (RI DEM DFW Database- Animals 3xls)**

1c **Rhode Island GCN Species (RI DEM DFW Database Animals 6xls)**

2a **Relative Condition Of Rhode Island's Key Habitats and Crosswalk to Standard Codes**

2b **Maps of Key Habitats and information on data sources and mapping methods**

3 **Threats to Rhode Island's GCN Species and Habitats**

4 **Conservation Actions**

5 **Compilation Of Existing Monitoring Plans**

7a **RI DEM Administrative Framework**

7b **CWCS Process Development Plan and Schedule**

7c **State-owned Lands in Rhode Island**

8a **List Of Stakeholders**

8b **Public Input Plan**

8c **Stakeholder / Public Workshop Agendas**

Appendix 1a. Rhode Island CWCS Data Sources

This appendix lists the information sources that were researched, compiled, and reviewed in order to best determine and present the status of the full array of wildlife and its conservation in Rhode Island (Element 1). A wide diversity of literature and programs was consulted and compiled through extensive research and coordination efforts. Some of these sources are referenced in the Literature Cited section of this document, and the remaining sources are provided here as a resource for users and implementing parties of this document as well as for future revisions. Sources include published and unpublished data, reports, and correspondence from existing conservation programs and are listed in alphabetical order.

World Wide Web Resources:

American Birding Association	http://www.americanbirding.org/
American Planning Agency, Rhode Island Chapter	http://www.riapa.org/
Association of Biodiversity Information	www.abi.org
Atlantic Coastal Cooperative Statistics Program	http://www.accsp.org/
Audubon Society of Rhode Island	http://www.asri.org/
Butterfly Society of Rhode Island	http://www.geocities.com/RainForest/8460/buttrfly.htm
Coastal America	http://www.coastalamerica.gov
Coastal Institute	www.ci.uri.edu/
Coastal Resources Center	www.crc.uri.edu/
Coastal Resources Management Council	http://www.crmc.state.ri.us/
Critical Lands Analysis Project (URI)	http://www.edc.uri.edu/criticallands/
Ducks Unlimited	http://www.ducks.org/
Governor's Narragansett Bay and Watershed Planning Commission	http://www.ci.uri.edu/GovComm/
A Greener Path …Greenspace and Greenways for RI's Future	http://www.planning.ri.gov/greenways/title.htm
Greenwich Bay Project	http://seagrant.gso.uri.edu/G Bay/
Grow Smart Rhode Island	http://www.growsmartri.com/
The Institute for Participatory Management and Planning	http://www.consentbuilding.com/
Land Trust Alliance	http://www.lta.org/regionallta/northeast.htm
MapCoast Partnership	http://www.ci.uri.edu/Projects/MapCoast/default.html
Narragansett Bay Commission	http://narrabay.com/

Narragansett Bay Estuary Program	www.nbep.org/
Narragansett Bay Gateway	www.narrbay.org/
Narrow River Preservation Association	http://www.narrowriver.org/
National Audubon Society	http://www.audubon.org/
National Wildlife Federation	http://www.nwf.org/
National Wild Turkey Federation	http://www.nwtf.org/
The Nature Conservancy	http://nature.org/wherewework/northamerica/states/rhodeisland/
Naval Station Newport	www.nsnpt.navy.mil/
New England Plant Conservation Program	www.newfs.org/nepcop.htm
New England Water Pollution Control Commission	http://www.neiwpcc.org/
North Atlantic Coast Cooperative Ecosystems Studies Unit (CESU)	www.ci.uri.edu/naccesu/
North Atlantic Right Whale Consortium	www.rightwhaleweb.org/
Partnership for Narragansett Bay	http://www.ci.uri.edu/Projects/PNB/default.html
Pawtuxet River Watershed Council	http://www.pawtuxet.org/
Providence Plan	www.provplan.org/
Rhode Island Agricultural Experiment Station	http://riaes.cels.uri.edu/
Rhode Island Association of Conservation Commissions (RIACC)	http://www.environmentcouncilri.org/riacc.html
Rhode Island Census Data	http://www.planning.ri.gov/census/ri2000.htm
Rhode Island Dept. of Environmental Management (RI DEM)	http://www.dem.ri.gov/pubs/index.htm
RI DEM, Division of Fish and Wildlife	http://www.dem.ri.gov/programs/bnatres/fishwild/index.htm
RI DEM, Fishing and Hunting Access Guide	http://zog.doa.state.ri.us/fw_detail.htm
Rhode Island Economic Development Corporation	http://www.riedc.com/
Rhode Island Forest Conservators Organization	http://www.rifco.org/
Rhode Island Geographic Information System (RIGIS)	www.edc.uri.edu/rigis/
Rhode Island Habitat Restoration	www.edc.uri.edu/restoration/
Rhode Island Invasive Species Council	http://members.tripod.com/CrissyH/invasive.htm
Rhode Island Land Trust Council	(no dedicated website)
Rhode Island League of Cities and	http://www.rileague.org/

Towns	
Rhode Island Natural Heritage Program	www.dem.ri.gov/programs/bpoladm/plandev/heritage/index.htm
Rhode Island Natural History Survey	www.rinhs.org
Rhode Island Rivers Council	http://www.planning.ri.gov/rivers/default.htm
Rhode Island Rural Lands Coalition	http://www.snefci.org/projects/rural.cfm
Rhode Island Saltwater Anglers Association	www.RISAA.org
Rhode Island Sea Grant	seagrant.gso.uri.edu/
Rhode Island State Guide Plan	http://www.planning.ri.gov/sgp/sgp.htm
Rhode Island Surfrider Foundation	www.risurfrider.org/
Rhode Island Travel Corridors Plan	http://www.planning.ri.gov/transportation/enter.htm
Rhode Island Watershed Partnership (RIWP)	www.riwatersheds.org
Rhode Island Wild Plant Society	http://www.riwps.org
Rivers Policy and Classification Plan	http://www.planning.ri.gov/rivers/plan.htm
Ruffed Grouse Society	http://www.ruffedgrousesociety.org/
Salt Ponds Coalition	http://www.saltpondscoalition.org/
Save the Bay	http://www.savebay.org/index_next.asp
Saugatucket River Heritage Corridor Coalition	http://www.saugatucket.org/
Scituate Conservation Commission	http://www.scituateri.org/scit_conservation_page.htm
Scituate Land Trust	http://www.scituateri.org/land%20trust%204.htm
South County Greenspace Project	http://www.dem.ri.gov/programs/bpoladm/suswshed/scgreen.htm
South Kingstown Comprehensive Community Plan	http://www.southkingstownri.com/code/planning/pmisc _040604_134243.pdf
Southern New England Forest Consortium, Inc.	http://www.snefci.org
State Planning Council Publications	http://www.planning.ri.gov/landuse/default.htm
Trout Unlimited	http://www.tu.org/index.asp
Trust for Public Land	http://www.tpl.org/
URI Dept. of Natural Resources Science	http://nrs.uri.edu/
URI Natural Resources and Environmental Management	http://www.edc.uri.edu/
URI Environmental Data Center	www.edc.uri.edu/edc/
URI Cooperative Extension Service	http://www.uri.edu/ce/index1.html
The Urban and Community Forest Plan	http://www.planning.ri.gov/forestplan/default.htm
U.S. Fish and Wildlife Service (USFWS)	http://www.fws.gov
The Wildlife Society	http://www.wildlife.org/

The Wildlife Management Institute	http://www.wildlifemanagementinstitute.org/
Wood-Pawcatuck Watershed Association	http://www.wpwa.org/
Woonasquatucket River Watershed Council	http://www.woonasquatucket.org/

Existing Conservation and Management Plans Reviewed:

Plan	Author	Reference
Freshwater Ecoregions of North America: A Conservation Assessment	World Wildlife Fund	Abell et al. (2000)
Mute Swan: An Invasive Species and Its Management in Rhode Island	RI DEM	Allin (2002)
Habitat Inventory and Resource Mapping for Narragansett Bay and Associated Coastline	ASA	ASA (1992)
Atlantic Coast Joint Venture Strategic Plan	Atlantic Coast Joint Venture	ACJV (2004)
Description of the Ecoregions of the United States	U.S. Forest Service	Bailey (1995)
Lower New England – Northern Piedmont Ecoregional Conservation Plan	The Nature Conservancy	Barbour et al. (2003)
North Atlantic Coast Ecoregional Conservation Plan	The Nature Conservancy	Beers and Davison (1999)
Final Report of Two Workshops: "Environmental Monitoring in Rhode Island: A Synthesis" and "Developing Ecological Indicators - Vital Signs for Narragansett Bay and Coastal Ponds"	The Partnership for Narragansett Bay	Berounsky (2002)
Coastal Property and Landscape Management Guidebook: How to Save Time, Money, and the Coastal Environment	Save the Bay	Blanchard (1999)
United States Shorebird Conservation Plan	Manomet Center for Conservation Sciences	Brown et al. (2001)
Best development practices: Conserving pool-breeding amphibians in residential and commercial developments in the northeastern United States	Metropolitan Conservation Alliance	Calhoun and Klemens (2002)
Northern Atlantic Regional Shorebird Plan	Northern Atlantic Shorebird Habitat Working Group	Clark and Niles (2000)

Plan	Author	Reference
Ecological Systems of the United States: A Working Classification of U.S. Terrestrial Systems	NatureServe	Comer et al. (2003)
Partners in Flight Landbird Conservation Plan: Physiographic Area 09: Southern New England	American Bird Conservancy	Dettmers and Rosenberg (2000)
South Kingstown, Rhode Island, Comprehensive Community Plan Five-Year Update	Town of South Kingstown	Edwards and Kelcey (2004)
Index of Watershed Indicators: An Overview	Environmental Protection Agency	EPA (2002)
Strategic Plan for the Restoration of Anadromous Fishes to Rhode Island Coastal Streams	RI DEM	Erkan (2002)
Rhode Island Department of Environmental Management Quality Management Plan	RI DEM	Gray and Getz (2002)
Partners in Flight Landbird Conservation Plan: Physiographic Area 27: Northern New England	Partners in Flight	Hodgman and Rosenberg (2000)
Waterbird Conservation for the Americas: The North America Waterbird Conservation Plan	Waterbird Conservation for the Americas	Kushlan et al. (2002)
Draft Forestry, Agriculture, and Land Use Change Strategies for Reducing Greenhouse Gas Emissions in Rhode Island	RI DEM	Lazarus and Smith (2004)
Rivers of Life: Critical Watersheds for Protecting Freshwater Biodiversity	The Nature Conservancy	Master et al. (1998)
Development of a Statewide Freshwater Wetland Restoration Strategy: Site Identification and Prioritization Methods	University of Rhode Island	Miller and Golet (2001)
Narrow River Handbook: A Guide to Living in the Watershed 2002	Narrow River Preservation Association	Narrow River Preservation Association (2002)
Final Amendment 1 to the Fishery Management Plan for Atlantic Tunas, Swordfish and Sharks	National Marine Fisheries Service	NMFS (2003)
Recovery Plan for U.S. Population of Atlantic Green Turtle	NMFS and USFWS	NMFS and USFWS (1991a)
Recovery Plan for U.S. Population of Loggerhead Turtle	NMFS and USFWS	NMFS and USFWS (1991b)
Recovery Plan for Leatherback Turtles in the U.S. Caribbean, Atlantic and Gulf of	NMFS and USFWS	NMFS and USFWS (1992)

Plan	Author	Reference
Mexico		
Recovery Plan for Hawksbill Turtles in the U.S. Caribbean Sea, Atlantic Ocean, and Gulf of Mexico	NMFS and USFWS	NMFS and USFWS (1993)
Unified Watershed Assessment and Restoration Priorities in Rhode Island	Natural Resources Conservation Service (NRCS) and RI DEM	NRCS and RI DEM (1998)
Atlantic Herring Fishery Management Plan	New England Fishery Management Council (NEFMC)	NEFMC (2003a)
Atlantic Salmon Fishery Management Plan	NEFMC	NEFMC (2003b)
Atlantic Sea Scallop Fishery Management Plan	NEFMC	NEFMC (2003c)
Deep-Sea Red Crab Fishery Management Plan	NEFMC	NEFMC (2003d)
Monkfish Fishery Management Plan	NEFMC	NEFMC (2003e)
Northeast Multispecies (Large Mesh/Groundfish) Fishery Management Plan	NEFMC	NEFMC (2003f)
Northeast Multispecies (Small Mesh/Whiting) Fishery Management Plan	NEFMC	NEFMC (2003g)
Northeast Skate Complex Fishery Management Plan	NEFMC	NEFMC (2003h)
Northeast Species of Conservation Concern	Northeast Fish and Wildlife Administrators	NEES & WDTC (in press)
The Global 200: Priority ecoregions for global conservation	World Wildlife Fund	Olson and Dinerstein (2002)
The Pawcatuck Watershed Report	Pawcatuck Watershed Partnership	Pawcatuck Watershed Partnership (1998)
Commercial Fishing License Reform Initiative – Phase II	The Coastal Institute	Petruny-Parker et al. (2001)
America's Living Oceans: Charting a Course for Sea Change. A Report to the Nation, Recommendations for a New Ocean Policy	Pew Oceans Commission	Pew Oceans Commission (2003)
A Greener Path … Greenspace and Greenways for Rhode Island's Future	RI DA	RI DA (1994)
Water Supply Policies for Rhode Island	RI DA	RI DA (1997)
The Urban and Community Forest Plan	RI DA	RI DA (1999a)
Governor's Growth Planning Council 2001: State Programs and Sustainable Development Inventory, Analysis and Recommendations Report	RI DA	RI DA (2001a)

Plan	Author	Reference
Governor's Growth Planning Council 2001: Property Tax Subcommittee Report	RI DA	RI DA (2001b)
Rhode Island Drought Management Plan	RI DA	RI DA (2002a)
State Guide Plan Overview	RI DA	RI DA (2002b)
Scituate Reservoir Watershed Management Plan	RI DA	RI DA (2002c)
Cultural Heritage And Land Management Plan For The Blackstone River Valley National Heritage Corridor	RI DA	RI DA (2002d)
Forest Resources Management Plan	RI DA	RI DA (2002e)
Rhode Island Waterborne Passenger Transportation Plan	RI DA	RI DA (2002f)
Comprehensive Conservation and Management Plan for Narragansett Bay	RI DA	RI DA (2002g)
Rhode Island Nonpoint Source Pollution Management Plan	RI DA	RI DA (2002h)
Rhode Island Energy Plan	RI DA	RI DA (2002i)
Rivers Policy and Classification Plan	RI DA	RI DA (2004a)
Land Use 2025: An Update	RI DA	RI DA (2004b)
Rhode Island Growth Priorities for 2000 and Beyond	RI DA and URI	RI DA and URI (2000b)
Total Maximum Daily Load for Total Phosphorous Loads to Stafford Pond	RI DEM	RI DEM (1998a)
Restoration Plan and Environmental Assessment for the January 19, 1996 North Cape *Oil Spill*	RI DEM	RI DEM (1999a)
Final Report: Coastal Habitat Restoration Charrette	RI DEM	RI DEM (1999b)
Narragansett Bay Estuarine Research Reserve FY2000 Work Plan	RI DEM	RI DEM (1999c)
Soil Erosion Best Management Practices	RI DEM	RI DEM (2000c)
Forestry Asset Management Plan	RI DEM	RI DEM (2001a)
The Rhode Island Parks and Beach System Study and Asset Management Plan	RI DEM	RI DEM (2001b)
Fecal Coliform TMDL Development for Hunt River, Rhode Island	RI DEM	RI DEM (2001c)
Fecal Coliform TMDL for Pettaquamscutt (Narrow) River Watershed, Rhode Island	RI DEM	RI DEM (2001d)
Fecal Coliform TMDL Development for Scrabbletown Brook, Rhode Island	RI DEM	RI DEM (2001e)
Draft Blackstone River Watershed Action Plan	RI DEM	RI DEM (2001f)
Narrow River Watershed Action Plan 2001-2004	RI DEM	RI DEM (2001g)

Plan	Author	Reference
Draft Salt Ponds Watershed Action Plan 2001-2004	RI DEM	RI DEM (2001h)
Draft Saugatucket Watershed Action Plan 2001-2004	RI DEM	RI DEM (2001i)
Draft Woonasquatucket Watershed Action Plan	RI DEM	RI DEM (2001j)
Rhode Island Greenhouse Gas Action Plan, Final Phase I Report	RI DEM	RI DEM (2002a)
Phase II Intergovernmental Working Group (IWG), Management of Rhode Island Recreational Fisheries, A Marine Recreational Fishing License for RI	RI DEM	RI DEM (2002c)
Fecal Coliform TMDL Development for Barrington River, Rhode Island	RI DEM	RI DEM (2002d)
Fecal Coliform TMDL Development for Crooked Brook, Rhode Island	RI DEM	RI DEM (2002e)
Fecal Coliform TMDL for Palmer River, Rhode Island	RI DEM	RI DEM (2002f)
State of Rhode Island and Providence Plantations 2002 Section 305(b) State of the State's Waters Report	RI DEM	RI DEM (2002g)
Stock Status of Marine Resources and Summary of Fisheries Management in Rhode Island	RI DEM	RI DEM (2002k)
Fecal Coliform TMDL for the Runnins River, Rhode Island	RI DEM	RI DEM (2002l)
South County Greenspace Protection Strategy	RI DEM	RI DEM (2003b)
Division of Agriculture Strategic Work Plan 2004-2005	RI DEM	RI DEM (2003c)
Division of Coastal Resources Strategic Work Plan 2004-2005	RI DEM	RI DEM (2003d)
Bureau of Environmental Protection Strategic Work Plan 2004-2005	RI DEM	RI DEM (2003e)
Division of Fish and Wildlife Strategic Work Plan FY 2004-2007	RI DEM	RI DEM (2003f)
Division of Forest Environment Program Plan Summary Years 2004-2005	RI DEM	RI DEM (2003g)
Sustainable Watersheds Office Strategic Work Plan 2004-2005	RI DEM	RI DEM (2003h)
Department of Environmental Management Strategic Work Plan Fiscal Years 2004 and 2005	RI DEM	RI DEM (2003i)
Management Plan for the Crustacean	RI DEM	RI DEM (2003j)

Plan	Author	Reference
Fishery Sector		
Management Plan for the Finfish Fishery Sector	RI DEM	RI DEM (2003k)
Management Plan for the Shellfish Fishery Sector	RI DEM	RI DEM (2003l)
Ocean State Outdoors: Rhode Island's Comprehensive Outdoor Recreation Plan	RI DEM	RI DEM (2003n)
Draft Total Maximum Daily Load, The Sakonnet River – Portsmouth Park and The Cove – Island Park	RI DEM	RI DEM (2003p)
Final Pathogen TMDL for the Saugatucket River, Mitchell Brook, Rocky Brook and Indian Run Brook	RI DEM	RI DEM (2003q)
Total Phosphorous TMDL for Chickasheen Brook, Barber Pond, and Yawgoo Pond, Rhode Island	RI DEM	RI DEM (2003r)
Rhode Island Wetlands Priority Plan	RI DEM	RI DEM (2003s)
Office of Water Resources Strategic Work Plan 2004-2005	RI DEM	RI DEM (2004a)
Division of Air Resources Strategic Work Plan 2004-2005	RI DEM	RI DEM (2004b)
Total Maximum Daily Load Analysis for Greenwich Bay Waters	RI DEM	RI DEM (2004d)
Total Maximum Daily Load Analysis for Green Hill Pond, Ninigret Pond, Factory Pond Stream and Teal Pond Stream, South Kingstown and Charlestown, Rhode Island	RI DEM	RI DEM (2004e)
State of Rhode Island and Providence Plantations Water Monitoring Strategy 2005-2010	RI DEM	RI DEM (2004j)
2005 Management Plan for Finfish Fishery Sector	RI DEM, Marine Fisheries	RI DEM (2004l)
2005 Management Plan for Shellfish Fishery Sector	RI DEM, Marine Fisheries	RI DEM (2004m)
2005 Management Plan for Crustacean Fishery Sector	RI DEM, Marine Fisheries	RI DEM (2004n)
State of Rhode Island and Providence Plantations 2004 Section 305(b) State of the State's Waters Report	RI DEM	RI DEM (2004p)
Dealing with Resident Canada Geese	RI DEM and USDA	RI DEM and USDA (2002)
Performance Partnership Agreement, State Fiscal Years 2004 and 2005	RI DEM and EPA	RI DEM and US EPA (2004)

Plan	Author	Reference
Final Report: Governor's Task Force on Dam Safety and Maintenance	RI Emergency Management Agency (RI EMA) and RI DEM	RI EMA and RI DEM (2001)
Rhode Island's Natural Heritage Under Siege: Meeting the Challenge of Invasive Species	Rhode Island Natural History Survey (RINHS)	RINHS (2003)
Partners in Flight North American Landbird Conservation Plan	Partners in Flight	Rich et al. (2004)
Terrestrial Ecoregions of North America: A Conservation Assessment	World Wildlife Fund	Ricketts et al. (1999)
Partners In Flight Continental Priorities and Objectives Defined at the State and Bird Conservation Region Levels: Rhode Island	Partners in Flight	Rosenberg (2004)
Farming and Forest Strategies	RI DEM	Taintor (2001)
Priorities for Conservation: 1996 Annual Report Card for U.S. Plant and Animal Species	The Nature Conservancy	TNC (1996)
Town of Cumberland Comprehensive Plan, 1991-2010, Five Year Update.	Town of Cumberland	Town of Cumberland (2004)
Rhode Island Critical Resources Atlas	University of Rhode Island	URI (2004)
*Puritan Tiger Beetle (*Cicindela puritana *G. Horn*) *Recovery Plan*	USFWS	USFWS (1993a)
*Dwarf Wedge Mussel (*Alasmidonta heterodon*) Recovery Plan*	USFWS	USFWS (1993b)
Northeastern Beach Tiger Beetle (Cicindela Dorsalis Dorsalis Say) Recovery Plan	USFWS	USFWS (1994)
American Woodcock Management Plan	USFWS	USFWS (1996a)
Piping Plover (Charadrius melodus), Atlantic Coast Population, Revised Recovery Plan	USFWS	USFWS (1996b)
Expanding the Vision: 1998 Update, North American Waterfowl Management Plan	USFWS, SEMARNAP Mexico, and Canadian Wildlife Service	USFWS (1999)
Rhode Island National Wildlife Refuge Complex: Draft Comprehensive Conservation Plan and Environmental Assessment	USFWS	USFWS (2000)
Bog Turtle (Clemmys muhlenbergii), Northern Population, Recovery Plan	USFWS	USFWS (2001)
Block Island National Wildlife Refuge Comprehensive Conservation Plan	USFWS	USFWS (2002a)

Plan	Author	Reference
John H. Chafee National Wildlife Refuge Comprehensive Conservation Plan	USFWS	USFWS (2002b)
Ninigret National Wildlife Refuge Comprehensive Conservation Plan	USFWS	USFWS (2002c)
Sachuest Point National Wildlife Refuge Comprehensive Conservation Plan	USFWS	USFWS (2002d)
Trustom Pond National Wildlife Refuge Comprehensive Conservation Plan	USFWS	USFWS (2002e)
An Inventory of Coastal Wetlands, Potential Restoration Sites, Wetland Buffers, and Hardened Shorelines for the Narragansett Bay Estuary: An Assessment Report from the National Wetlands Inventory Program	USFWS	USFWS (2003b)
Recovery Plan for the Kemp's Ridley Sea Turtle (Lepidochelys kempii)	USFWS and NMFS	USFWS and NMFS (1992)
Draft Report on the Status of Marine Fisheries Stocks and Fisheries Management Issues in Rhode Island	RI DEM	Valliere and Murphy (2001)
Wood-Pawcatuck Watershed Action Plan	Wood-Pawcatuck Watershed Association	Wood-Pawcatuck Watershed Association (2003b)

Appendix 1b. Rhode Island Wildlife Species Status and Abundance

This appendix lists all the species known to occur or have occurred in Rhode Island along with their state, regional, and national status categories (where known). It represents the best available information from the most current RI DEM DFW dataset and includes 853 vertebrates and 849 invertebrates (Element 1). The faunal list was reviewed and refined by taxonomic scientific advisory committees for accuracy and supplemental information relevant to the CWCS. The dataset includes 289 fish, 19 amphibians, 27 amphibians, 426 birds, 89 mammals and 849 invertebrates. RI DEM DFW species list for the state's invertebrate fauna is only a partial list and not comprehensive of all invertebrate fauna, many of which remain undocumented, unnamed or unknown. Additional information on Rhode Island's vertebrate species can be found in Vertebrates of Rhode Island (August et al. 2001) and its beetle species in Beetle Fauna of Rhode Island: An Annotated Checklist (Sikes 2004). Multiple datasets were consulted to compile data and current ranks including the DFW and RI DEM datasets, RINHS database, NatureServe, and numerous regional and national programs. The codes listed for each species indicate whether the species is a resident, accidental, breeding, introduced, hypothetical, migrant, extirpated, extinct, anadromous, catadromous, seasonal visitor, adventitious visitor, or pelagic species in Rhode Island. The species are separated into vertebrate and invertebrate groupings, then listed by taxonomic group or phylum.

Key to Codes		**Key to Status Categories**	
A	Accidental	FEDSTAT	Federal Endangered Species Act
AD	Adventitious visitor	STSTAT	Rhode Island State Endangered Species Act
AN	Anadromous	OTSTAT	Other Status
B	Breeding	SRANK	TNC / NatureServe State rank
CA	Catadromous	GRANK	TNC / NatureServe Global status rank
H	Hypothetical	C	State concern
I	Introduced	FE	Federally endangered
M	Migrant	FT	Federally threatened
P	Pelagic	NAFWA	Northeastern Association of Fish and Wildlife Administrators Regional Species of Conservation Concern
RES	Resident	P	Protected by other Division of Fish and Wildlife regulations
SE	Seasonal visitor	SE	State endangered
X	Extirpated	SH	State historical
XT	Extinct	ST	State threatened

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
MAMMAL	AMERICAN BEAVER	CASTOR CANADENSIS	RES				S3S4	G5
MAMMAL	ATLANTIC SPOTTED DOLPHIN	STENELLA FRONTALIS	M					
MAMMAL	ATLANTIC WHITE-SIDED DOLPHIN	LAGENORHYNCHUS ACUTUS	M					
MAMMAL	BIG BROWN BAT	EPTESICUS FUSCUS	B				S5	G5
MAMMAL	BLACK BEAR	URSUS AMERICANUS	RES				SX	G5
MAMMAL	BLACK RAT	RATTUS RATTUS	RES				SE	G5
MAMMAL	BLOCK ISLAND MEADOW VOLE	MICROTUS PENNSYLVANICUS PROVECTUS	RES				S2	G5T2Q
MAMMAL	BLUE WHALE	BALAENOPTERA MUSCULUS	M	FE			SNRN	G3G4
MAMMAL	BOBCAT	LYNX RUFUS	RES		ST		SU	G5
MAMMAL	BOTTLENOSE DOLPHIN	TURSIOPS TRUNCATUS	M					
MAMMAL	COMMON GRAY FOX	UROCYON CINEREOARGENTEUS	RES				S5	G5
MAMMAL	COMMON WATER SHREW	SOREX PALUSTRIS	RES		C		S1	G5
MAMMAL	COYOTE	CANIS LATRANS	RES				SU	G5
MAMMAL	CUVIER'S BEAKED WHALE	ZIPHIUS CAVIROSTRIS	A					
MAMMAL	DENSE-BEAKED WHALE	MESOPLODON DENSIROSTRIS	A					
MAMMAL	DWARF SPERM WHALE	KOGIA SIMA	A					
MAMMAL	EASTERN CHIPMUNK	TAMIAS STRIATUS	RES				S5	G5
MAMMAL	EASTERN COTTONTAIL	SYLVILAGUS FLORIDANUS	RES				S5	G5
MAMMAL	EASTERN COUGAR	FELIS CONCOLOR COUGUAR	X	FE	FE		SX	G5TH
MAMMAL	EASTERN GRAY SQUIRREL	SCIURUS CAROLINENSIS	RES				S5	G5
MAMMAL	EASTERN MOLE	SCALOPUS AQUATICUS	RES				S?	G5
MAMMAL	EASTERN PIPISTRELLE	PIPISTRELLUS SUBFLAVUS	B				S4	G5
MAMMAL	EASTERN RED BAT	LASIURUS BOREALIS	M			NAFWA	S?	G5
MAMMAL	EASTERN SMALL-FOOTED MYOTIS	MYOTIS LEIBII	H			NAFWA	SP	G3
MAMMAL	ERMINE	MUSTELA ERMINEA	RES				SH	G5
MAMMAL	FERAL CAT	FELIS RUFUS	RES					
MAMMAL	FERAL DOG	CANIS FAMILIARIS	RES					
MAMMAL	FIN WHALE	BALAENOPTERA PHYSALUS	M	FE			SNRN	G3G4
MAMMAL	FISHER	MARTES PENNANTI	RES		C		S1	G5
MAMMAL	GERVAIS' BEAKED WHALE	MESOPLODON EUROPAEUS	M					
MAMMAL	GRAY SEAL	HALICHOERUS GRYPUS	M					
MAMMAL	GRAY WOLF	CANIS LUPUS	X	F?	F?		SX	G4
MAMMAL	HAIRY-TAILED MOLE	PARASCALOPS BREWERI	RES					
MAMMAL	HARBOR PORPOISE	PHOCOENA PHOCOENA	M			NAFWA		

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
MAMMAL	HARBOR SEAL	PHOCA VITULINA	M				SNR	G5
MAMMAL	HARP SEAL	PAGOPHILUS GROENLANDICUS	M					
MAMMAL	HOARY BAT	LASIURUS CINEREUS	M			NAFWA	S1	G5
MAMMAL	HOODED SEAL	CYSTOPHORA CRISTATA	A					
MAMMAL	HOUSE MOUSE	MUS MUSCULUS	RES				SE	G5
MAMMAL	HUMPBACK WHALE	MEGAPTERA NOVAEANGLIAE	M	FE	FE		SNRN	G3
MAMMAL	INDIANA BAT	MYOTIS SODALIS	H	FE				G2
MAMMAL	KILLER WHALE	ORCINUS ORCA	M					
MAMMAL	LITTLE BROWN MYOTIS	MYOTIS LUCIFUGUS	B				S5	G5
MAMMAL	LONG-BEAKED COMMON DOLPHIN	DELPHINUS CAPENSIS	M					
MAMMAL	LONG-FINNED PILOT WHALE	GLOBICEPHALA MELAS	M					
MAMMAL	LONG-TAILED WEASEL	MUSTELA FRENATA	RES				S4	G5
MAMMAL	MASKED SHREW	SOREX CINEREUS	RES				S5	G5
MAMMAL	MEADOW JUMPING MOUSE	ZAPUS HUDSONIUS	RES				S5	G5
MAMMAL	MEADOW VOLE	MICROTUS PENNSYLVANICUS	RES				S5	G5
MAMMAL	MINK	MUSTELA VISON	RES				S5	G5
MAMMAL	MOOSE	ALCES ALCES	A					
MAMMAL	MUSKRAT	ONDATRA ZIBETHICUS	RES				S5	G5
MAMMAL	NEW ENGLAND COTTONTAIL	SYLVILAGUS TRANSITIONALIS	RES		C	NAFWA	S2	G4
MAMMAL	NORTH ATLANTIC BOTTLENOSE WHALE	HYPEROODON AMPULLATUS	M					
MAMMAL	NORTH ATLANTIC RIGHT WHALE	EUBALAENA GLACIALIS	M	FE	FE		SU	G1
MAMMAL	NORTHERN LONG-EARED BAT	MYOTIS SEPTENTRIONALIS	M				S2	G4
MAMMAL	NORTHERN MINKE WHALE	BALAENOPTERA ACUTOROSTRATA	M					G4
MAMMAL	NORTHERN RIVER OTTER	LUTRA CANADENSIS	RES				S4	G5
MAMMAL	NORTHERN SHORT TAILED SHREW	BLARINA BREVICAUDA	RES				S5	G5
MAMMAL	NORWAY RAT	RATTUS NORVEGICUS	RES				SE	G5
MAMMAL	PAN-TROPICAL SPOTTED DOLPHIN	STENELLA ATTENUATA	A					
MAMMAL	PORCUPINE	ERETHIZON DORSATUM	RES				S3	G5
MAMMAL	PYGMY SPERM WHALE	KOGIA BREVICEPS	M					
MAMMAL	RACCOON	PROCYON LOTOR	RES				S5	G5
MAMMAL	RED FOX	VULPES VULPES	RES				S5	G5
MAMMAL	RED SQUIRREL	TAMIASCIURUS HUDSONICUS	RES				S5	G5
MAMMAL	RISSO'S DOLPHIN	GRAMPUS GRISEUS	A					
MAMMAL	SEI WHALE	BALAENOPTERA BOREALIS	M	FE	FE		SNRN	G3
MAMMAL	SHORT-BEAKED COMMON DOLPHIN	DELPHINUS DELPHIS	M					
MAMMAL	SHORT-FINNED PILOT WHALE	GLOBICEPHALA MACRORHYNCHUS	M					

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
MAMMAL	SILVER-HAIRED BAT	LASIONYCTERIS NOCTIVAGANS	M			NAFWA	SU	G5
MAMMAL	SMOKY SHREW	SOREX FUMEUS	RES		C		S2	G5
MAMMAL	SNOWSHOE HARE	LEPUS AMERICANUS	RES				S3S4	G5
MAMMAL	SOUTHERN BOG LEMMING	SYNAPTOMYS COOPERI	RES				S1	G5
MAMMAL	SOUTHERN FLYING SQUIRREL	GLAUCOMYS VOLANS	RES				S5	G5
MAMMAL	SOUTHERN RED-BACKED VOLE	CLETHRIONOMYS GAPPERI	RES				S4	G5
MAMMAL	SOWERBY'S BEAKED WHALE	MESOPLODON BIDENS	A					
MAMMAL	SPERM WHALE	PHYSETER MACROCEPHALUS	M	FE				G3G4
MAMMAL	STAR-NOSED MOLE	CONDYLURA CRISTATA	RES				S4	G5
MAMMAL	STRIPED DOLPHIN	STENELLA COERULEOALBA	M					
MAMMAL	STRIPED SKUNK	MEPHITIS MEPHITIS	RES				S5	G5
MAMMAL	TRUE'S BEAKED WHALE	MESOPLODON MIRUS	A					
MAMMAL	VIRGINIA OPOSSUM	DIDELPHIS VIRGINIANA	RES				S5	G5
MAMMAL	WEST INDIAN MANATEE	TRICHECHUS MANATUS	A					
MAMMAL	WHITE WHALE	DELPHINAPTERUS LEUCAS	A					
MAMMAL	WHITE-BEAKED DOLPHIN	LAGENORHYNCHUS ALBIROSTRIS	M					
MAMMAL	WHITE-FOOTED MOUSE	PEROMYSCUS LEUCOPUS	RES				S5	G5
MAMMAL	WHITE-TAILED DEER	ODOCOILEUS VIRGINIANUS	RES				S5	G5
MAMMAL	WOODCHUCK	MARMOTA MONAX	RES				S5	G5
MAMMAL	WOODLAND JUMPING MOUSE	NAPAEOZAPUS INSIGNIS	RES				S4	G5
MAMMAL	WOODLAND VOLE	MICROTUS PINETORUM	RES				SU	G5
BIRDS	ACADIAN FLYCATCHER	EMPIDONAX VIRESCENS	B		C		S1B,S1N	G5
BIRDS	ALDER FLYCATCHER	EMPIDONAX ALNORUM	M				SA	G5
BIRDS	AMERICAN AVOCET	RECURVIROSTRA AMERICANA	A					
BIRDS	AMERICAN BITTERN	BOTAURUS LENTIGINOSUS	B		SE	NAFWA	S1B,S1N	G4
BIRDS	AMERICAN BLACK DUCK	ANAS RUBRIPES	B				S4B,S4N	G5
BIRDS	AMERICAN COOT	FULICA AMERICANA	M				SZN	G5
BIRDS	AMERICAN CROW	CORVUS BRACHYRHYNCHOS	B				S5B,SZN	G5
BIRDS	AMERICAN GOLDEN-PLOVER	PLUVIALIS DOMINICA	M				S2N	G5
BIRDS	AMERICAN GOLDFINCH	CARDUELIS TRISTIS	B				S5B,SZN	G5
BIRDS	AMERICAN KESTREL	FALCO SPARVERIUS	B				S4B,SZN	G5
BIRDS	AMERICAN OYSTERCATCHER	HAEMATOPUS PALLIATUS	B		C		S2B,S2N	G5
BIRDS	AMERICAN REDSTART	SETOPHAGA RUTICILLA	B				S5B,SZN	G5
BIRDS	AMERICAN ROBIN	TURDUS MIGRATORIUS	B				S5B,SZN	G5
BIRDS	AMERICAN THREE-TOED WOODPECKER	PICOIDES DORSALIS	A					

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
BIRDS	AMERICAN TREE SPARROW	SPIZELLA ARBOREA	M				SZN	G5
BIRDS	AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	A					
BIRDS	AMERICAN WIGEON	ANAS AMERICANA	M				SZN	G5
BIRDS	AMERICAN WOODCOCK	SCOLOPAX MINOR	B				S4B,S4N	G5
BIRDS	ANHINGA	ANHINGA ANHINGA	H					
BIRDS	ARCTIC TERN	STERNA PARADISAEA	A					
BIRDS	ASH-THROATED FLYCATCHER	MYIARCHUS CINERASCENS	A					
BIRDS	ATLANTIC PUFFIN	FRATERCULA ARCTICA	H				SA	G5
BIRDS	AUDUBON'S SHEARWATER	PUFFINUS LHERMINIERI	M					
BIRDS	BAIRD'S SANDPIPER	CALIDRIS BAIRDII	M				S2N	G5
BIRDS	BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	B	FT	FT		S1N	G4
BIRDS	BALTIMORE ORIOLE	ICTERUS GALBULA	B				S5B,SZN	G5
BIRDS	BANK SWALLOW	RIPARIA RIPARIA	B				S3B,SZN	G5
BIRDS	BARN OWL	TYTO ALBA	B		SE		S1B,S1N	G5
BIRDS	BARN SWALLOW	HIRUNDO RUSTICA	B				S5B,SZN	G5
BIRDS	BARNACLE GOOSE	BRANTA LEUCOPUS	A					
BIRDS	BARRED OWL	STRIX VARIA	M				S4B,S4N	G5
BIRDS	BARROW'S GOLDENEYE	BUCEPHALA ISLANDICA	M				SA	G5
BIRDS	BAY-BREASTED WARBLER	DENDROICA CASTANEA	M				SZN	G5
BIRDS	BELTED KINGFISHER	CERYLE ALCYON	B				S4B,SZN	G5
BIRDS	BEWICK'S WREN	THRYOMANES BEWICKII	A					
BIRDS	BICKNELL'S THRUSH	CATHARUS BICKNELLI	M			NAFWA	S?	G4
BIRDS	BLACK GUILLEMOT	CEPPHUS GRYLLE	M				SZN	G5
BIRDS	BLACK RAIL	LATERALLUS JAMAICENSIS	M				SA	G4
BIRDS	BLACK SCOTER	MELANITTA NIGRA	M				SZN	G5
BIRDS	BLACK SKIMMER	RYNCHOPS NIGER	B				S1N	G5
BIRDS	BLACK TERN	CHLIDONIAS NIGER	M			NAFWA	SA	G4
BIRDS	BLACK VULTURE	CORAGYPS ATRATUS	M					
BIRDS	BLACK-AND-WHITE WARBLER	MNIOTILTA VARIA	B				S5B,SZN	G5
BIRDS	BLACK-BACKED WOODPECKER	PICOIDES ARCTICUS	A					
BIRDS	BLACK-BELLIED PLOVER	PLUVIALIS SQUATAROLA	M				SZN	G5
BIRDS	BLACK-BILLED CUCKOO	COCCYZUS ERYTHROPTHALMUS	B				S5B,S5N	G5
BIRDS	BLACKBURNIAN WARBLER	DENDROICA FUSCA	B		ST		S1B,S1N	G5
BIRDS	BLACK-CAPPED CHICKADEE	POECILE ATRICAPILLUS	B				S5B,SZN	G5

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
BIRDS	BLACK-CAPPED PETREL	PTERODROMA HASITATA	H					
BIRDS	BLACK-CROWNED NIGHT HERON	NYCTICORAX NYCTICORAX	B		C		S2B,SZN	G5
BIRDS	BLACK-HEADED GROSBEAK	PHEUCTICUS MELANOCEPHALUS	A					
BIRDS	BLACK-HEADED GULL	LARUS RIDIBUNDUS	M				S1N	G5
BIRDS	BLACK-LEGGED KITTIWAKE	RISSA TRIDACTYLA	M				SZN	G5
BIRDS	BLACK-NECKED STILT	HIMANTOPUS MEXICANUS	A					
BIRDS	BLACKPOLL WARBLER	DENDROICA STRIATA	M				SZN	G5
BIRDS	BLACK-TAILED GULL	LARUS CRASSIROSTRIS	A					
BIRDS	BLACK-THROATED BLUE WARBLER	DENDROICA CAERULESCENS	B		SE		S1B,S3N	G5
BIRDS	BLACK-THROATED GRAY WARBLER	DENDROICA NIGRESCENS	A					
BIRDS	BLACK-THROATED GREEN WARBLER	DENDROICA VIRENS	B				S4B,SZN	G5
BIRDS	BLUE GROSBEAK	PASSERINA CAERULEA	M				SA	G5
BIRDS	BLUE JAY	CYANOCITTA CRISTATA	B				S5B,SZN	G5
BIRDS	BLUE-GRAY GNATCATCHER	POLIOPTILA CAERULEA	B				S4B,SZN	G5
BIRDS	BLUE-HEADED VIREO	VIREO SOLITARIUS	B				S3B,SZN	G5
BIRDS	BLUE-WINGED TEAL	ANAS DISCORS	B		C		S1B,SZN	G5
BIRDS	BLUE-WINGED WARBLER	VERMIVORA PINUS	B				S5B,SZN	G5
BIRDS	BOAT-TAILED GRACKLE	QUISCALUS MAJOR	A					
BIRDS	BOBOLINK	DOLICHONYX ORYZIVORUS	B				S3B,SZN	G5
BIRDS	BOHEMIAN WAXWING	BOMBYCILLA GARRULUS	A					
BIRDS	BONAPARTE'S GULL	LARUS PHILADELPHIA	M				SZN	G5
BIRDS	BOREAL CHICKADEE	POECILE HUDSONICA	M				SA	G5
BIRDS	BOREAL OWL	AEGOLIUS FUNEREUS	A					
BIRDS	BRANT	BRANTA BERNICLA	M				SZN	G5
BIRDS	BREWER'S BLACKBIRD	EUPHAGUS CYANOCEPHALUS	H					
BIRDS	BRIDLED TERN	STERNA ANAETHETUS	A					
BIRDS	BROAD-WINGED HAWK	BUTEO PLATYPTERUS	B				S4B,SZN	G5
BIRDS	BROWN BOOBY	SULA LEUCOGASTER	A					
BIRDS	BROWN CREEPER	CERTHIA AMERICANA	B				S3B,SZN	G5
BIRDS	BROWN NODDY	ANOUS STOLIDUS	H					
BIRDS	BROWN PELICAN	PELECANUS AURITUS	M					
BIRDS	BROWN THRASHER	TOXOSTOMA RUFUM	B				S4B,SZN	G5
BIRDS	BROWN-HEADED COWBIRD	MOLOTHRUS ATER	B				S5B,SZN	G5
BIRDS	BUFF-BREASTED SANDPIPER	TRYNGITES SUBRUFICOLLIS	M				S1N	G4
BIRDS	BUFFLEHEAD	BUCEPHALA ALBEOLA	M				SZN	G5

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
BIRDS	BULLOCK'S ORIOLE	ICTERUS BULLOCKII	A					
BIRDS	BURROWING OWL	ATHENE CUNICULARIA	A					
BIRDS	CANADA GOOSE	BRANTA CANADENSIS	B				S4B,SZN	G5
BIRDS	CANADA WARBLER	WILSONIA CANADENSIS	B			NAFWA	S4B,SZN	G5
BIRDS	CANVASBACK	AYTHYA VALISINERIA	M				SZN	G5
BIRDS	CAPE MAY WARBLER	DENDROICA TIGRINA	M				SZN	G5
BIRDS	CAROLINA WREN	THRYOTHORUS LUDOVICIANUS	B				S5B,S5N	G5
BIRDS	CASPIA N TERN	STERNA CASPIA	M				S1N	G5
BIRDS	CATTLE EGRET	BUBULCUS IBIS	B		C		S1B,S3N	G5
BIRDS	CAVE SWALLOW	PETROCHELIDON FULVA	A					
BIRDS	CEDAR WAXWING	BOMBYCILLA CEDRORUM	B				S5B,SZN	G5
BIRDS	CERULEAN WARBLER	DENDROICA CERULEA	B		ST	NAFWA	S1B,S2N	G4
BIRDS	CHESTNUT-SIDED WARBLER	DENDROICA PENSYLVANICA	B				S5B,SZN	G5
BIRDS	CHIMNEY SWIFT	CHAETURA PELAGICA	B				S5B,SZN	G5
BIRDS	CHIPPING SPARROW	SPIZELLA PASSERINA	B				S5B,SZN	G5
BIRDS	CHUCK-WILL'S-WIDOW	CAPRIMULGUS CAROLINENSIS	A					
BIRDS	CINNAMON TEAL	ANAS CYANOPTERA	A					
BIRDS	CLAPPER RAIL	RALLUS LONGIROSTRIS	B		C		S1B,S2N	G5
BIRDS	CLAY-COLORED SPARROW	SPIZELLA PALLIDA	M				SA	G5
BIRDS	CLIFF SWALLOW	PETROCHELIDON PYRRHONOTA	B		SH		SHB,SZN	G5
BIRDS	COMMON EIDER	SOMATERIA MOLLISSIMA	M				SZN	G5
BIRDS	COMMON GOLDENEYE	BUCEPHALA CLANGULA	M				SZN	G5
BIRDS	COMMON GRACKLE	QUISCALUS QUISCULA	B				S5B,SZN	G5
BIRDS	COMMON LOON	GAVIA IMMER	M				SZN	G5
BIRDS	COMMON MERGANSER	MERGUS MERGANSER	M				SZN	G5
BIRDS	COMMON MOORHEN	GALLINULA CHLOROPUS	B		SH		SHB,SAN	G5
BIRDS	COMMON MURRE	URIA AALGE	M				SA	G5
BIRDS	COMMON NIGHTHAWK	CHORDEILES MINOR	B		C		S1B,SZN	G5
BIRDS	COMMON PEAFOWL	PAVO CRISTATUS	RES					
BIRDS	COMMON RAVEN	CORVUS CORAX	M					
BIRDS	COMMON REDPOLL	CARDUELIS FLAMMEA	M				SZN	G5
BIRDS	COMMON RINGED PLOVER	CHARADRIUS HIATICULA	H					
BIRDS	COMMON TERN	STERNA HIRUNDO	B			NAFWA	S3B,SZN	G5
BIRDS	COMMON YELLOWTHROAT	GEOTHLYPIS TRICHAS	B				S5B	G5

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
BIRDS	CONNECTICUT WARBLER	OPORORNIS AGILIS	M				SA	G4
BIRDS	COOPER'S HAWK	ACCIPITER COOPERII	B		C		S1B,S3N	G5
BIRDS	CORN CRAKE	CREX CREX	A					
BIRDS	CORY'S SHEARWATER	CALONECTRIS DIOMEDEA	M				SZN	G5
BIRDS	CURLEW SANDPIPER	CALIDRIS FERRUGINEA	A					
BIRDS	DARK-EYED JUNCO	JUNCO HYEMALIS	B		C		S2B,SZN	G5
BIRDS	DARK-EYED"OREGON" JUNCO	JUNCO HYEMALIS	A					
BIRDS	DICKCISSEL	SPIZA AMERICANA	M				SA	G5
BIRDS	DOUBLE-CRESTED CORMORANT	PHALACROCORAX AURITUS	B				S2B,SZN	G5
BIRDS	DOVEKIE	ALLE ALLE	M				SZN	G5
BIRDS	DOWNY WOODPECKER	PICOIDES PUBESCENS	B				S5B,S5N	G5
BIRDS	DUNLIN	CALIDRIS ALPINA	M				SZN	G5
BIRDS	EARED GREBE	PODICEPS NIGRICOLLIS	M					
BIRDS	EASTERN BLUEBIRD	SIALIA SIALIS	B				S3B,SZN	G5
BIRDS	EASTERN KINGBIRD	TYRANNUS TYRANNUS	B				S5B,S5N	G5
BIRDS	EASTERN MEADOWLARK	STURNELLA MAGNA	B				S3B,SZN	G5
BIRDS	EASTERN PHOEBE	SAYORNIS PHOEBE	B				S5B,SZN	G5
BIRDS	EASTERN SCREECH-OWL	MEGASCOPS ASIO	B				S3B,S3N	G5
BIRDS	EASTERN TOWHEE	PIPILO ERYTHROPHTHALMUS	B				S5B,SZN	G5
BIRDS	EASTERN WOOD-PEWEE	CONTOPUS VIRENS	B				S5B,S5N	G5
BIRDS	ESKIMO CURLEW	NUMENIUS BOREALIS	XT	FE			SX	GH
BIRDS	EURASIAN JACKDAW	CORVUS MONENDULA	A					
BIRDS	EURASIAN WIGEON	ANAS PENELOPE	M				S1N	G5
BIRDS	EUROPEAN STARLING	STURNUS VULGARIS	B				SE	G5
BIRDS	EVENING GROSBEAK	COCCOTHRAUSTES VESPERTINUS	B				SZN	G5
BIRDS	FIELD SPARROW	SPIZELLA PUSILLA	B				S4B,SZN	G5
BIRDS	FISH CROW	CORVUS OSSIFRAGUS	B				S2B,S2N	G5
BIRDS	FORK-TAILED FLYCATCHER	TYRANNUS SAVANA	A					
BIRDS	FORSTER'S TERN	STERNA FORSTERI	M				S2N	G5
BIRDS	FOX SPARROW	PASSERELLA ILIACA	M				SZN	G5
BIRDS	FRANKLIN'S GULL	LARUS PIPIXCAN	A					
BIRDS	FULVOUS WHISTLING DUCK	DENDROCYGNA BICOLOR	A					
BIRDS	GADWALL	ANAS STREPERA	B		C		S1B,SZN	G5
BIRDS	GLAUCOUS GULL	LARUS HYPERBOREUS	M				S2N	G5
BIRDS	GLOSSY IBIS	PLEGADIS FALCINELLUS	B		C		S1B,SZN	G5
BIRDS	GOLDEN EAGLE	AQUILA CHRYSAETOS	M			NAFWA	SA	G5

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
BIRDS	GOLDEN-CROWNED KINGLET	REGULUS SATRAPA	B		C		S1B,SZN	G5
BIRDS	GOLDEN-WINGED WARBLER	VERMIVORA CHRYSOPTERA	B		SH	NAFWA	SXB,S2N	G4
BIRDS	GRASSHOPPER SPARROW	AMMODRAMUS SAVANNARUM	B		ST		S1B,S1N	G5
BIRDS	GRAY CATBIRD	DUMETELLA CAROLINENSIS	B				S5B	G5
BIRDS	GRAY-CHEEKED THRUSH	CATHARUS MINIMUS	M				SZN	G5
BIRDS	GREAT AUK	PINGUINUS IMPENNIS	XT					
BIRDS	GREAT BLACK-BACKED GULL	LARUS MARINUS	B				S2B,SZN	G5
BIRDS	GREAT BLUE HERON	ARDEA HERODIAS	B		C		S2B,SZN	G5
BIRDS	GREAT CORMORANT	PHALACROCORAX CARBO	M				SZN	G5
BIRDS	GREAT CRESTED FLYCATCHER	MYIARCHUS CRINITUS	B				S5B,SZN	G5
BIRDS	GREAT EGRET	ARDEA ALBA	B		C		S1B,SZN	G5
BIRDS	GREAT GRAY OWL	STRIX NEBULOSA	A					
BIRDS	GREAT HORNED OWL	BUBO VIRGINIANUS	B				S4B,S4N	G5
BIRDS	GREAT SKUA	CATHARACTA SKUA	H					
BIRDS	GREATER PRAIRIE-CHICKEN	TYMPANUCHUS CUPIDO	X				SX	G4
BIRDS	GREATER SCAUP	AYTHYA MARILA	M				SZN	G5
BIRDS	GREATER SHEARWATER	PUFFINUS GRAVIS	M				SZN	G5
BIRDS	GREATER WHITE-FRONTED GOOSE	ANSER ALBIFRONS	A					
BIRDS	GREATER YELLOWLEGS	TRINGA MELANOLEUCA	M				SZN	G5
BIRDS	GREEN HERON	BUTORIDES VIRESCENS	B				S5B,S5N	G5
BIRDS	GREEN-TAILED TOWHEE	PIPILO CHLORURUS	A					
BIRDS	GREEN-WINGED TEAL	ANAS CRECCA	B		C		S1B,S4N	G5
BIRDS	GULL-BILLED TERN	STERNA NILOTICA	M				SA	G5
BIRDS	GYRFALCON	FALCO RUSTICOLUS	M					
BIRDS	HAIRY WOODPECKER	PICOIDES VILLOSUS	B				S4B,S4N	G5
BIRDS	HAMMOND'S FLYCATCHER	EMPIDONAX HAMMONDII	A					
BIRDS	HARLEQUIN DUCK	HISTRIONICUS HISTRIONICUS	M			NAFWA	S1N	G4
BIRDS	HARRIS'S SPARROW	ZONOTRICHIA QUERULA	A					
BIRDS	HELMETED GUINEAFOWL	NUMIDIA MELEAGRIS						
BIRDS	HENSLOW'S SPARROW	AMMODRAMUS HENSLOWII	B		SH		SX	G4
BIRDS	HERMIT THRUSH	CATHARUS GUTTATUS	B				S4B,SZN	G5
BIRDS	HERRING GULL	LARUS ARGENTATUS	B				S3B,SZN	G5
BIRDS	HOARY REDPOLL	CARDUELIS HORNEMANNI	A				SA	G5
BIRDS	HOODED MERGANSER	LOPHODYTES CUCULLATUS	B		C		S1B,SZN	G5
BIRDS	HOODED WARBLER	WILSONIA CITRINA	B				S3B,SZN	G5

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
BIRDS	HORNED GREBE	PODICEPS AURITUS	M				SZN	G5
BIRDS	HORNED LARK	EREMOPHILA ALPESTRIS	B		C		S1B,SZN	G5
BIRDS	HOUSE FINCH	CARPODACUS MEXICANUS	B				SE	G5
BIRDS	HOUSE SPARROW	PASSER DOMESTICUS	B				SE	G5
BIRDS	HOUSE WREN	TROGLODYTES AEDON	B				S5B,SZN	G5
BIRDS	HUDSONIAN GODWIT	LIMOSA HAEMASTICA	M				S2N	G4
BIRDS	ICELAND GULL	LARUS GLAUCOIDES	M				S2N	G5
BIRDS	INDIGO BUNTING	PASSERINA CYANEA	B				S4B,SZN	G5
BIRDS	IVORY GULL	PAGOPHILA EBURNEA	A					
BIRDS	KENTUCKY WARBLER	OPORORNIS FORMOSUS	M				SA	G5
BIRDS	KILLDEER	CHARADRIUS VOCIFERUS	B				S4B,SZN	G5
BIRDS	KING EIDER	SOMATERIA SPECTABILIS	M				SA	G5
BIRDS	KING RAIL	RALLUS ELEGANS	B		C		S1B,S1N	G4G5
BIRDS	LABRADOR DUCK	CAMPTORHYNCHUS LABRADORIUS	XT				SX	GX
BIRDS	LAPLAND LONGSPUR	CALCARIUS LAPPONICUS	M				SZN	G5
BIRDS	LARK BUNTING	CALAMOSPIZA MELANOCORYS	A					
BIRDS	LARK SPARROW	CHONDESTES GRAMMACUS	M				SA	G5
BIRDS	LAUGHING GULL	LARUS ATRICILLA	M				SZN	G5
BIRDS	LE CONTE'S SPARROW	AMMODRAMUS LECONTEII	A					
BIRDS	LEACH'S STORM-PETREL	OCEANODROMA LEUCORHOA	M				SA	G5
BIRDS	LEAST BITTERN	IXOBRYCHUS EXILIS	B		C		S2B,S2N	G5
BIRDS	LEAST FLYCATCHER	EMPIDONAX MINIMUS	B				S3B,SZN	G5
BIRDS	LEAST SANDPIPER	CALIDRIS MINUTILLA	M				SZN	G5
BIRDS	LEAST TERN	STERNA ANTILLARUM	B		ST	NAFWA	S2B,S2N	G4
BIRDS	LESSER BLACK-BACKED GULL	LARUS FUSCUS	M				S1N	G5
BIRDS	LESSER SCAUP	AYTHYA AFFINIS	M				SZN	G5
BIRDS	LESSER YELLOWLEGS	TRINGA FLAVIPES	M				SZN	G5
BIRDS	LEWIS' WOODPECKER	MELANERPES LEWIS	A					
BIRDS	LINCOLN'S SPARROW	MELOSPIZA LINCOLNII	M				SZN	G5
BIRDS	LITTLE BLUE HERON	EGRETTA CAERULEA	B		C		S1B,S2N	G5
BIRDS	LITTLE EGRET	EGRETTA GARZETTA	A					
BIRDS	LITTLE GULL	LARUS MINUTUS	M				SA	G5
BIRDS	LOGGERHEAD SHRIKE	LANIUS LUDOVICIANUS	M			NAFWA	SA	G4
BIRDS	LONG-BILLED CURLEW	NUMENIUS AMERICANUS	A					

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
BIRDS	LONG-BILLED DOWITCHER	LIMNODROMUS SCOLOPACEUS	M				S3N	G5
BIRDS	LONG-BILLED MURRELET	BRACHYRAMPHUS PERDIX	A					
BIRDS	LONG-EARED OWL	ASIO OTUS	B		SH	NAFWA	SHB,S1N	G5
BIRDS	LONG-TAILED DUCK	CLANGULA HYEMALIS	M				SZN	G5
BIRDS	LONG-TAILED JAEGER	STERCORARIUS LONGICAUDUS	A				SA	G5
BIRDS	LOUISIANA WATERTHRUSH	SEIURUS MOTACILLA	B			NAFWA	S4B,SZN	G5
BIRDS	MAGNIFICENT FRIGATEBIRD	FREGATA MAGNIFICENS	A					
BIRDS	MAGNOLIA WARBLER	DENDROICA MAGNOLIA	M				SZN	G5
BIRDS	MALLARD	ANAS PLATYRHYNCHOS	B				S5B,S5N	G5
BIRDS	MANX SHEARWATER	PUFFINUS PUFFINUS	M				SZN	G5
BIRDS	MARBLED GODWIT	LIMOSA FEDOA	M				S2N	G5
BIRDS	MARSH WREN	CISTOTHORUS PALUSTRIS	B		C		S2B,S3N	G5
BIRDS	MERLIN	FALCO COLUMBARIUS	M				SZN	G5
BIRDS	MISSISSIPPI KITE	ICTINIA MISSISSIPPIENSIS	M					
BIRDS	MOCKINGBIRD	MIMUS POLYGLOTTOS	B				S5B,SZN	G5
BIRDS	MONGOLIAN PLOVER	CHARADRIUS MONGOLUS	A					
BIRDS	MONK PARAKEET	MYIOPSITTA MONACHUS	B				SE	G5
BIRDS	MOUNTAIN BLUEBIRD	SIALIA CURRUCOIDES	A					
BIRDS	MOURNING DOVE	ZENAIDA MACROURA	B				S5B,S5N	G5
BIRDS	MOURNING WARBLER	OPORORNIS PHILADELPHIA	M				SZN	G5
BIRDS	MUTE SWAN	CYGNUS OLOR	B				SE	G5
BIRDS	NASHVILLE WARBLER	VERMIVORA RUFICAPILLA	B				S3B,SZN	G5
BIRDS	NELSON'S SHARP-TAILED SPARROW	AMMODRAMUS NELSONI	M				S?	G5
BIRDS	NORTHERN BOBWHITE	COLINUS VIRGINIANUS	B				S4B,S4N	G5
BIRDS	NORTHERN CARDINAL	CARDINALIS CARDINALIS	B				S5B,SZN	G5
BIRDS	NORTHERN FLICKER	COLAPTES AURATUS	B				S5B,S5N	G5
BIRDS	NORTHERN FULMAR	FULMARUS GLACIALIS	M				SZN	G5
BIRDS	NORTHERN GANNET	MORUS BASSANUS	M				SZN	G5
BIRDS	NORTHERN GOSHAWK	ACCIPITER GENTILIS	B		C		S1B,S1N	G5
BIRDS	NORTHERN HARRIER	CIRCUS CYANEUS	B		SE	NAFWA	S1B,S3N	G5
BIRDS	NORTHERN HAWK-OWL	SURNIA ULULA	A					
BIRDS	NORTHERN LAPWING	VANELLUS VANELLUS	A					
BIRDS	NORTHERN PARULA	PARULA AMERICANA	B		ST		S1B,S1N	G5
BIRDS	NORTHERN PINTAIL	ANAS ACUTA	M				SZN	G5
BIRDS	NORTHERN ROUGH-WINGED SWALLOW	STELGIDOPTERYX SERRIPENNIS	B				S3B,SZN	G5
BIRDS	NORTHERN SAW-WHET OWL	AEGOLIUS ACADICUS	B		C		S1B,S1N	G5

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
BIRDS	NORTHERN SHOVELER	ANAS CLYPEATA	M				S2N	G5
BIRDS	NORTHERN SHRIKE	LANIUS EXCUBITOR	M				SA	G5
BIRDS	NORTHERN WATERTHRUSH	SEIURUS NOVEBORACENSIS	B				S4B,SZN	G5
BIRDS	NORTHERN WHEATEAR	OENANTHE OENANTHE	A					
BIRDS	OLIVE-SIDED FLYCATCHER	CONTOPUS COOPERI	M				SZN	G4
BIRDS	ORANGE-CROWNED WARBLER	VERMIVORA CELATA	M				SZN	G5
BIRDS	ORCHARD ORIOLE	ICTERUS SPURIUS	B				S2B	G5
BIRDS	OSPREY	PANDION HALIAETUS	B		C		S2B,S2N	G5
BIRDS	OVENBIRD	SEIURUS AUROCAPILLUS	B				S5B	G5
BIRDS	PACIFIC LOON	GAVIA PACIFICA	M				SA	G5
BIRDS	PAINTED BUNTING	PASSERINA CIRIS	A					
BIRDS	PALM WARBLER	DENDROICA PALMARUM	M				SZN	G5
BIRDS	PARASITIC JAEGER	STERCORARIUS PARASITICUS	M				SZN	G5
BIRDS	PASSENGER PIGEON	ECTOPISTES MIGRATORIUS	XT				SX	GX
BIRDS	PECTORAL SANDPIPER	CALIDRIS MELANOTOS	M				SZN	G5
BIRDS	PEREGRINE FALCON	FALCO PEREGRINUS	B	FE	FE		SZN	G4
BIRDS	PHAINOPEPLA	PHAINOPEPLA NITENS	A					
BIRDS	PHILADELPHIA VIREO	VIREO PHILADELPHICUS	M				SA	G5
BIRDS	PIED-BILLED GREBE	PODILYMBUS PODICEPS	B		SE	NAFWA	S1B,SZN	G5
BIRDS	PILEATED WOODPECKER	DRYOCOPUS PILEATUS	B		C		S1B,S1N	G5
BIRDS	PINE GROSBEAK	PINICOLA ENUCLEATOR	M				SA	G5
BIRDS	PINE SISKIN	CARDUELIS PINUS	M				SZN	G5
BIRDS	PINE WARBLER	DENDROICA PINUS	B				S4B,SZN	G5
BIRDS	PIPING PLOVER	CHARADRIUS MELODUS	B	FT	FT		S1B,S1N	G3
BIRDS	POMARINE JAEGER	STERCORARIUS POMARINUS	M				SZN	G5
BIRDS	PRAIRIE WARBLER	DENDROICA DISCOLOR	B				S5B,SZN	G5
BIRDS	PROTHONOTARY WARBLER	PROTONOTARIA CITREA	B		C		S1B,S1N	G5
BIRDS	PURPLE FINCH	CARPODACUS PURPUREUS	B				S3B,SZN	G5
BIRDS	PURPLE GALLINULE	PORPHYRIO MARTINICA	M					
BIRDS	PURPLE MARTIN	PROGNE SUBIS	B				S3B,SZN	G5
BIRDS	PURPLE SANDPIPER	CALIDRIS MARITIMA	M				SZN	G5
BIRDS	RAZORBILL	ALCA TORDA	M				SZN	G5
BIRDS	RED CROSSBILL	LOXIA CURVIROSTRA	M				SA	G5
BIRDS	RED KNOT	CALIDRIS CANUTUS	M			NAFWA	S3N	G5
BIRDS	RED PHALAROPE	PHALAROPUS FULICARIUS	M				SZN	G5
BIRDS	RED-BELLIED WOODPECKER	MELANERPES CAROLINUS	B				S2B,S2N	G5

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
BIRDS	RED-BILLED TROPICBIRD	PHAETHON AETHEREUS	A					
BIRDS	RED-BREASTED MERGANSER	MERGUS SERRATOR	M				SZN	G5
BIRDS	RED-BREASTED NUTHATCH	SITTA CANADENSIS	B				S3B,SZN	G5
BIRDS	REDDISH EGRET	EGRETTA RUFESCENS	A					
BIRDS	RED-EYED VIREO	VIREO OLIVACEUS	B				S5B,SZN	G5
BIRDS	REDHEAD	AYTHYA AMERICANA	M				S2N	G5
BIRDS	RED-HEADED WOODPECKER	MELANERPES ERYTHROCEPHALUS	B				S1B,S1N	G5
BIRDS	RED-NECKED GREBE	PODICEPS GRISEGENA	M				SZN	G5
BIRDS	RED-NECKED PHALAROPE	PHALAROPUS LOBATUS	M				SZN	G4G5
BIRDS	RED-SHOULDERED HAWK	BUTEO LINEATUS	B				S3B,S3N	G5
BIRDS	RED-TAILED HAWK	BUTEO JAMAICENSIS	B				S5B,S5N	G5
BIRDS	RED-THROATED LOON	GAVIA STELLATA	M				SZN	G5
BIRDS	RED-WINGED BLACKBIRD	AGELAIUS PHOENICEUS	B				S5B,SZN	G5
BIRDS	RING-BILLED GULL	LARUS DELAWARENSIS	M				SZN	G5
BIRDS	RING-NECKED DUCK	AYTHYA COLLARIS	M				SZN	G5
BIRDS	RING-NECKED PHEASANT	PHASIANUS COLCHICUS	B				SE	G5
BIRDS	ROCK PIGEON	COLUMBA LIVIA	B				SE	G5
BIRDS	ROCK WREN	SALPINCTES OBSOLETUS	H					
BIRDS	ROSEATE TERN	STERNA DOUGALLII	B		SH		SHB,S1N	G4
BIRDS	ROSE-BREASTED GROSBEAK	PHEUCTICUS LUDOVICIANUS	B				S4B,SZN	G5
BIRDS	ROSS'S GOOSE	CHEN ROSSII	A					
BIRDS	ROUGH-LEGGED HAWK	BUTEO LAGOPUS	M				SA	G5
BIRDS	ROYAL TERN	STERNA MAXIMA	M				S1N	G5
BIRDS	RUBY-CROWNED KINGLET	REGULUS CALENDULA	M				SZN	G5
BIRDS	RUBY-THROATED HUMMINGBIRD	ARCHILOCHUS COLUBRIS	B				S3B,SZN	G5
BIRDS	RUDDY DUCK	OXYURA JAMAICENSIS	B				SZN	G5
BIRDS	RUDDY TURNSTONE	ARENARIA INTERPRES	M				S4N	G5
BIRDS	RUFF	PHILOMACHUS PUGNAX	M				SA	G5
BIRDS	RUFFED GROUSE	BONASA UMBELLUS	B				S5B,S5N	G5
BIRDS	RUFOUS HUMMINGBIRD	SELASPHORUS RUFUS	A					
BIRDS	RUSTY BLACKBIRD	EUPHAGUS CAROLINUS	M				SZN	G5
BIRDS	SABINE'S GULL	XEMA SABINI	A					
BIRDS	SALTMARSH SHARP-TAILED SPARROW	AMMODRAMUS CAUDACUTUS	B			NAFWA	S3B,SZN	G4
BIRDS	SANDERLING	CALIDRIS ALBA	M				SZN	G5
BIRDS	SANDHILL CRANE	GRUS CANADENSIS	A					

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
BIRDS	SANDWICH TERN	STERNA SANDVICENSIS	A					
BIRDS	SAVANNAH "IPSWICH" SPARROW	PASSERCULUS SANDWICHENSIS	M					
BIRDS	SAVANNAH SPARROW	PASSERCULUS SANDWICHENSIS	B				S2S3B,SZN	G5
BIRDS	SAY'S PHOEBE	SAYORNIS SAYA	A					
BIRDS	SCARLET TANAGER	PIRANGA OLIVACEA	B				S5B,SZN	G5
BIRDS	SCISSOR-TAILED FLYCATCHER	TYRANNUS FORFICATUS	A					
BIRDS	SEASIDE SPARROW	AMMODRAMUS MARITIMUS	B		C		S2B,SZN	G4
BIRDS	SEDGE WREN	CISTOTHORUS PLATENSIS	M			NAFWA	SA	G5
BIRDS	SEMIPALMATED PLOVER	CHARADRIUS SEMIPALMATUS	M				SZN	G5
BIRDS	SEMIPALMATED SANDPIPER	CALIDRIS PUSILLA	M				SZN	G5
BIRDS	SHARP-SHINNED HAWK	ACCIPITER STRIATUS	B		SH		SHB,SZN	G5
BIRDS	SHORT-BILLED DOWITCHER	LIMNODROMUS GRISEUS	M				SZN	G5
BIRDS	SHORT-EARED OWL	ASIO FLAMMEUS	M			NAFWA	S1N	G5
BIRDS	SMEW	MERGELLUS ALBELLUS	A					
BIRDS	SMITH'S LONGSPUR	CALCARIUS PICTUS	A					
BIRDS	SNOW "BLUE" GOOSE	CHEN CAERULESCENS	M					
BIRDS	SNOW BUNTING	PLECTROPHENAX NIVALIS	M				SZN	G5
BIRDS	SNOW GOOSE	CHEN CAERULESCENS	M				SZN	G5
BIRDS	SNOWY EGRET	EGRETTA THULA	B		C		S1B,SZN	G5
BIRDS	SNOWY OWL	BUBO SCANDIACUS	M				SA	G5
BIRDS	SOLITARY SANDPIPER	TRINGA SOLITARIA	M				SZN	G5
BIRDS	SONG SPARROW	MELOSPIZA MELODIA	B				S5B,SZN	G5
BIRDS	SOOTY SHEARWATER	PUFFINUS GRISEUS	M				SZN	G5
BIRDS	SOOTY TERN	STERNA FUSCATA	A					
BIRDS	SORA	PORZANA CAROLINA	B		C		S1B,S1N	G5
BIRDS	SOUTH POLAR SKUA	STERCORARIUS MACCORMICKI	A				SA	G5
BIRDS	SPOTTED REDSHANK	TRINGA ERYTHROPUS	A					
BIRDS	SPOTTED SANDPIPER	ACTITIS MACULARIA	B				S4B,S4N	G5
BIRDS	STILT SANDPIPER	CALIDRIS HIMANTOPUS	M				S3N	G5
BIRDS	SUMMER TANAGER	PIRANGA RUBRA	M				SA	G5
BIRDS	SURF SCOTER	MELANITTA PERSPICILLATA	M				SZN	G5
BIRDS	SWAINSON'S HAWK	BUTEO SWAINSONI	H					
BIRDS	SWAINSON'S THRUSH	CATHARUS USTULATUS	M				SZN	G5
BIRDS	SWALLOW-TAILED KITE	ELANOIDES FORFICATUS	M					
BIRDS	SWAMP SPARROW	MELOSPIZA GEORGIANA	B				S4B,SZN	G5

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
BIRDS	TENNESSEE WARBLER	VERMIVORA PEREGRINA	M				SZN	G5
BIRDS	THAYER'S GULL	LARUS THAYERI	A					
BIRDS	THICK-BILLED MURRE	URIA LOMVIA	M				SZN	G5
BIRDS	TOWNSEND'S SOLITAIRE	MYADESTES TOWNSENDI	A					
BIRDS	TOWNSEND'S WARBLER	DENDROICA TOWNSENDI	A					
BIRDS	TREE SWALLOW	TACHYCINETA BICOLOR	B				S5B,SZN	G5
BIRDS	TRICOLORED HERON	EGRETTA TRICOLOR	M				S2N	G5
BIRDS	TUFTED DUCK	AYTHAYA FULIGULA	A					
BIRDS	TUFTED TITMOUSE	BAEOLOPHUS BICOLOR	B				S5B,SZN	G5
BIRDS	TUNDRA SWAN	CYGNUS COLUMBIANUS	M				SA	G5
BIRDS	TURKEY VULTURE	CATHARTES AURA	B					
BIRDS	UPLAND SANDPIPER	BARTRAMIA LONGICAUDA	B		SE	NAFWA	S1B,S1N	G5
BIRDS	VARIED THRUSH	IXOREUS NAEVIUS	A					
BIRDS	VEERY	CATHARUS FUSCESCENS	B				S5B,SZN	G5
BIRDS	VERMILION FLYCATCHER	PYROCEPHALUS RUBINUS	A					
BIRDS	VESPER SPARROW	POOECETES GRAMINEUS	B		SH		SHB,S1N	G5
BIRDS	VIRGINIA RAIL	RALLUS LIMICOLA	B				S2B,S2N	G5
BIRDS	WARBLING VIREO	VIREO GILVUS	B				S3B,SZN	G5
BIRDS	WATER PIPIT	ANTHUS RUBESCENS	M				SZN	G5
BIRDS	WESTERN GREBE	AECHMOPHORUS OCCIDENTALIS	A					
BIRDS	WESTERN KINGBIRD	TYRANNUS VERTICALIS	M				SA	G5
BIRDS	WESTERN MEADOWLARK	STURNELLA NEGLECTA	A					
BIRDS	WESTERN SANDPIPER	CALIDRIS MAURI	M				S3N	G5
BIRDS	WESTERN TANAGER	PIRANGA LUDOVICIANA	A					
BIRDS	WHIMBREL	NUMENIUS PHAEOPUS	M				S3N	G5
BIRDS	WHIP-POOR-WILL	CAPRIMULGUS VOCIFERUS	B			NAFWA	S4B,SZN	G5
BIRDS	WHITE IBIS	EUDOCIMUS ALBUS	A					
BIRDS	WHITE-BREASTED NUTHATCH	SITTA CAROLINENSIS	B				S5B,SZN	G5
BIRDS	WHITE-CROWNED SPARROW	ZONOTRICHIA LEUCOPHRYS	M				SZN	G5
BIRDS	WHITE-EYED VIREO	VIREO GRISEUS	B				S4B,SZN	G5
BIRDS	WHITE-FACED IBIS	OLEGADIS CHIHI	A					
BIRDS	WHITE-FACED STORM-PETREL	PELAGODROMA MARINA	A					
BIRDS	WHITE-RUMPED SANDPIPER	CALIDRIS FUSCICOLLIS	M				S3N	G5
BIRDS	WHITE-TAILED TROPICBIRD	PHAETHON LEPTURUS	H					
BIRDS	WHITE-THROATED SPARROW	ZONOTRICHIA ALBICOLLIS	B		C		S1B,SZN	G5

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
BIRDS	WHITE-WINGED CROSSBILL	LOXIA LEUCOPTERA	M				SA	G5
BIRDS	WHITE-WINGED DOVE	ZENAIDA ASIATICA	A					
BIRDS	WHITE-WINGED SCOTER	MELANITTA FUSCA	M				SZN	G5
BIRDS	WILD TURKEY	MELEAGRIS GALLOPAVO	B				SE	G5
BIRDS	WILLET	CATOPTROPHORUS SEMIPALMATUS	B		C		S1B,S3N	G5
BIRDS	WILLOW FLYCATCHER	EMPIDONAX TRAILLII	B				S3B,S3N	G5
BIRDS	WILSON'S PHALAROPE	PHALAROPUS TRICOLOR	M				S3N	G5
BIRDS	WILSON'S PLOVER	CHARADRIUS WILSONIA	A					
BIRDS	WILSON'S SNIPE	GALLINAGO DELICATA	M				SZN	G5
BIRDS	WILSON'S STORM-PETREL	OCEANITES OCEANICUS	M				SZN	G5
BIRDS	WILSON'S WARBLER	WILSONIA PUSILLA	M				SZN	G5
BIRDS	WINTER WREN	TROGLODYTES TROGLODYTES	B		C		S1B,S2N	G5
BIRDS	WOOD DUCK	AIX SPONSA	B				S4B,S4N	G5
BIRDS	WOOD STORK	MYCTERIA AMERICANA	A					
BIRDS	WOOD THRUSH	HYLOCICHLA MUSTELINA	B				S5B,SZN	G5
BIRDS	WORM-EATING WARBLER	HELMITHEROS VERMIVORUS	B		C		S2B,SZN	G5
BIRDS	YELLOW RAIL	COTURNICOPS NOVEBORACENSIS	M				SA	G4
BIRDS	YELLOW WARBLER	DENDROICA PETECHIA	B				S5B	G5
BIRDS	YELLOW-BELLIED FLYCATCHER	EMPIDONAX FLAVIVENTRIS	M				SZN	G5
BIRDS	YELLOW-BELLIED SAPSUCKER	SPHYRAPICUS VARIUS	M				SZN	G5
BIRDS	YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	B				S5B,S5N	G5
BIRDS	YELLOW-BREASTED CHAT	ICTERIA VIRENS	B		SH		SHB,S1N	G5
BIRDS	YELLOW-CROWNED NIGHT HERON	NYCTANASSA VIOLACEA	B		C		S1B,S1N	G5
BIRDS	YELLOW-HEADED BLACKBIRD	XANTHOCEPHALUS XANTHOCEPHALUS	M				SA	G5
BIRDS	YELLOW-NOSED ALBATROSS	THALASSARCHE CHLORORHYNCHOS	A					
BIRDS	YELLOW-RUMPED WARBLER	DENDROICA CORONATA	B				S2B,SZN	G5
BIRDS	YELLOW-THROATED VIREO	VIREO FLAVIFRONS	B				S4B,SZN	G5
BIRDS	YELLOW-THROATED WARBLER	DENDROICA DOMINICA	M				SA	G5
AMPHIBIAN	AMERICAN BULLFROG	RANA CATESBEIANA	RES				S5	G5
AMPHIBIAN	AMERICAN TOAD	BUFO AMERICANUS	RES				S5	G5
AMPHIBIAN	COMMON MUDPUPPY	NECTURUS MACULOSUS	RES				SE	G5
AMPHIBIAN	DUSKY SALAMANDER	DESMOGNATHUS FUSCUS	RES				S4	G5
AMPHIBIAN	EASTERN NEWT	NOTOPHTHALMUS VIRIDESCENS	RES				S5	G5
AMPHIBIAN	EASTERN SPADEFOOT	SCAPHIOPUS HOLBROOKII	RES		ST	NAFWA	S1	G5
AMPHIBIAN	FOUR-TOED SALAMANDER	HEMIDACTYLIUM SCUTATUM	RES				S3	G5

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
AMPHIBIAN	FOWLER'S TOAD	BUFO FOWLERI	RES				S3	G5
AMPHIBIAN	GRAY TREEFROG	HYLA VERSICOLOR	RES				S5	G5
AMPHIBIAN	GREEN FROG	RANA CLAMITANS	RES				S5	G5
AMPHIBIAN	MARBLED SALAMANDER	AMBYSTOMA OPACUM	RES				S2	G5
AMPHIBIAN	NORTHERN LEOPARD FROG	RANA PIPIENS	RES		C	NAFWA	S2	G5
AMPHIBIAN	PICKEREL FROG	RANA PALUSTRIS	RES				S5	G5
AMPHIBIAN	REDBACK SALAMANDER	PLETHODON CINEREUS	RES				S5	G5
AMPHIBIAN	SPOTTED SALAMANDER	AMBYSTOMA MACULATUM	RES				S4	G5
AMPHIBIAN	SPRING PEEPER	PSEUDACRIS CRUCIFER	RES				S5	G5
AMPHIBIAN	SPRING SALAMANDER	GYRINOPHILUS PORPHYRITICUS	RES		C		S1	G5
AMPHIBIAN	TWO-LINED SALAMANDER	EURYCEA BISLINEATA	RES				S5	G5
AMPHIBIAN	WOOD FROG	RANA SYLVATICA	RES				S5	G5
REPTILE	ATLANTIC GREEN TURTLE	CHELONIA MYDAS MYDAS	M	FT	FT		FTS?	G3T3
REPTILE	ATLANTIC HAWKSBILL TURTLE	ERETMOCHELYS IMBRICATA	A	FE				G3
REPTILE	BLACK RAT SNAKE	ELAPHE OBSOLETA	RES		C		S2	G5
REPTILE	BOG TURTLE	CLEMMYS MUHLENBERGII	H			P	SRF	G3
REPTILE	COMMON GARTER SNAKE	THAMNOPHIS SIRTALIS	RES				S5	G5
REPTILE	DIAMONDBACK TERRAPIN	MALACLEMYS TERRAPIN	RES		SE	P, NAFWA	S1	G4
REPTILE	EASTERN BOX TURTLE	TERRAPENE CAROLINA	RES			P, NAFWA	S4	G5
REPTILE	EASTERN HOGNOSE SNAKE	HETERODON PLATIRHINOS	RES		C	NAFWA	S2	G5
REPTILE	EASTERN RIBBON SNAKE	THAMNOPHIS SAURITUS	RES		C	NAFWA	S3	G5
REPTILE	EASTERN WORM SNAKE	CARPHOPHIS AMOENUS	RES		C		S1	G5
REPTILE	KEMP'S RIDLEY SEA TURTLE	LEPIDOCHELYS KEMPII	M	FE	FE		FES?	G1
REPTILE	LEATHERBACK TURTLE	DERMOCHELYS CORIACEA	M	FE	FE		FES?	G2
REPTILE	LOGGERHEAD TURTLE	CARETTA CARETTA	M	FT	FT		FTS?	G3
REPTILE	MILK SNAKE	LAMPROPELTIS TRIANGULUM	RES				S5	G5
REPTILE	NORTHERN BLACK RACER	COLUBER CONSTRICTOR	RES				S5	G5
REPTILE	NORTHERN BROWN SNAKE	STORERIA DEKAYI	RES				S4?	G5
REPTILE	NORTHERN REDBELLY SNAKE	STORERIA OCCIPITOMACULATA	RES				S2	G5
REPTILE	NORTHERN RINGNECK SNAKE	DIADOPHIS PUNCTATUS EDWARDSII	RES				S4	G5T5
REPTILE	NORTHERN WATER SNAKE	NERODIA SIPEDON	RES				S5	G5

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
REPTILE	PAINTED TURTLE	CHRYSEMYS PICTA	RES				S5	G5
REPTILE	RED-EARED SLIDER	TRACHEMYS SCRIPTA ELEGANS	RES					
REPTILE	SMOOTH GREEN SNAKE	LIOCHLOROPHIS VERNALIS	RES				S5	G5
REPTILE	SNAPPING TURTLE	CHELYDRA SERPENTINA	RES				S5	G5
REPTILE	SPOTTED TURTLE	CLEMMY S GUTTATA	RES			P, NAFWA	PS5	G5
REPTILE	STINKPOT	STERNOTHERUS ODORATUS	RES				S4	G5
REPTILE	TIMBER RATTLESNAKE	CROTALUS HORRIDUS	X			NAFWA	SH/PSX	G4
REPTILE	WOOD TURTLE	CLEMMYS INSCULPTA	RES		C	P, NAFWA	C/PS2	G4
FISH FRESH	AMERICAN BROOK LAMPREY	LAMPETRA APPENDIX	RES		C	NAFWA	S1	G4
FISH FRESH	AMERICAN EEL	ANGUILLA ROSTRATA	CA				S5	G5
FISH FRESH	BANDED KILLIFISH	FUNDULUS DIAPHANUS	RES				S3	G5
FISH FRESH	BANDED SUNFISH	ENNEACANTHUS OBESUS	RES			NAFWA	S3	G5
FISH FRESH	BLACK CRAPPIE	POMOXIS NIGROMACULATUS	RES				SE	G5
FISH FRESH	BLACKNOSE DACE	RHINICHTHYS ATRATULUS	RES				S4	G5
FISH FRESH	BLUEBACK HERRING	ALOSA AESTIVALIS	AN				S1	G5
FISH FRESH	BLUEGILL	LEPOMIS MACROCHIRUS	RES				SE	G5
FISH FRESH	BRIDLE SHINER	NOTROPIS BIFRENATUS	RES			NAFWA	S5	G5
FISH FRESH	BROOK STICKLEBACK	CULAEA INCONSTANS	RES				SE	G5
FISH FRESH	BROOK TROUT	SALVELINUS FONTINALIS	RES				S5	G5
FISH FRESH	BROWN BULLHEAD	AMEIURUS NEBULOSUS	RES				S5	G5
FISH FRESH	BROWN TROUT	SALMO TRUTTA	AN				SE	G5
FISH FRESH	CHAIN PICKEREL	ESOX NIGER	RES				S5	G5
FISH FRESH	CHANNEL CATFISH	ICTALURUS PUNCTATUS	RES				SE	G5
FISH FRESH	COMMON CARP	CYPRINUS CARPIO	RES				SE	G5
FISH FRESH	COMMON SHINER	LUXILUS CORNUTUS	RES				S5	G5
FISH FRESH	CREEK CHUB	SEMOTILUS ATROMACULATUS	RES				SU	G5
FISH FRESH	CREEK CHUBSUCKER	ERIMYZON OBLONGUS	RES				S3	G5
FISH FRESH	FALLFISH	SEMOTILUS CORPORALIS	RES				S4	G5
FISH FRESH	FOURSPINE STICKLEBACK	APELTES QUADRACUS	RES				S4	G5
FISH FRESH	GOLDEN SHINER	NOTEMIGONUS CRYSOLEUCAS	RES				S5	G5
FISH FRESH	GOLDFISH	CARASSIUS AURATUS	RES				SE	G5
FISH FRESH	INLAND SILVERSIDE	MENIDIA BERYLLINA	RES					
FISH FRESH	LAKE WHITEFISH	COREGONUS CLUPEAFORMIS	RES				S?	G5
FISH FRESH	LARGEMOUTH BASS	MICROPTERUS SALMOIDES	RES				SE	G5
FISH FRESH	LONGNOSE DACE	RHINICHTHYS CATARACTAE	RES				S4	G5

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
FISH FRESH	NINESPINE STICKLEBACK	PUNGITIUS PUNGITIUS	CA				SU	G5
FISH FRESH	NORTHERN PIKE	ESOX LUCIUS	RES				SE	G5
FISH FRESH	PUMPKINSEED	LEPOMIS GIBBOSUS	RES				S5	G5
FISH FRESH	RAINBOW TROUT	ONCORHYNCHUS MYKISS	RES				SE	G5
FISH FRESH	REDBREAST SUNFISH	LEPOMIS AURITUS	RES				S3	G5
FISH FRESH	REDFIN PICKEREL	ESOX AMERICANUS	RES				S5	G5
FISH FRESH	ROCK BASS	AMBLOPLITES RUPESTRIS	RES				SE	G5
FISH FRESH	SEA LAMPREY	PETROMYZON MARINUS	AN				S3	G5
FISH FRESH	SMALLMOUTH BASS	MICROPTERUS DOLOMIEU	RES				SE	G5
FISH FRESH	SPOTFIN KILLIFISH	FUNDULUS LUCIAE						G4
FISH FRESH	SPOTTAIL SHINER	NOTROPIS HUDSONIUS	RES				S1	G5
FISH FRESH	SWAMP DARTER	ETHEOSTOMA FUSIFORME	RES				S3	G5
FISH FRESH	TESSELLATED DARTER	ETHEOSTOMA OLMSTEDI	RES				S3	G5
FISH FRESH	THREESPINE STICKLEBACK	GASTEROSTEUS ACULEATUS	AN				S4	G5
FISH FRESH	WHITE CATFISH	AMEIURUS CATUS	RES				SE	G5
FISH FRESH	WHITE PERCH	MORONE AMERICANA	AN				S5	G5
FISH FRESH	WHITE SUCKER	CATOSTOMUS COMMERSONI	RES				S5	G5
FISH FRESH	YELLOW BULLHEAD	AMEIURUS NATALIS	RES				SE	G5
FISH FRESH	YELLOW PERCH	PERCA FLAVESCENS	RES				S5	G5
FISH SALT	AFRICAN POMPANO	ALECTIS CRINITUS	A					
FISH SALT	ALBACORE	THUNNUS ALALUNGA	M					
FISH SALT	ALEWIFE	ALOSA PSEUDOHARENGUS	AN				S3	G5
FISH SALT	ALLIGATORFISH	ASPIDOPHOROIDES MONOPTERYGIUS	A					
FISH SALT	AMERICAN GOOSEFISH (MONKFISH)	LOPHIUS AMERICANUS	MARINE					G5
FISH SALT	AMERICAN PLAICE	HIPPOGLOSSOIDES PLATESSOIDES	MARINE					
FISH SALT	AMERICAN SAND LANCE	AMMODYTES AMERICANUS	MARINE					G5
FISH SALT	AMERICAN SHAD	ALOSA SAPIDISSIMA	AN				S1	G5
FISH SALT	ARCTIC EELPOUT	LYCODES RETICULATUS	A					
FISH SALT	ARMORED SEAROBIN	PERISTEDION MINIATUM	A					
FISH SALT	ATLANTIC ANGEL SHARK	SQUATINA DUMERILI	M					
FISH SALT	ATLANTIC BATFISH	DIBRANCHUS ATLANTICUS	A					
FISH SALT	ATLANTIC BLUEFIN TUNA	THUNNUS THYNNUS	M					
FISH SALT	ATLANTIC BONITO	SARDA SARDA	M					
FISH SALT	ATLANTIC CHUB MACKEREL	SCOMBER COLIAS	M					
FISH SALT	ATLANTIC COD	GADUS MORHUA	MARINE					
FISH SALT	ATLANTIC CROAKER	MICROPOGONIAS UNDULATUS	A					

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
FISH SALT	ATLANTIC CUTLASSFISH	TRICHIURUS LEPTURUS	A					
FISH SALT	ATLANTIC HALIBUT	HIPPOGLOSSUS HIPPOGLOSSUS	MARINE					
FISH SALT	ATLANTIC HERRING	CLUPEA HARENGUS	MARINE					
FISH SALT	ATLANTIC MACKEREL	SCOMBER SCOMBRUS	M					
FISH SALT	ATLANTIC MENHADEN	BREVOORTIA TYRANNUS	M					G5
FISH SALT	ATLANTIC MOONFISH	SELENE SETAPINNIS	A					
FISH SALT	ATLANTIC NEEDLEFISH	STRONGYLURA MARINA	A					
FISH SALT	ATLANTIC SALMON	SALMO SALAR	AN				S1	G5
FISH SALT	ATLANTIC SAURY	SCOMBERESOX SAURUS	A					
FISH SALT	ATLANTIC SEASNAIL	LIPARIS ATLANTICUS	RES					
FISH SALT	ATLANTIC SILVERSIDE	MENIDIA MENIDIA	RES					
FISH SALT	ATLANTIC SPADEFISH	CHAETODIPTERUS FABER	A					
FISH SALT	ATLANTIC STURGEON	ACIPENSER OXYRINCHUS	AN	SC	SH	NAFWA	SH	G3
FISH SALT	ATLANTIC THREAD HERRING	OPISTHONEMA OGLINUM	A					
FISH SALT	ATLANTIC TOMCOD	MICROGADUS TOMCOD	AN					G5
FISH SALT	ATLANTIC TORPEDO RAY	TORPEDO NOBILIANA	M					
FISH SALT	ATLANTIC WOLFFISH	ANARHICHAS LUPUS	MARINE					
FISH SALT	BANDED BUTTERFLYFISH	CHAETODON STRIATUS	A					
FISH SALT	BANDED RUDDERFISH	SERIOLA ZONATA	A					
FISH SALT	BARNDOOR SKATE	DIPTERUS LAEVIS	RES					
FISH SALT	BARRELFISH	HYPEROGLYPHE PERCIFORMIS	A					
FISH SALT	BASKING SHARK	CETORHINUS MAXIMUS	M					
FISH SALT	BAY ANCHOVY	ANCHOA MITCHILLI	M					
FISH SALT	BEAUGREGORY	POMACENTRUS LEUCOSTICTUS	A					
FISH SALT	BERMUDA CHUB	KYPHOSUS SECTATRIX	A					
FISH SALT	BICOLOR DAMSELFISH	POMACENTRUS PARTITUS	A					
FISH SALT	BIGEYE	PRIACANTHUS ARENATUS	A					
FISH SALT	BIGEYE SCAD	SELAR CRUMENOPHTHALMUS	A					
FISH SALT	BIGEYE TUNA	THUNNUS OBESUS	M					
FISH SALT	BLACK DRUM	POGONIAS CROMIS	A					
FISH SALT	BLACK RUFF	CENTROLOPHUS NIGER	A					
FISH SALT	BLACK SEA BASS	CENTROPRISTIS STRIATA	RES					
FISH SALT	BLACKBELLY ROSEFISH	HELICOLENUS DACTYLOPTERUS	A					
FISH SALT	BLACKSPOTTED STICKLEBACK	GASTEROSTEUS WHEATLANDI	RES					
FISH SALT	BLUE MARLIN	MAKAIRA NIGRICANS	M					

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
FISH SALT	BLUE RUNNER	CARANX CRYSOS	M					
FISH SALT	BLUE SHARK	PRIONACE GLAUCA	M					
FISH SALT	BLUEBACK HERRING	ALOSA AESTIVALIS	AN				S1	G5
FISH SALT	BLUEFISH	POMATOMUS SALTATRIX	M					
FISH SALT	BLUELINE TILEFISH	CAULOLATILUS MICROPS	A					
FISH SALT	BLUESPOTTED CORNETFISH	FISTULARIA TABACARIA	A					
FISH SALT	BLUNTNOSE FLYINGFISH	PROGNICHTHYS GIBBIFRONS	A					
FISH SALT	BONEFISH	ALBULA VULPES	A					
FISH SALT	BONNETHEAD	SPHYRNA TIBURO	A					
FISH SALT	BUCKLER DORY	ZENOPSIS CONCHIFERA	A					
FISH SALT	BULLNOSE RAY	MYLIOBATIS FREMINVILLEI	A					
FISH SALT	BUTTERFISH	PEPRILUS TRIACANTHUS	MARINE					
FISH SALT	CERO	SCOMBEROMORUS REGALIS	M					
FISH SALT	CHAIN DOGFISH	SCYLIORHINUS RETIFER	A					
FISH SALT	CHECKERED PUFFER	SPHOEROIDES TESTUDINEUS	A					
FISH SALT	CLEARNOSE SKATE	RAJA EGLANTERIA	M					
FISH SALT	COBIA	RACHYCENTRON CANADUM	A					
FISH SALT	CONGER EEL	CONGER OCEANICUS	MARINE					
FISH SALT	COWNOSE RAY	RHINOPTERA BONASUS	A					
FISH SALT	CREVALLE JACK	CARANX HIPPOS	M					
FISH SALT	CUNNER	TAUTOGOLABRUS ADSPERSUS	RES					G5
FISH SALT	CUSK	BROSME BROSME	A					
FISH SALT	DARTER GOBY	GOBIONELLUS BOLEOSOMA	A					
FISH SALT	DEEPBODY BOARFISH	ANTIGONIA CAPROS	A					
FISH SALT	DEVIL RAY	MOBULA HYPOSTOMA	A					
FISH SALT	DOCTORFISH	ACANTHURUS CHIRURGUS	A					
FISH SALT	DOLPHIN	CORYPHAENA HIPPURUS	A					
FISH SALT	DUSKY SHARK	CARCHARHINUS OBSCURUS	M					
FISH SALT	DUSKY SQUIRRELFISH	HOLOCENTRUS VEXILLARIUS	A					
FISH SALT	DWARF GOATFISH	UPENEUS PARVUS	A					
FISH SALT	FAWN CUSK-EEL	LEPOPHIDIUM PROFUNDORUM	A					
FISH SALT	FLAT NEEDLEFISH	ABLENNES HIANS	A					
FISH SALT	FLORIDA POMPANO	TRACHINOTUS CAROLINUS	A					
FISH SALT	FLYING GURNARD	DACTYLOPTERUS VOLITANS	A					
FISH SALT	FLYING HALFBEAK	EULEPTORHAMPHUS VELOX	A					
FISH SALT	FOURBEARD ROCKLING	ENCHELYOPUS CIMBRIUS	RES					

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
FISH SALT	FOUREYE BUTTERFLYFISH	CHAETODON CAPISTRATUS	A					
FISH SALT	FOURSPOT FLOUNDER	PARALICHTHYS OBLONGUS	RES					
FISH SALT	FRECKLED SOAPFISH	RYPTICUS BISTRISPINUS	A					
FISH SALT	FRIGATE MACKEREL	AUXIS THAZARD	M					
FISH SALT	FRINGED FILEFISH	MONACANTHUS CILIATUS	A					
FISH SALT	GAFFTOPSAIL CATFISH	BAGRE MARINUS	A					
FISH SALT	GIZZARD SHAD	DOROSOMA CEPEDIANUM	AN					
FISH SALT	GLASSEYE SNAPPER	PRIACANTHUS CRUENTATUS	A					
FISH SALT	GOLDEN REDFISH	SEBASTES NORVEGICUS	A					
FISH SALT	GRAY SNAPPER	LUTJANUS GRISEUS	A					
FISH SALT	GRAY TRIGGERFISH	BALISTES CAPRISCUS	A					
FISH SALT	GREAT BARRACUDA	SPHYRAENA BARRACUDA	A					
FISH SALT	GRUBBY	MYOXOCEPHALUS AENAEUS	RES					
FISH SALT	GUAGUANCHE	SPHYRAENA GUACHANCHO	A					
FISH SALT	GULF FLOUNDER	PARALICHTHYS ALBIGUTTA	A					
FISH SALT	GULF STREAM FLOUNDER	CITHARICHTHYS ARCTIFRONS	RES					
FISH SALT	HADDOCK	MELANOGRAMMUS AEGLEFINUS	MARINE					
FISH SALT	HARDHEAD CATFISH	ARIUS FELIS	A					
FISH SALT	HARVESTFISH	PEPRILUS ALEPIDOTUS	A					
FISH SALT	HICKORY SHAD	ALOSA MEDIOCRIS	AN					
FISH SALT	HOGCHOKER	TRINECTES MACULATUS	RES					G5
FISH SALT	HOUNDFISH	TYLOSURUS CROCODILUS	A					
FISH SALT	INSHORE LIZARDFISH	SYNODUS FOETENS	A					
FISH SALT	JOLTHEAD PORGY	CALAMUS BAJONADO	A					
FISH SALT	KING-OF-THE-MULLETS	APOGON IMBREBIS	A					
FISH SALT	LADYFISH	ELOPS SAURUS	A					
FISH SALT	LEATHERJACK	OLIGOPLITES SAURUS	A					
FISH SALT	LINED SEAHORSE	HIPPOCAMPUS ERECTUS	M					GNR
FISH SALT	LITTLE SKATE	LEUCORAJA ERINACEA	RES					
FISH SALT	LITTLE TUNNY	EUTHYNNUS ALLETTERATUS	M					
FISH SALT	LONGHORN SCULPIN	MYOXOCEPHALUS OCTODECEMSPINOSUS	RES					
FISH SALT	LONGNOSE LANCETFISH	ALEPISAURUS FEROX	A					
FISH SALT	LONGSPINE SNIPEFISH	MACRORAMPHOSUS SCOLOPAX	A					
FISH SALT	LOOKDOWN	SELENE VOMER	A					
FISH SALT	LUMPFISH	CYCLOPTERUS LUMPUS	MARINE					

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
FISH SALT	MACKEREL SCAD	DECAPTERUS MACARELLUS	A					
FISH SALT	MAN-OF-WAR FISH	NOMEUS GRONOVII	A					
FISH SALT	MANTA	MANTA BIROSTRIS	A					
FISH SALT	MARLIN SUCKER	REMORA OSTEOCHIR	A					
FISH SALT	MUMMICHOG	FUNDULUS HETEROCLITUS	RES					
FISH SALT	MUTTON SNAPPER	LUTJANUS ANALIS	A					
FISH SALT	NAKED GOBY	GOBIOSOMA BOSC	RES					
FISH SALT	NORTHERN KINGFISH	MENTICIRRHUS SAXATILIS	M					GNR
FISH SALT	NORTHERN PIPEFISH	SYNGNATHUS FUSCUS	RES					
FISH SALT	NORTHERN PUFFER	SPHOEROIDES MACULATUS	M					
FISH SALT	NORTHERN SEAROBIN	PRIONOTUS CAROLINUS	RES					
FISH SALT	NORTHERN SENNET	SPHYRAENA BOREALIS	A					
FISH SALT	NORTHERN STARGAZER	ASTROSCOPUS GUTTATUS	A					
FISH SALT	NURSE SHARK	GINGLYMOSTOMA CIRRATUM	M					
FISH SALT	OCEAN POUT	MACROZOARCES AMERICANUS	MARINE					
FISH SALT	OCEAN SUNFISH	MOLA MOLA	MARINE					
FISH SALT	OPAH	LAMPRIS GUTTATUS	A					
FISH SALT	ORANGE FILEFISH	ALUTERUS SCHOEPFI	A					
FISH SALT	OYSTER TOADFISH	OPSANUS TAU	RES					GNR
FISH SALT	PERMIT	TRACHINOTUS FALCATUS	A					
FISH SALT	PILOTFISH	NAUCRATES DUCTOR	A					
FISH SALT	PINFISH	LAGODON RHOMBOIDES	A					
FISH SALT	PLANEHEAD FILEFISH	MONACANTHUS HISPIDUS	A					
FISH SALT	POLLOCK	POLLACHIUS VIRENS	MARINE					
FISH SALT	PORBEAGLE	LAMNA NASUS	A					
FISH SALT	QUEEN TRIGGERFISH	BALISTES VETULA	A					
FISH SALT	RADIATED SHANNY	ULVARIA SUBBIFURCATA	RES					
FISH SALT	RAINBOW SMELT	OSMERUS MORDAX	AN	SC			S1	G5
FISH SALT	RAINWATER KILLIFISH	LUCANIA PARVA	RES					
FISH SALT	RED GOATFISH	MULLUS AURATUS	A					
FISH SALT	RED HAKE	UROPHYCIS CHUSS	MARINE					
FISH SALT	RED SNAPPER	LUTJANUS CAMPECHANUS	A					
FISH SALT	REMORA	REMORA REMORA	A					
FISH SALT	ROCK GUNNEL	PHOLIS GUNNELLUS	RES					
FISH SALT	ROCK SEA BASS	CENTROPRISTIS PHILADELPHICA	A					
FISH SALT	ROSETTE SKATE	LEUCORAJA GARMANI	A					

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
FISH SALT	ROUGH SCAD	TRACHURUS LATHAMI	A					
FISH SALT	ROUGHTAIL STINGRAY	DASYATIS CENTROURA	A					
FISH SALT	ROUND HERRING	ETRUMEUS TERES	A					
FISH SALT	ROUND SCAD	DECAPTERUS PUNCTATUS	A					
FISH SALT	SAILFIN FLYINGFISH	PAREXOCOETUS BRACHYPTERUS	A					
FISH SALT	SAND TIGER	CARCHARIAS TAURUS	M					
FISH SALT	SANDBAR SHARK	CARCHARHINUS PLUMBEUS	M					
FISH SALT	SARGASSUM FROGFISH	HISTRIO HISTRIO	A					
FISH SALT	SARGENT MAJOR	ABUDEFDUF SAXATILIS	A					
FISH SALT	SCALLOPED HAMMERHEAD	SPHYRNA LEWINI	M					
FISH SALT	SCRAWLED COWFISH	LACTOPHRYS QUADRICORNIS	A					
FISH SALT	SCRAWLED FILEFISH	ALUTERUS SCRIPTUS	A					
FISH SALT	SCUP	STENOTOMUS CHRYSOPS	M					
FISH SALT	SEA RAVEN	HEMITRIPTERUS AMERICANUS	RES					GNR
FISH SALT	SEABOARD GOBY	GOBIOSOMA GINSBURGI	RES					
FISH SALT	SHARKSUCKER	ECHENEIS NAUCRATES	A					
FISH SALT	SHEEPSHEAD	ARCHOSARGUS PROBATOCEPHALUS	A					
FISH SALT	SHEEPSHEAD MINNOW	CYPRINODON VARIEGATUS	RES					
FISH SALT	SHORT BIGEYE	PRISTIGENYS ALTA	A					
FISH SALT	SHORTFIN MAKO	ISURUS OXYRINCHUS	M					
FISH SALT	SHORTHORN SCULPIN	MYOXOCEPHALUS SCORPIUS	RES					
FISH SALT	SHORTNOSE STURGEON	ACIPENSER BREVIROSTRUM	AN	FE			S1S2	G3
FISH SALT	SILVER ANCHOVY	ENGRAULIS EURYSTOLE	A					
FISH SALT	SILVER HAKE	MERLUCCIUS BILINEARIS	MARINE					
FISH SALT	SILVER JENNY	EUCINOSTOMUS GULA	A					
FISH SALT	SILVER PERCH	BAIRDIELLA CHRYSOURA	A					
FISH SALT	SILVERSTRIPE HALFBEAK	HYPORHAMPHUS UNIFASCIATUS	A					
FISH SALT	SKIPJACK TUNA	KATSUWONUS PELAMIS	M					
FISH SALT	SMALLMOUTH FLOUNDER	ETROPUS MICROSTOMUS	A					
FISH SALT	SMOOTH DOGFISH	MUSTELUS CANIS	RES					
FISH SALT	SMOOTH FLOUNDER	PLEURONECTES PUTNAMI	A					
FISH SALT	SMOOTH HAMMERHEAD	SPHYRNA ZYGAENA	A					
FISH SALT	SMOOTH PUFFER	LAGOCEPHALUS LAEVIGATUS	A					
FISH SALT	SMOOTH SKATE	MALACORAJA SENTA	A					
FISH SALT	SMOOTH TRUNKFISH	LACTOPHRYS TRIQUESTER	A					

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
FISH SALT	SNOWY GROUPER	EPINEPHELUS NIVEATUS	A					
FISH SALT	SPANISH MACKEREL	SCOMBEROMORUS MACULATUS	M					
FISH SALT	SPANISH SARDINE	SARDINELLA AURITA	A					
FISH SALT	SPEARFISH REMORA	REMORA BRACHYPTERA	A					
FISH SALT	SPINY BUTTERFLY RAY	GYMNURA ALTAVELA	A					
FISH SALT	SPINY DOGFISH	SQUALUS ACANTHIAS	M					
FISH SALT	SPOT	LEIOSTOMUS XANTHURUS	A					
FISH SALT	SPOTFIN BUTTERFLYFISH	CHAETODON OCELLATUS	A					
FISH SALT	SPOTFIN FLYINGFISH	CYPSELURUS FURCATUS	A					
FISH SALT	SPOTFIN MOJARRA	EUCINOSTOMUS ARGENTEUS	A					
FISH SALT	SPOTTED GOATFISH	PSEUDUPENEUS MACULATUS	A					
FISH SALT	SPOTTED HAKE	UROPHYCIS REGIA	M					
FISH SALT	SQUIRRELFISH	HOLOCENTRUS ABSCENSIONIS	A					
FISH SALT	STRIPED ANCHOVY	ANCHOA HEPSETUS	M					
FISH SALT	STRIPED BASS	MORONE SAXATILIS	M					
FISH SALT	STRIPED BURRFISH	CHILOMYCTERUS SCHOEFI	A					
FISH SALT	STRIPED CUSK-EEL	OPHIDION MARGINATUM	A					
FISH SALT	STRIPED KILLIFISH	FUNDULUS MAJALIS	RES					
FISH SALT	STRIPED MULLET	MUGIL CEPHALUS	A					
FISH SALT	STRIPED SEAROBIN	PRIONOTUS EVOLANS	RES					
FISH SALT	STRIPED SEASNAIL	LIPARIS LIPARIS	MARINE					
FISH SALT	SUMMER FLOUNDER	PARALICHTHYS DENTATUS	M					
FISH SALT	SWORDFISH	XIPHIAS GLADIUS	M					
FISH SALT	TARPON	MEGALOPS ATLANTICUS	A					
FISH SALT	TAUTOG	TAUTOGA ONITIS	RES					
FISH SALT	THORNY SKATE	AMBLYRAJA RADIATA	A					
FISH SALT	THRESHER SHARK	ALOPIAS VULPINUS	M					
FISH SALT	TIGER SHARK	GALEOCERDO CUVIER	M					
FISH SALT	TILEFISH	LOPHOLATILUS CHAMAELEONTICEPS	A					
FISH SALT	TRIPLETAIL	LOBOTES SURINAMENSIS	A					
FISH SALT	TRUNKFISH	LACTOPHRYS TRIGONUS	A					
FISH SALT	TWOSPOT FLOUNDER	BOTHUS ROBINSI	A					
FISH SALT	UNICORN FILEFISH	ALUTERUS MONOCEROS	A					
FISH SALT	WEAKFISH	CYNOSCION REGALIS	M					GNR
FISH SALT	WHITE HAKE	UROPHYCIS TENUIS	MARINE					
FISH SALT	WHITE MARLIN	TETRAPTURUS ALBIDUS	M					

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
FISH SALT	WHITE MULLET	MUGIL CUREMA	A					
FISH SALT	WHITE SHARK	CARCHARODON CARCHARIAS	M					
FISH SALT	WHITEFIN SHARKSUCKER	ECHENEIS NEUCRATOIDES	A					
FISH SALT	WINDOWPANE	SCOPHTHALMUS AQUOSUS	RES					G5
FISH SALT	WINTER FLOUNDER	PSEUDOPLEURONECTES AMERICANUS	RES					G5
FISH SALT	WINTER SKATE	LEUCORAJA OCELLATA	M					
FISH SALT	WITCH FLOUNDER	GLYPTOCEPHALUS CYNOGLOSSUS	MARINE					
FISH SALT	WOLF EELPOUT	LYCENCHELYS VERRILLI	A					
FISH SALT	WRYMOUTH	CRYPTACANTHODES MACULATUS	A					
FISH SALT	YELLOW JACK	CARANX BARTHOLOMAEI	M					
FISH SALT	YELLOWFIN TUNA	THUNNUS ALBACARES	M					
FISH SALT	YELLOWTAIL	SERIOLA LALANDEI	A					
FISH SALT	YELLOWTAIL FLOUNDER	LIMANDA FERRUGINEA	MARINE					
ANNELIDA	AQUATIC EARTHWORMS	OLIGOCHAETA SPP.						
ANNELIDA	BAMBOO WORM	CLYMENELLA SPP.						
ANNELIDA	BAMBOO WORM	EUCLYMENE SP.						
ANNELIDA	BLOOD WORM OR BEAK THROWER	GLYCERA SPP.(AMERICANA)						
ANNELIDA	BLOODY THREAD WORM	ENOPLOBRANCHUS SANGUINEUS						
ANNELIDA	BURROWING SCALE WORM	STHENELAIS BOA						
ANNELIDA	CAPITELLID THREADWORM	CAPITELLA CAPITATA						
ANNELIDA	CAPITELLID THREADWORM	CAPITELLA SP.						
ANNELIDA	CAPITELLID THREADWORM	FAMILY CAPITELLIDAE						
ANNELIDA	CARNATION WORM	HYDROIDES DIANTHUS						
ANNELIDA	CEMENT TUBE WORM	SABELLARIA VULGARIS						
ANNELIDA	CLAM WORM	NEREIS VIRENS						
ANNELIDA	COILED WORMS	SPIRPRBIS SP.						
ANNELIDA	COMMON BROOM WORM	PHERUSA SPP.(AFFINIS)						
ANNELIDA	COMMON PAINTED WORM	NEPHTYS INCISA						
ANNELIDA	CONE WORM	PECTINARIA GOULDII						
ANNELIDA	CORAL WORM	DODECACERIA CORALLII						
ANNELIDA	CRAB LEECH	MYZOBDELLA LUGUBRIS						
ANNELIDA	EYED-FRINGE WORM	CIRRATULUS CIRRATUS						
ANNELIDA	FAMILY CAPITELLIDAE	HETEROMASTUS FILIFORMIS						
ANNELIDA	FAMILY CAPITELLIDAE	MEDIOMASTUS AMBISETA						
ANNELIDA	FAMILY CAPITELLIDAE	NOTOMASTUS LURIDUS						

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
ANNELIDA	FAMILY GONIADIDAE	GLYCINDE SOLITARIA						
ANNELIDA	FAMILY HESIONIDAE	PODARKE OBSCURA						
ANNELIDA	FAMILY HESIONIDAE	PODARKEOPSIS SP.						
ANNELIDA	FAMILY ORBINIIDAE	LEITOSCOLOPLOS FRAGILIS						
ANNELIDA	FAMILY ORBINIIDAE	LEITOSCOLOPLOS ROBUSTUS						
ANNELIDA	FAMILY SPIONIDAE	SCOLECOLEPIDES VIRIDIS						
ANNELIDA	FAMILY SYLLID	SYLLIS SPP.						
ANNELIDA	FAN (SABLLID) WORM	SABELLA SP.						
ANNELIDA	FEATHER DUSTER OR FAN WORM	POTAMILLA SPP.						
ANNELIDA	FEATHER DUSTER OR FAN WORM	SABELLA CRASSICORNIS						
ANNELIDA	FEATHER DUSTER OR FAN WORM	SABELLA MICROPHTHALMA						
ANNELIDA	FIFTEEN-SCALLED WORM	HARMOTHOE EXTENUATA						
ANNELIDA	FIFTEEN-SCALLED WORM	HARMOTHOE IMBRICATA						
ANNELIDA	FISH LEECHES	PISCICOLA SPP.						
ANNELIDA	FOULING CLAM WORM	NEREIS PALAGICA						
ANNELIDA	GLASSEY TUBE WORM	SPIOCHAETOPTERUS OCULATUS						
ANNELIDA	JOHNSTON'S ORNATE WORM	AMPHITRITE JOHNSTONI						
ANNELIDA	LACY TUBE WORM	FILOGRANA IMPLEXA						
ANNELIDA	LARGE FRINGED WORM	CIRRIFORMIA GRANDIS						
ANNELIDA	LEAFY PADDLE WORM	PHYLLODOCE SP. (ARENAE)						
ANNELIDA	LITTLE FAN WORM	FABRICIA SABELLA						
ANNELIDA	LOBSTER GILL WORM	HISTRIOBDELLA HOMARI						
ANNELIDA	LUG WORMS	FAMILY AERNICOLIDAE						
ANNELIDA	MANTLED BROOM WORM	FLABELLIGERA AFFINIS						
ANNELIDA	MUD OR BLISTER WORM	POLYDORA CAULLERYI						
ANNELIDA	MUD OR BLISTER WORM	POLYDORA LIGNI						
ANNELIDA	MUD OR BLISTER WORM	POLYDORA SOCIALIS						
ANNELIDA	MUD WORMS	PRIONOSPIO HETEROBRANCHIA						
ANNELIDA	OPAL WORM	ARABELLA IRICOLOR						
ANNELIDA	OPAL WORM	DRILONEREIS SPP.						
ANNELIDA	OPAL WORM	LUMBRINERIS SPP.						
ANNELIDA	OPAL WORM	NINOE NIGRIPES						
ANNELIDA	ORNATE WORM	AMPHITRITE ORNATA						
ANNELIDA	OVAL-TAILED BAMBOO WORM	MALDANE SARSI						
ANNELIDA	PAINTED WORM	NEPHTYS BUCERA						
ANNELIDA	PAINTED WORM	NEPHTYS PICTA						

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
ANNELIDA	PARCHMENT WORM	CHAETOPTERUS VARIOPEDATUS						
ANNELIDA	PLANKTON WORM	TOMOPETERIS HEGOLANDICA						
ANNELIDA	PLUMED OR JUNK WORM	DIOPATRA CUPREA						
ANNELIDA	POM POM WORM	PISTA CRISTATA						
ANNELIDA	RED TREBELLID WORM	POLYCIRRUS EXIMIUS						
ANNELIDA	RED TREBELLID WORM	POLYCIRRUS MEDUSA						
ANNELIDA	ROUND HEADED BAMBOO WORM	NICOMACHE LUMBRICALIS						
ANNELIDA	SINSTRAL SPIRAL TUBE WORM	SPIRORBIS BOREALIS						
ANNELIDA	SKATE LEECHES	BRANCHELLION SPP.						
ANNELIDA	SLENDER MANY SCALLED WORM	PHOLOE MINUTA						
ANNELIDA	SLIME (FAN) WORM	MYXICOLA INFUNDIBULUM						
ANNELIDA	SPOONTAILED BAMBOO WORM	ASYCHIS ELONGATA						
ANNELIDA	T HEADED WORM	SCALIBREGMA INFLATUM						
ANNELIDA	THREAD WORMS	PARAONIS SPP.						
ANNELIDA	TUBE DWELLING CLAM WORM	NEREIS GRAYI						
ANNELIDA	TUBE DWELLING SCALED WORM	LEPIDAMETRIA COMMENSALIS						
ANNELIDA	TWELVE-SCALLED WORM	LEPODONOTUS SQUALATUS						
ANNELIDA	WHITE CLAM WORM	NEREIS ACUMINATA						
ANNELIDA	YELLOW JAWED CLAM WORM	NEREIS SUCCINEA (NEANTHES SP.)						
ANNELIDA		AMAGE AURICULA						
ANNELIDA		AMASTIGOS CAPERATUS						
ANNELIDA		AMPHARETE ACUTIFRONS						
ANNELIDA		AMPHARETE ARCTICA						
ANNELIDA		ARICIDEA SP.						
ANNELIDA		ASABELLIDES OCULATA						
ANNELIDA		BRADA SP.						
ANNELIDA		BRANIA SPP.						
ANNELIDA		ETEONE SPP.(HETEROPODA)						
ANNELIDA		EULALIA SPP.						
ANNELIDA		EUMIDA SANGUINEA						
ANNELIDA		EXOGONE SPP.						
ANNELIDA		FAMILY GONIADIDAE						
ANNELIDA		FAMILY ORBINIIDAE						
ANNELIDA		FAMILY PILARGIIDAE						
ANNELIDA		FAMILY SPIONDAE						
ANNELIDA		FAMILY SYLLADAE						

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
ANNELIDA		MARPHYSA SPP.						
ANNELIDA		MELINNA CRISTAYA						
ANNELIDA		NEANTHES ARENACEODENTATA						
ANNELIDA		OPHELIA SPP.						
ANNELIDA		ORBINIA ORNATA						
ANNELIDA		OWENIA FUSIFORMIS						
ANNELIDA		PARANAITIS SPECIOSA						
ANNELIDA		PISTA PALMATA						
ANNELIDA		PLATYNEREIS DUMERILII						
ANNELIDA		POLYGORDIUS SPP.						
ANNELIDA		PYGOSPIO ELGANS						
ANNELIDA		SCHISTOMERINGOS SPP.						
ANNELIDA		SPIOPHANES BOMBYX						
ANNELIDA		STREBLOSPIO BENEDICTI						
ANNELIDA		THARYX SPP.(ACUTUS)						
ANNELIDA		TRAVISIA CARNEA						
ARTHROPOD	ACADIAN HERMIT CRAB	PAGURUS ACADIANUS						
ARTHROPOD	AMPHIPOD	GAMMARUS SPP.(MUCRONATUS)						
ARTHROPOD	AMPHIPOD	TALORCHESTIA SPP.						
ARTHROPOD	ANEMONE SEA SPIDER	PYCNOGONUM LITTORALE						
ARTHROPOD	ANTHURID ISOPOD	CYATHUR POLITA						
ARTHROPOD	ANTHURID ISOPOD	PTILANTHURA TENIUS						
ARTHROPOD	ATLANTIC MARSH FIDLER CRAB	UCA PUGNAX						
ARTHROPOD	ATLANTIC MUD CRAB	PANOPEUS HERBSTII						
ARTHROPOD	BALTIC ISOPOD	IDOTEA BALTICA						
ARTHROPOD	BAY SHRIMP	CRANGON SEPTEMSPINOSA						
ARTHROPOD	BLUE CRAB	CALLINECTES SAPIDUS						
ARTHROPOD	COMMON SPIDER CRAB	LIBINIA EMARGINATA						
ARTHROPOD	CRYPTIC TEARDROP CRAB	PELLA MUTICA						
ARTHROPOD	FAMILY AORIDAE	LEPTOCHERIUS PINGUIS						
ARTHROPOD	FAMILY MELITIDAE	MELITA NITIDA						
ARTHROPOD	FLAT CLAWED HERMIT CRAB	PAGURUS POLLICARIS						
ARTHROPOD	FLATBACK MUD CRAB	EURYPANOPEUS DEPRESSUS						
ARTHROPOD	FOULING AMPHIPODS	JASSA FALCATA						
ARTHROPOD	FOUR EYED AMPHIPODS	AMPELISCA ABDITA						
ARTHROPOD	FOUR EYED AMPHIPODS	AMPELISCA SP.						

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
ARTHROPOD	GRASS SHRIMP	PALAEMONETES SPP.						
ARTHROPOD	GREEN CRAB	CARCINUS MAENAS						
ARTHROPOD	GREENLAND SHRIMP	LEBBEUS GROENLANDICUS						
ARTHROPOD	HAIRY HERMIT CRAB	PAGURUS ARCUATUS						
ARTHROPOD	HARRIS MUD CRAB	RITHROPANOPEUS HARRISII						
ARTHROPOD	HEAVY MARSH CRAB	SESARMA RETICULATUM						
ARTHROPOD	HORNED KRILL SHRIMP	MEGANYCTIPHANES NORVEGICA						
ARTHROPOD	HORSESHOE CRAB	LIMULUS POLYHEMUS						
ARTHROPOD	ISOPOD	ERICHSONELLA SPP.						
ARTHROPOD	ISOPOD	IDOTEA SPP.						
ARTHROPOD	ISOPOD	LIMNORIA SPP.						
ARTHROPOD	ISOPOD	SPHAEROMA SPP.						
ARTHROPOD	IVORY BARNACLE	BALANUS EBURNEUS						
ARTHROPOD	JAPANESE SHORE CRAB		A					
ARTHROPOD	JONAH CRAB	CANCER BOREALIS						
ARTHROPOD	LADY CRAB	OVALIPES OCELLATUS						
ARTHROPOD	LENTEL SEA SPIDER	ANOPODACTYLUS LENTUS						
ARTHROPOD	LITTLE GREY BARNICLE	CHTHAMALUS FRAGILIS						
ARTHROPOD	LOBSTER	HOMARUS AMERICANUS						
ARTHROPOD	LONGNOSE SPIDER CRAB	LIBINIA DUBIA						
ARTHROPOD	LONGWRIST HERMIT CRAB	PAGURUS LONGICARPUS						
ARTHROPOD	MANTIS SHRIMP	SQUILLA EMPUSA						
ARTHROPOD	MONTAGUE'S SHRIMP	PANDALUS MONTAGUI						
ARTHROPOD	MYSID SHRIMP	MYSIS SP.						
ARTHROPOD	NEST BUILDING AMPHIPODS	AMPITHOE SP.						
ARTHROPOD	NEST BUILDING AMPHIPODS	AMPITHOE VALIDA						
ARTHROPOD	NORTHERN ROCK BARNACLE	BALANUS BALANOIDES						
ARTHROPOD	NORTHERN ROCK BARNACLE	BEMIBALANUS BALANOIDES						
ARTHROPOD	OYSTER PEA CRAB	PINNOTHERES OSTREUM						
ARTHROPOD	PEA CRAB	PINNIXA SPP.						
ARTHROPOD	POLAR SHRIMP	LEBBEUS POLARIS						
ARTHROPOD	REDJIONTED FIDLER CRAB	UCA MINAX						
ARTHROPOD	ROCK CRAB	CANCER IRROIATUS						
ARTHROPOD	ROUGH BARNACLE	BALANUS BALANUS						
ARTHROPOD	SAND CRAB	EMERITA TALPOIDA						
ARTHROPOD	SAND DOLLAR PEA CRAB	DISSODACTYLUS MELLITAE						

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
ARTHROPOD	SAND FIDDLER	UCA PUGILATOR						
ARTHROPOD	SAY MUD CRAB	DYSPANOPEUS TEXANA SAYI (NEOPANOPE)						
ARTHROPOD	SKELETON SHRIMP	CAPRELLA SP.						
ARTHROPOD	SQUATTER PEA CRAB	PINNOTHERES MACULATUS						
ARTHROPOD	TOAD CRAB	HYAS COARCTATUS						
ARTHROPOD	TUBE DWELLING AMPHIPOD	COROPHIUM ACUTUM						
ARTHROPOD	TUBE DWELLING AMPHIPOD	COROPHIUM INSIDIOSUM						
ARTHROPOD	TUBE DWELLING AMPHIPOD	COROPHIUM SP.						
ARTHROPOD	TUBE DWELLING AMPHIPOD	UNCIOLA IRRORATA						
ARTHROPOD	ZOSTERA SHRIMP	HIPPOLYTE SPP.						
ARTHROPOD		BATEA CATHARINENSIS						
ARTHROPOD		EDOTEA MONTOSA						
ARTHROPOD		EDOTEA TRILOBA						
ARTHROPOD		EUDORELLA SP.						
ARTHROPOD		HARPINA PROPINQUA						
ARTHROPOD		LEUCON AMERICANUS						
ARTHROPOD		LYSIANOPSIS ALBA						
ARTHROPOD		MICRODEUTOPUS GRYLLOTALPA						
ARTHROPOD		MICROPROTOPUS RANEYI						
ARTHROPOD		OXYUROSTYLIS SMITHI						
ARTHROPOD		PARAPHOXUS SPINOSUS						
ARTHROPOD		PHOTIS SP.						
BEETLE	A BLISTER BEETLE	MELOE AMERICANUS						
BEETLE	A DIVING BEETLE	CYBISTER FIMBRIOLATUS						GNR
BEETLE	A DUNG BEETLE	COPRIS FRICATOR						
BEETLE	A DUNG BEETLE	DICHOTOMIUS CAROLINUS						
BEETLE	A FLEA BEETLE	PHYLLOTRETA CHALYBEIPENNIS						
BEETLE	A GROUND BEETLE	BEMBIDION CONFUSUM						
BEETLE	A GROUND BEETLE	BEMBIDION CONFUSUM						GNR
BEETLE	A GROUND BEETLE	BEMBIDION SEMICINCTUM						GNR
BEETLE	A GROUND BEETLE	CARABUS SERRATUS						GNR
BEETLE	A GROUND BEETLE	CARABUS SYLVOSUS						GNR
BEETLE	A GROUND BEETLE	CARABUS VINCTUS						GNR
BEETLE	A GROUND BEETLE	OMOPHRON TESSELATUM						GNR
BEETLE	A HISTER BEETLE	HISTER ARCUATUS						

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
BEETLE	A SILPHID BEETLE	THANATOPHILUS LAPPONICUS						GNR
BEETLE	A TIGER BEETLE	CICINDELA DORSALIS					S?	G4
BEETLE	A TIGER BEETLE	CICINDELA FORMOSA GENEROSA			C		S1	G5T5
BEETLE	A TIGER BEETLE	CICINDELA PUNCTULATA					S5	G5
BEETLE	A TIGER BEETLE	CICINDELA REPANDA					S5	G5
BEETLE	A TIGER BEETLE	CICINDELA SCUTELLARIS					S5	G5
BEETLE	A TIGER BEETLE	CICINDELA SCUTELLARIS RUGIFRONS					S?	G5T5
BEETLE	A TIGER BEETLE	CICINDELA SEXGUTTATA					S5	G5
BEETLE	A TIGER BEETLE	CICINDELA TRANQUEBARICA					S1	G5
BEETLE	AMERICAN BURYING BEETLE	NICROPHORUS AMERICANUS	RES				FES1	G2G3
BEETLE	BARRENS TIGER BEETLE	CICINDELA PATRUELA					SH	G3
BEETLE	BLACK LORDITHON ROVE BEETLE	LORDITHON NIGER			C		S1	GU
BEETLE	CLAY BANKS TIGER BEETLE	CICINDELA LIMBALIS			C		S1	G5
BEETLE	ELDERBERRY BORER	DESMOCERUS PALLIATUS						GNR
BEETLE	NORTHEASTERN BEACH TIGER BEETLE	CICINDELA DORSALIS DORSALIS		FT	SH		SX	G4T2
BEETLE	PINE BARRENS TIGER BEETLE	CICINDELA FORMOSA			C		S1	G5T5
BEETLE	PURPLE TIGER BEETLE	CICINDELA PURPUREA			C		S1	G5
BEETLE	RED-BELLIED TIGER BEETLE	CICINDELA RUFIVENTRIS			C		S1	G5
BEETLE	SALT MARSH TIGER BEETLE	CICINDELA MARGINATA			C		S1	G5
BEETLE	SEABEACH (HAIRY NECKED) TIGER BEETLE	CICINDELA HIRTICOLLIS			C		S4	G5
BEETLE	TWELVE-SPOTTED TIGER BEETLE	CICINDELA DUODECIMGUTTATA					S2	G5
BEETLE		AGONUM DARLINGTONI						GNR
BEETLE		ALOBATES MORIO						
BEETLE		AMARA CHALCEA						GNR
BEETLE		ANAEDUS BRUNNEUS						GNR
BEETLE		BRACHINUS CYANIPENNIS						GNR
BEETLE		CALATHUS INGRATUS						GNR
BEETLE		CALOSOMA WILCOX						
BEETLE		CANTHON PILULARIUS						
BEETLE		CANTHON VIGILANS						GNR
BEETLE		COCCINELLA NOVEMNOTATA						GNR
BEETLE		COTALPA LANIGERA						GNR
BEETLE		GEOSPINUS INCRASSATUS						
BEETLE		SCAPHINOTUS ELEVATUS						GNR
BEETLE		STRATEGUS ANTAEUS						

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
BRACHIOPOD	NORTHERN LAMP SHELL	TEREBRATULINA SEPTENTRIONALIS						
BRYOZOA	FAN TUFTED BUSHY BRYOZOAN	BUGULA SIMPLEX						
BRYOZOA	JOINTED TUBE BRYOZOA	CRISIA SP.						
BRYOZOA	RED CRUST	CRYPTOSULA SP.						
BRYOZOA	SEA LACE	MENBRANIPORA SP.	A					
BRYOZOA	SPIRAL TUFTED BRYOZOAN	BUGULA TURRITA						
BRYOZOA		BICELLARIELLA CILARA						
BRYOZOA		DENDROBEANIA MURRAYANA						
BUTTERFLY	ACADIAN HAIRSTREAK	SATYRIUM ACADICUM			C		S2S3	G5
BUTTERFLY	AMERICAN COPPER	LYCAENA PHLAEAS					S5	G5
BUTTERFLY	AMERICAN PAINTED LADY	VANESSA VIRGINIENSIS					SZB	G5
BUTTERFLY	AMERICAN SNOUT	LIBYTHEANA CARINENTA					SA	G5
BUTTERFLY	APHRODITE	SPEYERIA APHRODITE					S4	G5
BUTTERFLY	APPALACHIAN BROWN	SATYRODES APPALACHIA					S4	G4
BUTTERFLY	BALTIMORE	EUPHYDRYAS PHAETON					S4	G4
BUTTERFLY	BANDED HAIRSTREAK	SATYRIUM CALANUS					S5	G5
BUTTERFLY	BANDED HAIRSTREAK	SATYRIUM CALANUS FALACER					S5	G5T5
BUTTERFLY	BLACK DASH	EUPHYES CONSPICUA					S2?	G4
BUTTERFLY	BOG COPPER	LYCAENA EPIXANTHE			C		S3	G4G5
BUTTERFLY	BRAZILIAN SKIPPER	CALPODES ETHLIUS					SHN	G5
BUTTERFLY	BROAD-WINGED SKIPPER	POANES VIATOR					S3	G5
BUTTERFLY	BROAD-WINGED SKIPPER	POANES VIATOR ZIZANIAE			C		S3	G5
BUTTERFLY	BRONZE COPPER	LYCAENA HYLLUS					SU	G5
BUTTERFLY	BROWN ELFIN	CALLOPHRYS AUGUSTINUS					S4	G5
BUTTERFLY	BUCKEYE	JUNONIA COENIA					SZN	G5
BUTTERFLY	CHECKERED WHITE	PONTIA PROTODICE					SA	G4
BUTTERFLY	CLOUDLESS GIANT SULPHUR	PHOEBIS SENNAE					SA	G5
BUTTERFLY	COBWEB SKIPPER	HESPERIA METEA					S4	G4G5
BUTTERFLY	COLUMBINE DUSKYWING	ERYNNIS LUCILIUS					SH	G4
BUTTERFLY	COMMA	POLYGONIA COMMA					S2?	G5
BUTTERFLY	COMMON CHECKERED SKIPPER	PYRGUS COMMUNIS					SA	G5
BUTTERFLY	COMMON SOOTYWING	PHOLISORA CATULLUS					S3	G5
BUTTERFLY	COMMON SULPHUR	COLIAS PHILODICE					S5	G5
BUTTERFLY	COMPTON TORTOISESHELL	NYMPHALIS VAUALBUM					S1?	G5
BUTTERFLY	CORAL HAIRSTREAK	SATYRIUM TITUS					S4	G5
BUTTERFLY	CROSSLINE SKIPPER	POLITES ORIGENES					SU	G5

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
BUTTERFLY	DELAWARE SKIPPER	ANATRYTONE LOGAN					S4	G4
BUTTERFLY	DION SKIPPER	EUPHYES DION					SA?	G4
BUTTERFLY	DREAMY DUSKYWING	ERYNNIS ICELUS					S4	G5
BUTTERFLY	DUN SKIPPER	EUPHYES RURICOLA RURICOLA					S?	G5T4
BUTTERFLY	DUN SKIPPER	EUPHYES VESTRIS					S?	G5
BUTTERFLY	DUN SKIPPER	EUPHYES VESTRIS METACOMET					S?	G5T5
BUTTERFLY	DUSTED SKIPPER	ATRYTONOPSIS HIANNA			C		S3	G4G5
BUTTERFLY	EASTERN BLACK SWALLOWTAIL	PAPILIO POLYXENES					S3S4	G5
BUTTERFLY	EASTERN PINE ELFIN	CALLOPHRYS NIPHON					S3	G5
BUTTERFLY	EASTERN TAILED BLUE	EVERES COMYNTAS					S5	G5
BUTTERFLY	EDWARDS' HAIRSTREAK	SATYRIUM EDWARDSII					S5	G4
BUTTERFLY	EUROPEAN CABBAGE WHITE	PIERIS RAPAE					SE	G5
BUTTERFLY	EUROPEAN SKIPPER	THYMELICUS LINEOLA					SE	G5
BUTTERFLY	FALCATE ORANGE TIP	ANTHOCHARIS MIDEA					SR	G4G5
BUTTERFLY	FIERY SKIPPER	HYLEPHILA PHYLEUS					SA	G5
BUTTERFLY	FROSTED ELFIN	CALLOPHRYS IRUS			C		S1	G3
BUTTERFLY	GIANT SWALLOWTAIL	PAPILIO CRESPHONTES					SHSA	G5
BUTTERFLY	GRAY HAIRSTREAK	STRYMON MELINUS					S4	G5
BUTTERFLY	GREAT SPANGLED FRITILLARY	SPEYERIA CYBELE					S4	G5
BUTTERFLY	HACKBERRY BUTTERFLY	ASTEROCAMPA CELTIS					S1	
BUTTERFLY	HARVESTER	FENISECA TARQUINIUS					SU	G4
BUTTERFLY	HENRY'S ELFIN	CALLOPHRYS HENRICI			C		S1S2	G5
BUTTERFLY	HESSEL'S HAIRSTREAK	CALLOPHRYS HESSELI			C		S2S3	G3G4
BUTTERFLY	HICKORY HAIRSTREAK	SATYRIUM CARYAEVORUM			C		S1	G4
BUTTERFLY	HOARY EDGE	ACHALARUS LYCIADES					S1?	G5
BUTTERFLY	HOARY ELFIN	CALLOPHRYS POLIOS			C		S1	G5
BUTTERFLY	HOBOMOK SKIPPER	POANES HOBOMOK					S5	G5
BUTTERFLY	HORACE'S DUSKYWING	ERYNNIS HORATIUS					S4	G5
BUTTERFLY	INDIAN SKIPPER	HESPERIA SASSACUS					S4?	G5
BUTTERFLY	INORNATE RINGLET	COENONYMPHA INORNATA					S3	G5
BUTTERFLY	JUVENAL'S DUSKYWING	ERYNNIS JUVENALIS					S5	G5
BUTTERFLY	LARGE WOOD NYMPH	CERCYONIS PEGALA					S5	G5
BUTTERFLY	LEAST SKIPPERLING	ANCYLOXYPHA NUMITOR					S5	G5
BUTTERFLY	LEONARDUS SKIPPER	HESPERIA LEONARDUS					S4	G4
BUTTERFLY	LITTLE GLASSYWING	POMPEIUS VERNA					SU	G5
BUTTERFLY	LITTLE WOOD SATYR	MEGISTO CYMELA					S5	G5

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
BUTTERFLY	LITTLE YELLOW	EUREMA LISA					SA	G5
BUTTERFLY	LONG DASH SKIPPER	POLITES MYSTIC					SU	G5
BUTTERFLY	LONG-TAILED SKIPPER	URBANUS PROTEUS						
BUTTERFLY	MEADOW FRITILLARY	BOLORIA BELLONA			C		S?	G5
BUTTERFLY	MILBERT'S TORTOISESHELL	NYMPHALIS MILBERTI					SA	G5
BUTTERFLY	MONARCH	DANAUS PLEXIPPUS					SZB	G4
BUTTERFLY	MOTTLED DUSKYWING	ERYNNIS MARTIALIS					SH	G3G4
BUTTERFLY	MOURNING CLOAK	NYMPHALIS ANTIOPA					S5	G5
BUTTERFLY	MULBERRY WING	POANES MASSASOIT			C		S3S4	G4
BUTTERFLY	NORTHERN BROKEN DASH	WALLENGRENIA EGEREMET					S5	G5
BUTTERFLY	NORTHERN CLOUDYWING	THORYBES PYLADES					S2	G5
BUTTERFLY	NORTHERN HAIRSTREAK	FIXSENIA FAVONIUS ONTARIO			C		S?	G4T4
BUTTERFLY	NORTHERN PEARLY EYE	ENODIA ANTHEDON			C		S1	G5
BUTTERFLY	NORTHERN TIGER SWALLOWTAIL	PAPILIO CANADENSIS					SR	G5
BUTTERFLY	OCOLA SKIPPER	PANOQUINA OCOLA					SA	G5
BUTTERFLY	OLIVE HAIRSTREAK	CALLOPHRYS GRYNEUS					S3	G5
BUTTERFLY	ORANGE SULPHUR	COLIAS EURYTHEME					S5	G5
BUTTERFLY	PAINTED LADY	VANESSA CARDUI					SZN	G5
BUTTERFLY	PEARL CRESCENT	PHYCIODES THAROS					S5	G5
BUTTERFLY	PECK'S SKIPPER	POLITES PECKIUS					S5	G5
BUTTERFLY	PERSIUS DUSKYWING	ERYNNIS PERSIUS			SH		SH	G5
BUTTERFLY	PIPEVINE SWALLOWTAIL	BATTUS PHILENOR					SA	G5
BUTTERFLY	QUESTION MARK	POLYGONIA INTERROGATIONIS					S4	G5
BUTTERFLY	RED ADMIRAL	VANESSA ATALANTA					SZB	G5
BUTTERFLY	RED SPOTTED PURPLE	LIMENITIS ARTHEMIS ASTYANAX					S4	G5T5
BUTTERFLY	REGAL FRITILLARY	SPEYERIA IDALIA			SH		SX	G3
BUTTERFLY	ROADSIDE SKIPPER	AMBLYSCIRTES VIALIS					S1?	G5
BUTTERFLY	SALT-AND-PEPPER SKIPPER	AMBLYSCIRTES HEGON					S1?	G5
BUTTERFLY	SILVER BORDERED FRITILLARY	BOLORIA SELENE					S?	G5
BUTTERFLY	SILVER BORDERED FRITILLARY	BOLORIA SELENE MYRINA					S3	G5T5
BUTTERFLY	SILVER SPOTTED SKIPPER	EPARGYREUS CLARUS					S5	G5
BUTTERFLY	SLEEPY DUSKYWING	ERYNNIS BRIZO			C		S2	G5
BUTTERFLY	SLEEPY ORANGE	EUREMA NICIPPE					SA	G5
BUTTERFLY	SOUTHERN CLOUDYWING	THORYBES BATHYLLUS					S3?	G5
BUTTERFLY	SOUTHERN HAIRSTREAK	FIXSENIA FAVONIUS					S?	G4
BUTTERFLY	SPICEBUSH SWALLOWTAIL	PAPILIO TROILUS					S4S5	G5

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
BUTTERFLY	SPRING AZURE	CELASTRINA ARGIOLUS					S5	G5
BUTTERFLY	STRIPED HAIRSTREAK	SATYRIUM LIPAROPS					S3	G5
BUTTERFLY	STRIPED HAIRSTREAK	SATYRIUM LIPAROPS STRIGOSUM					S3	G5T5
BUTTERFLY	SWARTHY SKIPPER	NASTRA LHERMINIER					SA?	G5
BUTTERFLY	TAWNY-EDGED SKIPPER	POLITES THEMISTOCLES					SU	G5
BUTTERFLY	TIGER SWALLOWTAIL	PAPILIO GLAUCUS					S5	G5
BUTTERFLY	TWO-SPOTTED SKIPPER	EUPHYES BIMACULA					SU	G4
BUTTERFLY	VARIEGATED FRITILLARY	EUPTOIETA CLAUDIA					S?N	G5
BUTTERFLY	VEINED WHITE	PIERIS OLERACEA					SHR?	G4G5
BUTTERFLY	VICEROY	LIMENITIS ARCHIPPUS					S5	G5
BUTTERFLY	WHITE ADMIRAL	LIMENITIS ARTHEMIS					S5	G5
BUTTERFLY	WHITE ADMIRAL	LIMENITIS ARTHEMIS ARTHEMIS					SU	G5T5
BUTTERFLY	WHITE M HAIRSTREAK	PARRHASIUS M-ALBUM			C		S?	G5
BUTTERFLY	WILD INDIGO DUSKYWING	ERYNNIS BAPTISIAE					S5	G5
BUTTERFLY	ZABULON SKIPPER	POANES ZABULON					S3?	G5
BUTTERFLY	ZEBRA SWALLOWTAIL	EURYTIDES MARCELLUS					SA	G5
BUTTERFLY		CELASTRINA NEGLECTA					S?	G5
BUTTERFLY		LETHE EURYDICE					SP	G4
BUTTERFLY		PHYCIODES COCYTA					SR	G5
CHORDATA (TUNICATE)	APPENDICULARIAN	OIKOPLEURA LABRADORIENSIS						
CHORDATA (TUNICATE)	ATLANTIC ROUGH SEA SQUIRT	STYELA PARTITA						
CHORDATA (TUNICATE)	BLOOD DROP TUNICATE	DENDRODOA CARNEA						
CHORDATA (TUNICATE)	CLUB TUNICATE	STYELA CLAVA	A					
CHORDATA (TUNICATE)	CREEPING TUNICATE	PEROPHORA VIRIDIS						
CHORDATA (TUNICATE)	GOLDEN STAR TUNICATE	BOTRYLLUS SCHLOSSERI						
CHORDATA (TUNICATE)	NORTHERN WHITE CRUST	DIDEMNUM ALBIDIUM						
CHORDATA (TUNICATE)	ORANGE SHEATH TUNICATE	BOTRYLLOIDES DIEGENSIS	A					

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
CHORDATA (TUNICATE)	PINK SEA PORK	AMAROUCIUM PELLICIDUM						
CHORDATA (TUNICATE)	SALP	SALPA FUSIFORMIS						
CHORDATA (TUNICATE)	SEA GRAPES	MOLGULA MANHATTENSIS						
CHORDATA (TUNICATE)	SEA VASE	CIONA INTESTINALIS						
CHORDATA (TUNICATE)	STALKED TUNICATE	BOLTENIA OVIFERA						
CHORDATA (TUNICATE)	WHITE CRUST	DIDEMNUM CANDIDUM						
CHORDATA (TUNICATE)		APLDIUM SPP.						
CHORDATA (TUNICATE)		ASCIDIELLA ASPERSA						
CHORDATA (TUNICATE)		BOSTRICHOBRANCHUS PILULARIS						
CNIDARIA	BURROWING ANEMONE	ACTINOTHOE GRACILLIMA						
CNIDARIA	BURROWING ANEMONE	ACTINOTHOE MODESTA						
CNIDARIA	BURROWING ANEMONE	CERIANTHUS AMERICANA						
CNIDARIA	BURROWING ANEMONE	EDWARDSIA ELEGANS						
CNIDARIA	BURROWING ANEMONE	HALOCLAVA PRODUCTA						
CNIDARIA	BURROWING ANEMONE	PARANTHUS RAPIFORMUS						
CNIDARIA	CLAPPER HYDROMEDUSA	SARAIA TUBULOSA						
CNIDARIA	CLINGING JELLYFISH	GONIONEMUS VERTENS						
CNIDARIA	CLUB HYDROID	CLAVA MULTICORNIS						
CNIDARIA	CONSTRICTED JELLYFISH	CATABLEMA VESICARIUM						
CNIDARIA	CREEPING BELL HYROID	CALYCELLA SYRINGA						
CNIDARIA	DEAD MANS'S FINGERS	ALCYONIUM DIGITATUM						
CNIDARIA	EIGHT-RIBBED HYDROMEDUSA	MELICERTUM OCTOCOSTATUM						
CNIDARIA	ELEGANT HYDROMEDUSA	TIMA FORMOSA						
CNIDARIA	FEATHERED HYDROID	HALOCORDYLE DISTICHA						
CNIDARIA	FRILLED ANEMONE	METRIDIUM SENILE						
CNIDARIA	GHOST ANEMONE	DIADUMENE LEUCOLENA						
CNIDARIA	HYDROMEDUSA	AEQUOREA MACRODACTYLA						

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
CNIDARIA	LINED ANEMONE	FAGESIA LINEATA						
CNIDARIA	LION'S MANE JELLY	CYANEA CAPILLATA						
CNIDARIA	MANY-ARMED HYDROMEDUSA	LAODICAE UNDULATA						
CNIDARIA	MANY-RIBBED HYDROMEDUSA	AEQUOREA AEQUOREA						
CNIDARIA	MOON JELLY	AURELIA AURITA						
CNIDARIA	NORTHERN CERIANTHID	CERIANTHUS BOREALIS						
CNIDARIA	NORTHERN RED ANEMONE	URTICINA FELINA						
CNIDARIA	NORTHERN STAR CORAL	ASTRANGIA POCULATA						
CNIDARIA	NORTHERN STONY CORAL	ASTRANGIA DANAE						
CNIDARIA	ORANGESTRIPED GREEN ANEMONE	DIADUMENE LINEATA						
CNIDARIA	PINK HELMET	AGLANTHA DIGITALIS						
CNIDARIA	PORTUGUESE MAN OF WAR	PHYSALIA PHYSALIS						
CNIDARIA	RED STOMPHIA	STOMPHIA COCCINEA						
CNIDARIA	SEA NETTLE	CHRYSAORA QUINQUECIRRHA						
CNIDARIA	SEA OAK	DYNAMENA PUMILA						
CNIDARIA	SICKLE HYDROID	HYDRALLMAINA FALCATA						
CNIDARIA	SMOOTH SPINED SNAIL FUR	PODOCORYNA CARNEA						
CNIDARIA	SNAIL FUR	HYDRACTINIA ECHINATA						
CNIDARIA	SOLIDARY HYDROID	CORYMORPHA PENDULA						
CNIDARIA	SOLIDARY HYDROID	HYBOCODON PENDULA						
CNIDARIA	SOUTHERN CERIANTHID	CERIANTHEOPSIS AMERICANA						
CNIDARIA	STALKED JELLY	HALICLYSTUS AURICULA						
CNIDARIA	TUBULARIAN HYDROID	TUBULARIA CROCEA						
CNIDARIA	TUBULARIAN HYDROID	TUBULARIA INDIVISA						
CNIDARIA	TUBULARIAN HYDROID	TUBULARIA LARYNX						
CNIDARIA	WHITE CROSS HYDROMEDUSA	STAUROPHORA MERTENSI						
CNIDARIA	WHITE WEED HYDROID	SERTULARIA CUPRESSINA						
CNIDARIA	WINE-GLASS HYDROIDS	CAMPANULLARIA SP.						
CNIDARIA	ZIG-ZAG WINE-GLASS HYDROID	OBELIA GENICULATA						
CNIDARIA		BOUGAINVILLIA SP.						
CNIDARIA		CLYTIA SP.						
CNIDARIA		EUDENDRIUM SP.						
CNIDARIA		EUTIMA MIRA						
CNIDARIA		GONOTHYRAEA LOVENI						
CNIDARIA		HALECIUM SP.						
CNIDARIA		LIRIOPE TETRAPHYLLA						

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
CNIDARIA		LOVENELLA SP.						
CNIDARIA		OPERCULARELLA SP.						
CNIDARIA		RHACOSTOMA ATLANTICUM						
CNIDARIA		SERTULARELLA SP.						
CNIDARIA		STOMOTOCA PTEROPHYLLA						
CNIDARIA		STYLACTARIA SP.						
CNIDARIA		ZANCLEA COSTATA						
CRUSTACEAN	CALICO CRAYFISH	ORCONECTES IMMUNIS					S1?	G5
CRUSTACEAN	COASTAL SWAMP AMPHIPOD	SYNURELLA CHAMBERLAINI			C		S1	G?
CRUSTACEAN	VIRILE CRAYFISH	ORCONECTES VIRILIS					SE	G5
CRUSTACEAN	WHITE RIVER CRAWFISH	PROCAMBARUS ACUTUS					S?	G5
CRUSTACEAN?		LYNCEUS BRACHYURUS					S?	G5
CTENOPHORA	BEROE'S COMMON JELLY	BEROE SP.						
CTENOPHORA	COMMON NORTHERN COMB JELLY	BOLINOPSIS INFUNDIBULUM						
CTENOPHORA	LEIDY'S COMB JELLY	MNEMIOPSIS LEIDYI						
CTENOPHORA	SEA GOOSEBERRY	PLEUROBRACHIA PILEUS						
CTENOPHORA								
DAMSELFLY	AMERICAN RUBYSPOT	HETAERINA AMERICANA					S?	G5
DAMSELFLY	BACKWATER BLUET	ENALLAGMA WEEWA			C		S?	G5
DAMSELFLY	LYRE-TIPPED SPREADWING	LESTES UNGUICULATUS					S?	G5
DAMSELFLY	NEW ENGLAND BLUET	ENALLAGMA LATERALE					S2	G3
DAMSELFLY	PINE BARRENS BLUET	ENALLAGMA RECURVATUM			C		S2	G3
DAMSELFLY	SCARLET BLUET	ENALLAGMA PICTUM			C		S?	G3
DAMSELFLY	SEDGE SPRITE	NEHALENNIA IRENE					S1S2	G5
DAMSELFLY	SOUTHERN SPRITE	NEHALENNIA INTEGRICOLLIS					S?	G5
DAMSELFLY	ZEBRA CLUBTAIL	STYLURUS SCUDDERI			ST		S1	G5
DAMSELFLY		ARGIA APICALIS					S?	G5
DAMSELFLY		ARGIA MOESTA					S?	G5
DAMSELFLY		ARGIA TRANSLATA					S?	G5
DAMSELFLY		ARIGOMPHUS FURCIFER					S?	G5
DAMSELFLY		ARIGOMPHUS VILLOSIPES					S?	G5
DAMSELFLY		CALOPTERYX AEQUABILIS					S?	G5
DAMSELFLY		CALOPTERYX AMATA					S?	G4
DAMSELFLY		CALOPTERYX DIMIDIATA					S?	G5
DAMSELFLY		CALOPTERYX MACULATA					S?	G5
DAMSELFLY		CHROMAGRION CONDITUM					S?	G5

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
DAMSELFLY		ENALLAGMA ASPERSUM					S?	G5
DAMSELFLY		ENALLAGMA CIVILE					S?	G5
DAMSELFLY		ENALLAGMA CYATHIGERUM					S?	G5
DAMSELFLY		ENALLAGMA DOUBLEDAYI					S?	G5
DAMSELFLY		ENALLAGMA DURUM					S?	G5
DAMSELFLY		ENALLAGMA EBRIUM					S?	G5
DAMSELFLY		ENALLAGMA EXSULANS					S?	G5
DAMSELFLY		ENALLAGMA GEMINATUM					S?	G5
DAMSELFLY		ENALLAGMA MINUSCULUM					S?	G3G4
DAMSELFLY		ENALLAGMA SIGNATUM					S?	G5
DAMSELFLY		ENALLAGMA VESPERUM					S?	G5
DAMSELFLY		ISCHNURA HASTATA					S?	G5
DAMSELFLY		ISCHNURA KELLICOTTI					S?	G5
DAMSELFLY		ISCHNURA POSITA					S?	G5
DAMSELFLY		ISCHNURA RAMBURII					S?	G5
DAMSELFLY		ISCHNURA VERTICALIS					S?	G5
DAMSELFLY		LESTES CONGENER					S?	G5
DAMSELFLY		LESTES DISJUNCTUS					S?	G5
DAMSELFLY		LESTES DRYAS					S?	G5
DAMSELFLY		LESTES FORCIPATUS					S?	G5
DAMSELFLY		LESTES INAEQUALIS					S?	G5
DAMSELFLY		LESTES RECTANGULARIS					S?	G5
DAMSELFLY		LESTES VIGILAX					S?	G5
DAMSELFLY		NEHALENNIA GRACILIS					S?	G5
DRAGONFLY	ARROW CLUBTAIL	STYLURUS SPINICEPS					SNR	G5
DRAGONFLY	ARROWHEAD SPIKETAIL	CORDULEGASTER OBLIQUA			C		S?	G4
DRAGONFLY	BROOK SNAKETAIL	OPHIOGOMPHUS ASPERSUS			ST		S1	G3G4
DRAGONFLY	COMET DARNER	ANAX LONGIPES					S?	G5
DRAGONFLY	COMMON SANDDRAGON	PROGOMPHUS OBSCURUS					S?	G5
DRAGONFLY	COPPERY EMERALD	SOMATOCHLORA GEORGIANA			C		SU	G3G4
DRAGONFLY	CRIMSON-RINGED WHITEFACE	LEUCORRHINIA GLACIALIS					S?	G5
DRAGONFLY	DELTA-SPOTTED SPIKETAIL	CORDULEGASTER DIASTATOPS					S?	G5
DRAGONFLY	ELFIN SKIMMER	NANNOTHEMIS BELLA					S3	G4
DRAGONFLY	MAINE SNAKETAIL	OPHIOGOMPHUS MAINENSIS					SU	G4
DRAGONFLY	MOTTLED DARNER	AESHNA CLEPSYDRA					SU	G4
DRAGONFLY	MUSTACHED CLUBTAIL	GOMPHUS ADELPHUS					S?	G4

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
DRAGONFLY	RACKET-TAILED EMERALD	DOROCORDULIA LIBERA					S?	G5
DRAGONFLY	RED-WAISTED WHITEFACE	LEUCORRHINIA PROXIMA					S?	G5
DRAGONFLY	RINGED BOGHAUNTER	WILLIAMSONIA LINTNERI			C		S2	G3
DRAGONFLY	SOUTHERN PYGMY CLUBTAIL	LANTHUS VERNALIS					S?	G4
DRAGONFLY	SPATTERDOCK DARNER	AESHNA MUTATA			C		S1?	G3G4
DRAGONFLY	SPINE-CROWNED CLUBTAIL	GOMPHUS ABBREVIATUS					S1	G3G4
DRAGONFLY	TAPER-TAILED DARNER	GOMPHAESCHNA ANTILOPE					S1	G4
DRAGONFLY	TWIN-SPOTTED SPIKETAIL	CORDULEGASTER MACULATA					S?	G5
DRAGONFLY	ZEBRA CLUBTAIL	STYLURUS SCUDDERI			ST		S1	G4
DRAGONFLY		AESHNA CANADENSIS					S?	G5
DRAGONFLY		AESHNA CONSTRICTA					S?	G5
DRAGONFLY		AESHNA TUBERCULIFERA					S?	G4
DRAGONFLY		AESHNA UMBROSA					S?	G5
DRAGONFLY		AESHNA VERTICALIS					S?	G5
DRAGONFLY		ANAX JUNIUS					S?	G5
DRAGONFLY		BASIAESCHNA JANATA					S?	G5
DRAGONFLY		BOYERIA VINOSA					S?	G5
DRAGONFLY		CELITHEMIS ELISA					S?	G5
DRAGONFLY		CELITHEMIS EPONINA					S?	G5
DRAGONFLY		CELITHEMIS FASCIATA					S?	G5
DRAGONFLY		CELITHEMIS MARTHA					S?	G4
DRAGONFLY		DROMOGOMPHUS SPINOSUS					S?	G5
DRAGONFLY		EPIAESCHNA HEROS					S?	G5
DRAGONFLY		EPITHECA CANIS					S?	G5
DRAGONFLY		EPITHECA CYNOSURA					S?	G5
DRAGONFLY		EPITHECA PRINCEPS					S?	G5
DRAGONFLY		EPITHECA SPINIGERA					S?	G5
DRAGONFLY		ERYTHEMIS SIMPLICICOLLIS					S?	G5
DRAGONFLY		ERYTHRODIPLAX BERENICE					S?	G5
DRAGONFLY		GOMPHAESCHNA FURCILLATA					S?	G5
DRAGONFLY		GOMPHUS EXILIS					S?	G5
DRAGONFLY		GOMPHUS LIVIDUS					S?	G5
DRAGONFLY		GOMPHUS SPICATUS					S?	G5
DRAGONFLY		HAGENIUS BREVISTYLUS					S?	G5
DRAGONFLY		HELOCORDULIA UHLERI					S?	G5
DRAGONFLY		LEUCORRHINIA FRIGIDA					S?	G5

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
DRAGONFLY		LEUCORRHINIA HUDSONICA					S?	G5
DRAGONFLY		LEUCORRHINIA INTACTA					S?	G5
DRAGONFLY		LIBELLULA AURIPENNIS					S?	G5
DRAGONFLY		LIBELLULA AXILENA					S?	G5
DRAGONFLY		LIBELLULA CYANEA					S?	G5
DRAGONFLY		LIBELLULA EXUSTA					S?	G4
DRAGONFLY		LIBELLULA INCESTA					S?	G5
DRAGONFLY		LIBELLULA JULIA					S?	G5
DRAGONFLY		LIBELLULA LUCTUOSA					S?	G5
DRAGONFLY		LIBELLULA LYDIA					S?	G5
DRAGONFLY		LIBELLULA NEEDHAMI					S?	G5
DRAGONFLY		LIBELLULA PULCHELLA					S?	G5
DRAGONFLY		LIBELLULA QUADRIMACULATA					S?	G5
DRAGONFLY		LIBELLULA SEMIFASCIATA					S?	G5
DRAGONFLY		LIBELLULA VIBRANS					S?	G5
DRAGONFLY		NASIAESCHNA PENTACANTHA					S?	G5
DRAGONFLY		NEUROCORDULIA OBSOLETA						
DRAGONFLY		PACHYDIPLAX LONGIPENNIS					S?	G5
DRAGONFLY		PANTALA FLAVESCENS					S?	G5
DRAGONFLY		PANTALA HYMENAEA					S?	G5
DRAGONFLY		PERITHEMIS TENERA					S?	G5
DRAGONFLY		SOMATOCHLORA LINEARIS					S?	G5
DRAGONFLY		SOMATOCHLORA TENEBROSA					S?	G5
DRAGONFLY		SOMATOCHLORA WALSHII					S?	G5
DRAGONFLY		SOMATOCHLORA WILLIAMSONI					S?	G5
DRAGONFLY		STYLOGOMPHURUS ALBISTYLUS					S?	G5
DRAGONFLY		SYMPETRUM JANEAE					S?	G5
DRAGONFLY		SYMPETRUM OBTRUSUM					S?	G5
DRAGONFLY		SYMPETRUM RUBICUNDULUM					S?	G5
DRAGONFLY		SYMPETRUM SEMICINCTUM					S?	G5
DRAGONFLY		SYMPETRUM VICINUM					S?	G5
DRAGONFLY		TRAMEA CAROLINA					S?	G5
DRAGONFLY		TRAMEA LACERATA					S?	G5
ECHINODERMATA	BADGE STAR	PORANIA INSIGNIS						
ECHINODERMATA	BLOOD SEA STAR	HENRICIA SANGUINOLENTA						
ECHINODERMATA	BURROWING BRITTLE STAR	AMPHIOLUS ABDITUS						

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
ECHINODERMATA	COMMON SAND DOLLAR	ECHINARACHNIUS PARMA						
ECHINODERMATA	DAISY BRITTLE STAR	OPHIOPHOLIS ACULEATA						
ECHINODERMATA	FORBES SEA STAR	ASTERIAS FORBESI						
ECHINODERMATA	GREEN SEA URCHIN	STRONGLYOCENTROTUS DROEBACHIENSIS						
ECHINODERMATA	HAIRY SEA CUCUMBER	SCLERODACTYLA BRIAREUS						
ECHINODERMATA	HORSE STAR	HIPPASTERIA PHRYGIANA						
ECHINODERMATA	LITTLE BRITTLESTAR	AXOGANTHUS SQUAMATUS						
ECHINODERMATA	MUD STAR	CTENODISCUS CRISPATUS						
ECHINODERMATA	NORTHERN BASKET STAR	GORGONOCEPHALUS ARCTICUS						
ECHINODERMATA	NORTHERN SEA STAR	ASTERIAS VULGARIS						
ECHINODERMATA	ORANGE FOOTED CUCUMBER	CUCUMARIA FRONDOSA						
ECHINODERMATA	PINK SYNAPTA	EPITOMAPTA ROSEOLA						
ECHINODERMATA	PURPLE SEA URCHIN	ARBACIA PUNCTULATA						
ECHINODERMATA	RAT-TAILED SEA CUCUMBER	CAUDINA ARENATA						
ECHINODERMATA	SCARLET PSOLUS	PSOLUS FABRICII						
ECHINODERMATA	SHORT SPINED BRITTLE STAR	OPHIODERMA BREVISPINUM						
ECHINODERMATA	SILKEY SEA CUCUMBER	CHIRIDOTA LAEVIS						
ECHINODERMATA	SLENDER SEA STAR	LEPTASTERIAS TENDRA						
ECHINODERMATA	SMOOTH SUNSTAR	SOLASTER ENDECA						
ECHINODERMATA	SPINY SUNSTAR	CROSSASTER PAPPOSUS						
ECHINODERMATA	WHITE SYNAPTA	LEPTOSYNAPTA TENUIS						
ECHINODERMATA	WINGED SEA STAR	PTERASTER MILITARIA						
ECHINODERMATA		PENTAMERA PULCHERRIMA						
HEMICHORDATA	KOWALEWSKY'S ACORN WORM	SACCOGLOSSUS KOWALEWSKII						
MOLLUSK	ALTERNATE BITTIUM	BITTIUM ALTERNATUM						
MOLLUSK	AMETHYST GEM CLAM	GEMMA GEMMA						
MOLLUSK	ANGELWING	CYRTOPLEURA COSTAS						
MOLLUSK	ASIATIC CLAM	CORBICULA FLUMINEA	RES					
MOLLUSK	ATLANTIC ANCULA	ANCULA GIBBOSA						
MOLLUSK	ATLANTIC AWNING CLAM	SOLEMYA VELUM						
MOLLUSK	ATLANTIC DOGWINKLE	NUCELLA LAPILLUS						
MOLLUSK	BALTIC MACOMA	MACOMA BALTHICA						
MOLLUSK	BAY SCALLOP	ARGOPECTEN IRRADIANS						
MOLLUSK	BLACK LINE TRIPHORA	TRIPHORA NIGROCINCTA						
MOLLUSK	BLUE MUSSEL	MYTILUS EDULIS						

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
MOLLUSK	BROWN-BANDED WENTLETRAP	EPITONIUM RUPICOLA						
MOLLUSK	BRUSIED NASSA	NASSARIUS VIBEX						
MOLLUSK	BUSHY-BACKED NUDIBRANCH	DENDRONOTUS FRONDOUSU						
MOLLUSK	CHANNELED WHELK	BUSYCON CANALICULATUM						
MOLLUSK	CHANNLED BARREL BUBBLE	ACTEOCINA CANALICULATA						
MOLLUSK	COMMON JINGLE SHELL	ANOMIA SIMPLEX						
MOLLUSK	COMMON OYSTER	CRASSOSTREA VIRGINICA						
MOLLUSK	COMMON PERIWINKLE	LITTORINA LITTOREA						
MOLLUSK	COMMON RAZOR CLAM	ENSIS DIRECTUS						
MOLLUSK	COMMON SLIPPER SHELL	CREPIDULA FORNICATA						
MOLLUSK	CONVEX SLIPPER SHELL	CREPIDULA CONVEXA						
MOLLUSK	DEEP SEA SCALLOP	PLACOPECTEN MAGELLANICUS						
MOLLUSK	DRESSED CHITON	AMICULA VESTITA						
MOLLUSK	DWARF BALLOON EOLIS	CAPELLINIA EXGUA						
MOLLUSK	DWARF SURF CLAM	MULINIA LATERALIS						
MOLLUSK	EASTERN BEADED CHITON	CHAETOPLEURA APICULATA						
MOLLUSK	EASTERN MUD WHELK	ILYANASSA OBSOLETA						
MOLLUSK	ELONGATE MACOMA	MACOMA TENTA						
MOLLUSK	EMERALD ELYSIA	ELYSIA CHLOROTICA						
MOLLUSK	FALSE ANGELWING	PETRICOLA PHOLADIFORMIS						
MOLLUSK	FALSE QUAHOG	PITAR MORRHUANUS						
MOLLUSK	FILE YOLDIA	YOLDIA LIMATULA						
MOLLUSK	FLAT SLIPPER SHELL	CREPIDULA PLANA						
MOLLUSK	GLASSY LYONSIA	LYONSIA HYALINA						
MOLLUSK	GOULDPANDORA	PANDORA GOULDIANA						
MOLLUSK	GREAT PIDDOCK	ZIRFAEA CRISPATA						
MOLLUSK	GREENLAND WENTLETRAP	EPITONIUM GREENLANDICUM						
MOLLUSK	HAIRY DORIS	ACANTHIDIRUS PILOSA						
MOLLUSK	ICELAND SCALLOP	CHALAMYS ISLANDICUS						
MOLLUSK	IMMACULATE MOONSNAIL	EUSPRIA IMMACULATA						
MOLLUSK	KNOBBED WHELK	BUSYCON CARICA						GNR
MOLLUSK	LITTLE BLACK MUSSLE	MUSCULUS NIGER						
MOLLUSK	LOBED MOON SNAIL	NEVERITA DUPLACATA (POLINICES D.)						
MOLLUSK	LONG FINNED SQUID	LOLIGO PEALEII						
MOLLUSK	LUNAR DOVESNAIL	MITRELLA LUNATA						
MOLLUSK	MANED NUDIBRANCH	AEOLODIA PAPILLOSA						

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
MOLLUSK	MINIATURE MOON SNAIL	TECTONATICA PUSILLA						
MOLLUSK	MINUTE HYDROBIA	HYDROBIA TOTTENI						
MOLLUSK	MORTON EGGCOCKLE	LAEVICARDIUM MORTONI						
MOLLUSK	MOTTLED RED CHITON	TONICELLA MARMOREA						
MOLLUSK	NAKED SEA BUTTERFLY	CLIONE LIMACINA						
MOLLUSK	NEW ENGLAND DOG WHELK	ILYANASSA TRIVATTATUS (NASSARIUS T.)						
MOLLUSK	NORTHERN CYCLOCARDIA	CYCLOCARDIA BOREALIS						
MOLLUSK	NORTHERN DWARF COCKLE	CERASTODERMA PINNULATUM						
MOLLUSK	NORTHERN DWARF TELLIN	TELLINA AGILIS						
MOLLUSK	NORTHERN HORSE MUSSLE	MODIOLUS MODIOLUS						
MOLLUSK	NORTHERN LACUNA	LACUNA VINCTA						
MOLLUSK	NORTHERN MOON SNAIL	EUSPRIA HEROS						
MOLLUSK	NORTHERN RED CHITON	TONICELLA RUBRA						
MOLLUSK	NORTHERN SHORT FIN SQUID	ILLEX ILLECEBROSUS						
MOLLUSK	NUTCLAMS	NUCULA ANNULATA						
MOLLUSK	NUTCLAMS	NUCULA SP						
MOLLUSK	OCEAN (BLACK) QUAHOG	ARCTICA ISLANDICA						
MOLLUSK	OYSTER DRILL	UROSALPINX CINEREA						
MOLLUSK	PITTED BABY BUBBLE	RICTAXIS PUNCTOSTRIATUS (ACTEON)						
MOLLUSK	PLANT LIMPET	NOTOACMEA TESTUDINALIS						
MOLLUSK	PLATE MYSELLA	MYSELLA PLANULATA						
MOLLUSK	PYRAMID SNAIL	ODOSTOMIA SP.						
MOLLUSK	QUAHOG	MERCENERIA MERCENARIA						
MOLLUSK	RIBBED MUSSEL	GEUKENSIA DEMISSA						
MOLLUSK	RIM-BACKED NUDIBRANCH	POLYCERA DUBIA						
MOLLUSK	ROUGH PERIWINKLE	LITTORINA SAXATILIS						
MOLLUSK	ROUGH-MANTLED NUDIBRANCH	ONCHIDORIS BILAMELLATA						
MOLLUSK	SALMON-GILLED NUDIBRANCH	CORYPHELLA SALMONACEA						
MOLLUSK	SMOOTH ASTARTE	ASTARTE CASTENEA						
MOLLUSK	SMOOTH PERIWINKLE	LITTORINA OBTUSATA						
MOLLUSK	SOFT-SHELLED CLAM	MYA ARENARIA						
MOLLUSK	SPOON CLAM	PERIPLOMA SP.						
MOLLUSK	SPOTTED MOON SNAIL	EUSPRIA TRISERIATA						
MOLLUSK	STIMPSON'S COLUS	COLUS STIMPSONI						
MOLLUSK	SURF CLAM	SPISULA SOLIDISSIMA						

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
MOLLUSK	TEN-RIDGED WHELK	NEPTUNEA LYRATA DECEMCOSTATA						
MOLLUSK	THICK LIP DRILL	EUPLEURA CAUDATA						
MOLLUSK	TORTOISE SHELL LIMPET	ACMAEA TESTUDINALIS						
MOLLUSK	TRANSVERSE ARC	ANADARA TRANSVERSA						
MOLLUSK	TRUNCATE SOFT-SHELLED CLAM	MYA TRUNCATA						
MOLLUSK	WAVED WHELK	BUCCINUM UNDATUM						
MOLLUSK	WAVY ASTARTE	ASTARTE UNDATA						
MOLLUSK	WHITE ATLANTIC CADLINA	CADLINA LAEVIS						
MOLLUSK	WHITE DORID	LAMELLIDORIS MURICATA						
MOLLUSK		AMNICOLA LIMOSUS	RES				S?	G5
MOLLUSK		CIPANGOPALUDINA CHINENSIS	RES				SE	G5
MOLLUSK		DORIDELLA OBSCURA						
MOLLUSK		ELYSIA CATULUS						
MOLLUSK		FERRISSIA RIVULARIS	RES				S?	G5
MOLLUSK		FOSSARIA MODICELLA	RES				SP	G5
MOLLUSK		FOSSARIA OBRUSSA	RES				S?	G5
MOLLUSK		GYRAULUS PARVUS	RES				S?	G5
MOLLUSK		HELISOMA ANCEPS	RES				S?	G5
MOLLUSK		HIATELLAS SP.						
MOLLUSK		LYOGYRUS BROWNI	RES				S?	GU
MOLLUSK		MICROMENETUS DILATATUS	RES				SP	G5
MOLLUSK		PHYSA SKINNERI	RES				SP	G5
MOLLUSK		PHYSA VERNALIS	RES				S?	G3G5
MOLLUSK		PHYSELLA ANCILLARIA	RES				SP	G5
MOLLUSK		PHYSELLA GYRINA	RES				S?	G5
MOLLUSK		PHYSELLA HETEROSTROPHA	RES				S?	G5
MOLLUSK		PLANORBELLA TRIVOLVIS	RES				SP	G5
MOLLUSK		PSEUDOSUCCINEA COLUMELLA	RES				S?	G5
MOLLUSK		STAGNICOLA CATASCOPIUM	RES				SP	G5
MOLLUSK		STAGNICOLA ELODES	RES				S?	G5
MOLLUSK		TAGELUS SP.						
MOLLUSK		TURBONILLA SP.(INTERRUPTA)						
MOLLUSK		VALVATA TRICARINATA	RES				SP	G5
MOTH	A BUCK MOTH	HEMILEUCA MAIA					S?	G5
MOTH	A GEOMETRID MOTH	EPELIS TRUNCATARIA					S2S3	G5
MOTH	A NOCTUID MOTH	ACRONICTA LANCEOLARIA			C		SU	G4

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
MOTH	A NOCTUID MOTH	APLECTOIDES CONDITA			C		S1S3	G4
MOTH	A NOCTUID MOTH	METAXAGLAEA VIOLACEA					S2S4	G5
MOTH	A NOCTUID MOTH	ZALE SUBMEDIANA			C		S2	G4
MOTH	AN ARCTIID MOTH	GRAMMIA SPECIOSA			C		S1	G4G5
MOTH	BARRENS BUCK MOTH	HEMILEUCA MAIA SSP 5			C		S1S2	G5T2T3
MOTH	BARRENS CHAETAGLAEA	CHAETAGLAEA TREMULA					S4	G5
MOTH	BARRENS XYLOTYPE	XYLOTYPE CAPAX					S2S4	G4
MOTH	BENJAMIN'S ABAGROTIS	ABAGROTIS CRUMBI BENJAMINI			C		S1S2	G4T3
MOTH	BLUEBERRY SALLOW	APHARETRA DENTATA			C		S1S2	G4
MOTH	COASTAL SWAMP METARRANTHIS	METARRANTHIS PILOSARIA			C		S1S3	G3G4
MOTH	COLUMBINE BORER	PAPAIPEMA LEUCOSTIGMA			SH		SH	G4
MOTH	IMPERIAL MOTH	EACLES IMPERIALIS					SU	G5
MOTH	JOYFUL HOLOMELINA MOTH	HOLOMELINA LAETA					SU	G5
MOTH	MESKE'S UNDERWING	CATOCALA MESKEI					SU	G4
MOTH	NOCTUID MOTH	LITHOPHANE BAILEYI					S?	G5
MOTH	PALE GREEEN PINION MOTH	LITHOPHANE VIRIDIPALLENS			C		S2S3	G4
MOTH	PINE BARRENS NEPYTIA	NEPYTIA SP 1					S1S2	G4G5
MOTH	PINE BARRENS ZALE	ZALE SP 1			C		S1	G3Q
MOTH	PINE DEVIL	CITHERONIA SEPULCRALIS			SH		SX	G5
MOTH	PINE WOODS UNDERWING MOTH	CATOCALA SP 1 NR JAIR					S1S3	G5
MOTH	PITCHER PLANT BORER	PAPAIPEMA APPASSIONATA			C		S1	G4
MOTH	ROYAL WALNUT MOTH	CITHERONIA REGALIS			SH		SX	G5
MOTH	SPARTINA BORER	SPARTINIPHAGA INOPS			C		SU	G3G4
MOTH	THAXTER'S PINON MOTH	LITHOPHANE THAXTERI					SU	G4
MOTH		ABAGROTIS BRUNNEIPENNIS					S?	G4
MOTH		ABAGROTIS CRUMBI					S?	G4
MOTH		APAMEA BURGESSI					S?	G4
MOTH		APANTESIS ARGE					S?	G5
MOTH		ARGYROSTROTIS ANILIS						G5
MOTH		CAPIS CURVATA					S?	G4
MOTH		CATOCALA AMATRIX					S?	G5
MOTH		CATOCALA AMICA					S?	G5
MOTH		CATOCALA ANDROMEDAE					S?	G5
MOTH		CATOCALA ANTINYMPHA					S?	G5
MOTH		CATOCALA BADIA					S?	G4
MOTH		CATOCALA BRISEIS					S?	G5

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
MOTH		CATOCALA CARA					S?	G5
MOTH		CATOCALA CEROGAMA					S?	G5
MOTH		CATOCALA COCCINATA					S?	G5
MOTH		CATOCALA CONCUMBENS					S?	G5
MOTH		CATOCALA CONNUBIA LIS					S?	G5
MOTH		CATOCALA DEJECTA					S?	G4
MOTH		CATOCALA EPIONE					S?	G5
MOTH		CATOCALA FLEBILIS					S?	G5
MOTH		CATOCALA GRACILIS					S?	G5
MOTH		CATOCALA GRYNEA					S?	G5
MOTH		CATOCALA HABILIS					S?	G5
MOTH		CATOCALA ILIA					S?	G5
MOTH		CATOCALA INNUBENS					S?	G5
MOTH		CATOCALA JUDITH					S?	G5
MOTH		CATOCALA LINEELLA					S?	G5
MOTH		CATOCALA MICRONYMPHA					S?	G5
MOTH		CATOCALA MINUTA					S?	G5
MOTH		CATOCALA MULIERCULA						G5
MOTH		CATOCALA NEOGAMA					S?	G5
MOTH		CATOCALA PALAEOGAMA					S?	G5
MOTH		CATOCALA PARTA					S?	G5
MOTH		CATOCALA PIATRIX					S?	G5
MOTH		CATOCALA PRAECLARA					S?	G5
MOTH		CATOCALA RELICTA					S?	G5
MOTH		CATOCALA RETECTA					S?	G5
MOTH		CATOCALA ROBINSONI					S?	G4
MOTH		CATOCALA SIMILIS					S?	G5
MOTH		CATOCALA SORDIDA					S?	G5
MOTH		CATOCALA SP 3 NR ILIA					S?	G4G5
MOTH		CATOCALA ULTRONIA					S?	G5
MOTH		CATOCALA UNIJUGA					S?	G5
MOTH		CATOCALA VIDUA					S?	G5
MOTH		CEPPHIS DECOLORARIA					S?	G5
MOTH		CONSERVULA ANODONTA					S?	G4
MOTH		CRYMODES BURGESSI						
MOTH		CYCNIA INOPINATUS						G4

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
MOTH		DARAPSA VERSICOLOR					S?	G4
MOTH		DERRIMA STELLATA					S?	G4
MOTH		DIARSIA RUBIFERA					SU	G5
MOTH		EUCHLAENA MADUSARIA					S?	G5
MOTH		EUFIDONIA DISCOSPILATA					S3	G5
MOTH		EXYRA FAX					S?	G4
MOTH		FAGITANA LITTERA					S?	G4
MOTH		FARONATA RUBRIPENNIS						
MOTH		GRAMMIA VIRGUNCULA					S?	G5
MOTH		HEMIPACHNOBIA MONOCHROMATEA					S?	G4
MOTH		HOMOPHOBERIA CRISTATA					S?	G4
MOTH		IODOPEPLA U-ALBUM					S?	G5
MOTH		MACROCHILO LOUISIANA					S?	G4
MOTH		MEROPLEON DIVERSICOLOR					S?	G4
MOTH		OLIGIA BRIDGHAMI					SU	G4
MOTH		OLIGIA MINUSCULA					S?	G4
MOTH		OROSAGROTIS PERPOLITA						
MOTH		PAPAIPEMA NEBRIS					S?	G5
MOTH		PLAGODIS KUETZINGI						G5
MOTH		PSAPHIDA THAXTERIANUS						G4
MOTH		SCHINIA SPINOSAE					S?	G4
MOTH		SCHIZURA APICALIS					S2S3	G3G4
MOTH		SCOPULA PURATA					S?	G4
MOTH		SIDERIDIS MARYX						G4
MOTH		THYSANOPYGA INTRACTATA						G5
MOTH		ZALE CUREMA					S?	G3G4
MOTH		ZANCLOGNATHA MARTHA					S?	G4
MOTH?		MELITARA PRODENIALIS					S1	G4
MUSSEL	ALEWIFE FLOATER	ANODONTA IMPLICATA	RES				S?	G5
MUSSEL	BROOK FLOATER	ALASMIDONTA VARICOSA	X		SH	NAFWA	SH	G3
MUSSEL	EASTERN ELLIPTIO	ELLIPTIO COMPLANATA	RES				S?	G5
MUSSEL	EASTERN FLOATER	PYGANODON CATARACTA	RES				S?	G5
MUSSEL	EASTERN PEARLSHELL	MARGARITIFERA MARGARITIFERA	RES		C		S2	G4
MUSSEL	EASTERN POND MUSSEL	LIGUMIA NASUTA	RES		C	NAFWA	S1	G4G5
MUSSEL	LAMPMUSSEL	LAMPSILIS RADIATA	RES		C		S1	G5
MUSSEL	SQUAWFOOT	STROPHITUS UNDULATUS	RES		C		S1	G5

TAXONOMIC GROUP / PHYLUM	COMMON NAME	SCIENTIFIC NAME	CODES	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK
MUSSEL	TIDEWATER MUCKET	LEPTODEA OCHRACEA	RES		SH	NAFWA	S?	G4
MUSSEL	TRIANGLE FLOATER	ALASMIDONTA UNDULATA	RES				S?	G4
NEMERTINEA	CHEVRON AMPHIPORUS	AMPHIPORUS ANGULATUS						
NEMERTINEA		TUBULANUS SP.						
PLATYHELMINTHES		PLATYHELMINTHES SP.						
PORIFERA	BORING SPONGE	CILONA CELATA						
PORIFERA	BORING SPONGE	CILONA VASTIFICA						
PORIFERA	BORING SPONGE	CLIONA LOBATA						
PORIFERA	CHALICE SPONGE	PHAKELLIA VENTILABRUM						
PORIFERA	COMMON PALMATE SPONGE	ISODICTYA PALMATA						
PORIFERA	CRUMB OF BREAD SPONGE	HALICHONDRIA BOWERBANKI						
PORIFERA	CRUMB OF BREAD SPONGE	HALICHONDRIA PANICEA						
PORIFERA	FIG SPONGE	SUBERTES FICUS						
PORIFERA	FINGER SPONGE (DEADMAN'S)	HALICLONA OCULATA						
PORIFERA	PURPLE SPONGE	HALICLONA PERMOLLIS						
PORIFERA	RED BEARD SPONGE	MICROCIONA PROLIFERA						
PORIFERA	WARTY SPONGE	MELONANCHORA ELLIPTICA						
PORIFERA		HALICLONA CANALICULATA						
PORIFERA		HALICLONA LOOSANOFFI						
PORIFERA		LISSODENDORYX ISODICTYALIS						
PORIFERA		POLYMASTIA ROBUSTA						

Appendix 1c. Rhode Island GCN Species

This appendix lists Rhode Island's wildlife species determined to be in greatest need of conservation. For each species, the best available status information is listed according to the guidance categories provided by the IAFWA steering committee (2002). Reasons for designating a species as in greatest conservation need include low and declining populations, endemism, imperilment, vulnerability, global rarity, etc. (see Table 1.9). These compiled rankings represent the best available information on status of these GCN species, as determined by RI DEM DFW staff and other leading experts. This appendix directly addresses Element 1.

KEY	
PARC	Partners for Amphibian and Reptile Conservation
USSCP	U.S. Shorebird Conservation Plan Conservation Status: (HI) Highly Imperiled, (H) High Concern, (M) Moderate Concern, (L) Low Concern, or (NCR) Not Currently At Risk
NALCP	North American Landbird Conservation Plan Species of Continental Importance or a Priority Species for BCR 9 (Southern New England)
NAWCA	North American Wetland Conservation Act Priority Species for BCR 30 (New England/Mid-Atlantic Coast)
GrassBrd	RI DEM, PIF
NATerns	RI DEM, MANEM
Waterbird	North American Waterbird Conservation Plan Conservation Status: (HI) Highly Imperiled, (H) High Concern, (M) Moderate Concern, (L) Low Concern, or (NCR) Not Currently At Risk
NABats	BCI
Mussels	AFS Conservation Status: endangered (E), threatened (T), special concern (SC), or currently stable (CS)
Fish	AFS Conservation Status: endangered (E), threatened (T) or special concern (SC)
FEDSTAT	U.S. Endangered Species Act
STSTAT	RI Endangered Species Act
P	Protected by regulations of the Division of Fish & Wildlife
OSTAT	Other Status
NESTAT	Northeastern Association of Fish and Wildlife Administrators Species of Concern
SRANK	State Rank from NatureServe
GRANK	Global Rank from NatureServe
STATE	Listed in Rhode Island as E, T or Concern
IUCN	International Union for Conservation of Nature and Natural Resources, Red List of Threatened Species

FE	Federally Endangered
FT	Federally Threatened
SC	Federal Species of Concern
SE	State Endangered
ST	State Threatened
C	State Concern
SH	State Historical

GROUP	COMMON NAME	SCIENTIFIC NAME	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK	STATE	Other
MAMMAL	BLACK BEAR	URSUS AMERICANUS				SX	G5		
MAMMAL	BLOCK ISLAND MEADOW VOLE	MICROTUS PENNSYLVANICUS PROVECTUS				S2	G5T2Q		
MAMMAL	BLUE WHALE	BALAENOPTERA MUSCULUS	FE			SNRN	G3G4		
MAMMAL	BOBCAT	LYNX RUFUS		ST		SU	G5		
MAMMAL	COMMON WATER SHREW	SOREX PALUSTRIS		C		S1	G5		
MAMMAL	EASTERN PIPISTRELLE	PIPISTRELLUS SUBFLAVUS				S4	G5		NABats
MAMMAL	EASTERN RED BAT	LASIURUS BOREALIS			NESTAT	S?	G5		NABats
MAMMAL	EASTERN SMALL-FOOTED MYOTIS	MYOTIS LEIBII			NESTAT	SP	G3		NABats
MAMMAL	FIN WHALE	BALAENOPTERA PHYSALUS	FE			SNRN	G3G4		
MAMMAL	HARBOR SEAL	PHOCA VITULINA				SNR	G5		
MAMMAL	HOARY BAT	LASIURUS CINEREUS			NESTAT	S1	G5		NABats
MAMMAL	HUMPBACK WHALE	MEGAPTERA NOVAEANGLIAE	FE			SNRN	G3		
MAMMAL	INDIANA BAT	MYOTIS SODALIS	FE				G2		NABats
MAMMAL	LITTLE BROWN MYOTIS	MYOTIS LUCIFUGUS				S5	G5		NABats
MAMMAL	NEW ENGLAND COTTONTAIL	SYLVILAGUS TRANSITIONALIS		C	NESTAT	S2	G4		
MAMMAL	NORTH ATLANTIC RIGHT WHALE	EUBALAENA GLACIALIS	FE			SU	G1		
MAMMAL	NORTHERN LONG-EARED BAT	MYOTIS SEPTENTRIONALIS				S2	G4		NABats
MAMMAL	NORTHERN MINKE WHALE	BALAENOPTERA ACUTOROSTRATA					G4		
MAMMAL	PORCUPINE	ERETHIZON DORSATUM				S3	G5		
MAMMAL	SEI WHALE	BALAENOPTERA BOREALIS	FE			SNRN	G3		
MAMMAL	SILVER-HAIRED BAT	LASIONYCTERIS NOCTIVAGANS			NESTAT	SU	G5		NABats
MAMMAL	SMOKY SHREW	SOREX FUMEUS		C		S2	G5		
MAMMAL	SOUTHERN BOG LEMMING	SYNAPTOMYS COOPERI				S1	G5		
MAMMAL	SPERM WHALE	PHYSETER MACROCEPHALUS	FE				G3G4		
BIRDS	ACADIAN FLYCATCHER	EMPIDONAX VIRESCENS		C		S1B,S1N	G5		NALCP
BIRDS	AMERICAN BITTERN	BOTAURUS LENTIGINOSUS		SE	NESTAT	S1B,S1N	G4	E-1(3-4)	NALCP
BIRDS	AMERICAN BLACK DUCK	ANAS RUBRIPES				S4B,S4N	G5		NALCP
BIRDS	AMERICAN KESTREL	FALCO SPARVERIUS				S4B,SZN	G5		

GROUP	COMMON NAME	SCIENTIFIC NAME	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK	STATE	Other
BIRDS	AMERICAN OYSTERCATCHER	HAEMATOPUS PALLIATUS		C		S2B,S2N	G5	E-1(3-1)	USSCP (H), NALCP, NAWCA
BIRDS	AMERICAN WOODCOCK	SCOLOPAX MINOR				S4B,S4N	G5	23-R	USSCP (H), NALCP, NAWCA
BIRDS	BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	FT	FT		S1N	G4		NALCP
BIRDS	BALTIMORE ORIOLE	ICTERUS GALBULA				S5B,SZN	G5		NALCP
BIRDS	BANK SWALLOW	RIPARIA RIPARIA				S3B,SZN	G5		
BIRDS	BARN OWL	TYTO ALBA		SE		S1B,S1N	G5	E-1(3-3)	GrassBrd, NALCP
BIRDS	BARRED OWL	STRIX VARIA				S4B,S4N	G5		NALCP
BIRDS	BELTED KINGFISHER	CERYLE ALCYON				S4B,SZN	G5		
BIRDS	BLACK SKIMMER	RYNCHOPS NIGER				S1N	G5	E-1(3-1)	Waterbird (H), NATerns, NAWCA
BIRDS	BLACK-AND-WHITE WARBLER	MNIOTILTA VARIA				S5B,SZN	G5		NALCP
BIRDS	BLACK-BELLIED PLOVER	PLUVIALIS SQUATAROLA				SZN	G5		USSCP (M)
BIRDS	BLACK-BILLED CUCKOO	COCCYZUS ERYTHROPTHALMUS				S5B,S5N	G5		NALCP
BIRDS	BLACKBURNIAN WARBLER	DENDROICA FUSCA		ST		S1B,S1N	G5		NALCP
BIRDS	BLACK-CROWNED NIGHT HERON	NYCTICORAX NYCTICORAX		C		S2B,SZN	G5	E-1(3-1)	NALCP, Waterbird (M)
BIRDS	BLACK-THROATED BLUE WARBLER	DENDROICA CAERULESCENS		SE		S1B,S3N	G5	E-1(3-5)	NALCP
BIRDS	BLACK-THROATED GREEN WARBLER	DENDROICA VIRENS				S4B,SZN	G5		NALCP
BIRDS	BLUE-HEADED VIREO	VIREO SOLITARIUS				S3B,SZN	G5		NALCP
BIRDS	BLUE-WINGED TEAL	ANAS DISCORS		C		S1B,SZN	G5		
BIRDS	BLUE-WINGED WARBLER	VERMIVORA PINUS				S5B,SZN	G5		NALCP
BIRDS	BOBOLINK	DOLICHONYX ORYZIVORUS				S3B,SZN	G5	E-1(3-3)	NALCP
BIRDS	BROAD-WINGED HAWK	BUTEO PLATYPTERUS				S4B,SZN	G5		
BIRDS	BROWN CREEPER	CERTHIA AMERICANA				S3B,SZN	G5		
BIRDS	BROWN THRASHER	TOXOSTOMA RUFUM				S4B,SZN	G5		NALCP
BIRDS	CANADA WARBLER	WILSONIA CANADENSIS			NESTAT	S4B,SZN	G5		NALCP
BIRDS	CATTLE EGRET	BUBULCUS IBIS		C		S1B,S3N	G5	E-1(3-1)	NALCP, Waterbird (L)
BIRDS	CERULEAN WARBLER	DENDROICA CERULEA		ST	NESTAT	S1B,S2N	G4	E-1(3-5)	NALCP, NAWCA
BIRDS	CHESTNUT-SIDED WARBLER	DENDROICA PENSYLVANICA				S5B,SZN	G5		NALCP
BIRDS	CHIMNEY SWIFT	CHAETURA PELAGICA				S5B,SZN	G5		NALCP
BIRDS	CLAPPER RAIL	RALLUS LONGIROSTRIS		C		S1B,S2N	G5	E-1(3-4)	
BIRDS	CLIFF SWALLOW	PETROCHELIDON PYRRHONOTA		SH		SHB,SZN	G5		
BIRDS	COMMON MOORHEN	GALLINULA CHLOROPUS		SH		SHB,SAN	G5	E-1(3-4)	NALCP
BIRDS	COMMON NIGHTHAWK	CHORDEILES MINOR		C		S1B,SZN	G5		NALCP
BIRDS	COMMON TERN	STERNA HIRUNDO			NESTAT	S3B,SZN	G5	E-1(3-1)	NATerns, NALCP, Waterbird (L), NAWCA
BIRDS	COMMON YELLOWTHROAT	GEOTHLYPIS TRICHAS				S5B	G5		

GROUP	COMMON NAME	SCIENTIFIC NAME	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK	STATE	Other
BIRDS	DOUBLE-CRESTED CORMORANT	PHALACROCORAX AURITUS				S2B,SZN	G5	E-1(3-1)	Waterbird (NCR)
BIRDS	DUNLIN	CALIDRIS ALPINA				SZN	G5		USSCP (M)
BIRDS	EASTERN KINGBIRD	TYRANNUS TYRANNUS				S5B,S5N	G5		
BIRDS	EASTERN MEADOWLARK	STURNELLA MAGNA				S3B,SZN	G5	E-1(3-3)	GrassBrd
BIRDS	EASTERN TOWHEE	PIPILO ERYTHROPHTHALMUS				S5B,SZN	G5		NALCP
BIRDS	EXOTIC NUISANCES								
BIRDS	FIELD SPARROW	SPIZELLA PUSILLA				S4B,SZN	G5		
BIRDS	GADWALL	ANAS STREPERA		C		S1B,SZN	G5		
BIRDS	GLOSSY IBIS	PLEGADIS FALCINELLUS		C		S1B,SZN	G5	E-1(3-1)	NALCP, Waterbird (L)
BIRDS	GOLDEN-CROWNED KINGLET	REGULUS SATRAPA		C		S1B,SZN	G5		
BIRDS	GRASSHOPPER SPARROW	AMMODRAMUS SAVANNARUM		ST		S1B,S1N	G5	E-1(3-3)	NALCP, GrassBrd
BIRDS	GRAY CATBIRD	DUMETELLA CAROLINENSIS				S5B	G5		
BIRDS	GREAT BLACK-BACKED GULL	LARUS MARINUS				S2B,SZN	G5	E-1(3-1)	Watrebird (NCR)
BIRDS	GREAT BLUE HERON	ARDEA HERODIAS		C		S2B,SZN	G5		NALCP, Waterbird (NCR)
BIRDS	GREAT CRESTED FLYCATCHER	MYIARCHUS CRINITUS				S5B,SZN	G5		
BIRDS	GREAT EGRET	ARDEA ALBA		C		S1B,SZN	G5	E-1(3-1)	NALCP, Waterbird (L)
BIRDS	GREATER YELLOWLEGS	TRINGA MELANOLEUCA				SZN	G5		USSCP (M)
BIRDS	GREEN-WINGED TEAL	ANAS CRECCA		C		S1B,S4N	G5		
BIRDS	HAIRY WOODPECKER	PICOIDES VILLOSUS				S4B,S4N	G5		NALCP
BIRDS	HARLEQUIN DUCK	HISTRIONICUS HISTRIONICUS			NESTAT	S1N	G4		
BIRDS	HERMIT THRUSH	CATHARUS GUTTATUS				S4B,SZN	G5		
BIRDS	HERRING GULL	LARUS ARGENTATUS				S3B,SZN	G5	E-1(3-1)	Waterbird (L)
BIRDS	HOODED WARBLER	WILSONIA CITRINA				S3B,SZN	G5		NALCP
BIRDS	HORNED LARK	EREMOPHILA ALPESTRIS		C		S1B,SZN	G5		NALCP
BIRDS	INDIGO BUNTING	PASSERINA CYANEA				S4B,SZN	G5		NALCP
BIRDS	KING RAIL	RALLUS ELEGANS		C		S1B,S1N	G4G5	E-1(3-4)	NALCP
BIRDS	LEAST BITTERN	IXOBRYCHUS EXILIS		C		S2B,S2N	G5	E-1(3-4)	NALCP
BIRDS	LEAST FLYCATCHER	EMPIDONAX MINIMUS				S3B,SZN	G5		
BIRDS	LEAST SANDPIPER	CALIDRIS MINUTILLA				SZN	G5		USSCP (M)
BIRDS	LEAST TERN	STERNA ANTILLARUM		ST	NESTAT	S2B,S2N	G4	E-1(3-1)	NATerns, NALCP, Waterbird (H), NAWCA
BIRDS	LESSER YELLOWLEGS	TRINGA FLAVIPES				SZN	G5		USSCP (M)
BIRDS	LITTLE BLUE HERON	EGRETTA CAERULEA		C		S1B,S2N	G5	E-1(3-1)	NALCP, Waterbird (H)
BIRDS	LONG-EARED OWL	ASIO OTUS		SH	NESTAT	SHB,S1N	G5		NALCP
BIRDS	LOUISIANA WATERTHRUSH	SEIURUS MOTACILLA			NESTAT	S4B,SZN	G5		NALCP
BIRDS	MARSH WREN	CISTOTHORUS PALUSTRIS		C		S2B,S3N	G5		NAWCA

GROUP	COMMON NAME	SCIENTIFIC NAME	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK	STATE	Other
BIRDS	MIGRATORY SONGBIRDS								
BIRDS	NASHVILLE WARBLER	VERMIVORA RUFICAPILLA				S3B,SZN	G5		NALCP
BIRDS	NORTHERN BOBWHITE	COLINUS VIRGINIANUS				S4B,S4N	G5	23-R	
BIRDS	NORTHERN FLICKER	COLAPTES AURATUS				S5B,S5N	G5		
BIRDS	NORTHERN GOSHAWK	ACCIPITER GENTILIS		C		S1B,S1N	G5		NALCP
BIRDS	NORTHERN HARRIER	CIRCUS CYANEUS		SE	NESTAT	S1B,S3N	G5	E-1(3-3)	GrassBrd, NALCP
BIRDS	NORTHERN PARULA	PARULA AMERICANA		ST		S1B,S1N	G5	E-1(3-5)	NALCP
BIRDS	NORTHERN WATERTHRUSH	SEIURUS NOVEBORACENSIS				S4B,SZN	G5		
BIRDS	ORCHARD ORIOLE	ICTERUS SPURIUS				S2B	G5		
BIRDS	OSPREY	PANDION HALIAETUS		C		S2B,S2N	G5		NALCP
BIRDS	OVENBIRD	SEIURUS AUROCAPILLUS				S5B	G5		
BIRDS	PECTORAL SANDPIPER	CALIDRIS MELANOTOS				SZN	G5		USSCP (L)
BIRDS	PEREGRINE FALCON	FALCO PEREGRINUS	FE	FE		SZN	G4	E-1	NALCP
BIRDS	PIED-BILLED GREBE	PODILYMBUS PODICEPS		SE	NESTAT	S1B,SZN	G5	E-1	NALCP
BIRDS	PILEATED WOODPECKER	DRYOCOPUS PILEATUS		C		S1B,S1N	G5		
BIRDS	PIPING PLOVER	CHARADRIUS MELODUS	FT	FT		S1B,S1N	G3	E-1(1-1)	USSCP (HI), NALCP
BIRDS	PRAIRIE WARBLER	DENDROICA DISCOLOR				S5B,SZN	G5		NALCP
BIRDS	PROTHONOTARY WARBLER	PROTONOTARIA CITREA		C		S1B,S1N	G5	E-1(3-5)	NALCP
BIRDS	PURPLE FINCH	CARPODACUS PURPUREUS				S3B,SZN	G5		NALCP
BIRDS	PURPLE MARTIN	PROGNE SUBIS				S3B,SZN	G5		NALCP
BIRDS	PURPLE SANDPIPER	CALIDRIS MARITIMA				SZN	G5		USSCP (L), NAWCA
BIRDS	RED KNOT	CALIDRIS CANUTUS			NESTAT	S3N	G5		USSCP (H), NAWCA
BIRDS	RED-BREASTED NUTHATCH	SITTA CANADENSIS				S3B,SZN	G5		
BIRDS	RING-NECKED PHEASANT	PHASIANUS COLCHICUS				SE	G5	23-R	
BIRDS	ROSEATE TERN	STERNA DOUGALLII		SH		SHB,S1N	G4	E-1(3-1)	NATerns, NALCP, Waterbird (H)
BIRDS	ROSE-BREASTED GROSBEAK	PHEUCTICUS LUDOVICIANUS				S4B,SZN	G5		NALCP
BIRDS	RUDDY TURNSTONE	ARENARIA INTERPRES				S4N	G5		USSCP (H)
BIRDS	RUFFED GROUSE	BONASA UMBELLUS				S5B,S5N	G5	23-R	
BIRDS	SALTMARSH SHARP-TAILED SPARROW	AMMODRAMUS CAUDACUTUS			NESTAT	S3B,SZN	G4		NALCP, NAWCA
BIRDS	SANDERLING	CALIDRIS ALBA				SZN	G5		USSCP (H)
BIRDS	SAVANNAH SPARROW	PASSERCULUS SANDWICHENSIS				S2S3B,SZN	G5	E-1(3-3)	GrassBrd, NALCP
BIRDS	SCARLET TANAGER	PIRANGA OLIVACEA				S5B,SZN	G5		NALCP
BIRDS	SEASIDE SPARROW	AMMODRAMUS MARITIMUS		C		S2B,SZN	G4		NALCP, NAWCA
BIRDS	SEMIPALMATED PLOVER	CHARADRIUS SEMIPALMATUS				SZN	G5		USSCP (L)
BIRDS	SEMIPALMATED SANDPIPER	CALIDRIS PUSILLA				SZN	G5		USSCP (M)
BIRDS	SHARP-SHINNED HAWK	ACCIPITER STRIATUS		SH		SHB,SZN	G5		NALCP
BIRDS	SHORT-BILLED DOWITCHER	LIMNODROMUS GRISEUS				SZN	G5		USSCP (H)
BIRDS	SHORT-EARED OWL	ASIO FLAMMEUS			NESTAT	S1N	G5		NALCP, GrassBrd, NAWCA

GROUP	COMMON NAME	SCIENTIFIC NAME	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK	STATE	Other
BIRDS	SNOWY EGRET	EGRETTA THULA		C		S1B,SZN	G5	E-1(3-1)	NALCP, Waterbird (H)
BIRDS	SOLITARY SANDPIPER	TRINGA SOLITARIA				SZN	G5		USSCP (H)
BIRDS	SORA	PORZANA CAROLINA		C		S1B,S1N	G5	E-1(3-4)	
BIRDS	SPOTTED SANDPIPER	ACTITIS MACULARIA				S4B,S4N	G5		USSCP (L)
BIRDS	UPLAND SANDPIPER	BARTRAMIA LONGICAUDA		SE	NESTAT	S1B,S1N	G5	E-1(3-3)	USSCP (H), NALCP, GrassBrd
BIRDS	WATERFOWL CONCENTRATIONS/SAV								NAWCA
BIRDS	WHIMBREL	NUMENIUS PHAEOPUS				S3N	G5		USSCP (H), NAWCA
BIRDS	WHIP-POOR-WILL	CAPRIMULGUS VOCIFERUS			NESTAT	S4B,SZN	G5		NALCP
BIRDS	WHITE-RUMPED SANDPIPER	CALIDRIS FUSCICOLLIS				S3N	G5		USSCP (L)
BIRDS	WILLET	CATOPTROPHORUS SEMIPALMATUS		C		S1B,S3N	G5		USSCP (M)
BIRDS	WILLOW FLYCATCHER	EMPIDONAX TRAILLII				S3B,S3N	G5		NALCP
BIRDS	WILSON'S SNIPE	GALLINAGO DELICATA				SZN	G5		
BIRDS	WINTER WREN	TROGLODYTES TROGLODYTES		C		S1B,S2N	G5		NALCP
BIRDS	WOOD THRUSH	HYLOCICHLA MUSTELINA				S5B,SZN	G5		NALCP
BIRDS	WORM-EATING WARBLER	HELMITHEROS VERMIVORUS		C		S2B,SZN	G5		NALCP
BIRDS	YELLOW WARBLER	DENDROICA PETECHIA				S5B	G5		
BIRDS	YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS				S5B,S5N	G5		
BIRDS	YELLOW-BREASTED CHAT	ICTERIA VIRENS		SH		SHB,S1N	G5		NALCP
BIRDS	YELLOW-CROWNED NIGHT HERON	NYCTANASSA VIOLACEA		C		S1B,S1N	G5		NALCP, Waterbird (M)
BIRDS	YELLOW-RUMPED WARBLER	DENDROICA CORONATA				S2B,SZN	G5		
BIRDS	YELLOW-THROATED VIREO	VIREO FLAVIFRONS				S4B,SZN	G5		NALCP
AMPHIBIAN	DUSKY SALAMANDER	DESMOGNATHUS FUSCUS				S4	G5		PARC
AMPHIBIAN	EASTERN NEWT	NOTOPHTHALMUS VIRIDESCENS				S5	G5		PARC
AMPHIBIAN	EASTERN SPADEFOOT	SCAPHIOPUS HOLBROOKII		ST	NESTAT	S1	G5		PARC
AMPHIBIAN	FOUR-TOED SALAMANDER	HEMIDACTYLIUM SCUTATUM				S3	G5		PARC
AMPHIBIAN	FOWLER'S TOAD	BUFO FOWLERI				S3	G5		PARC
AMPHIBIAN	MARBLED SALAMANDER	AMBYSTOMA OPACUM				S2	G5		PARC
AMPHIBIAN	NORTHERN LEOPARD FROG	RANA PIPIENS		C	NESTAT	S2	G5		PARC
AMPHIBIAN	SPRING SALAMANDER	GYRINOPHILUS PORPHYRITICUS		C		S1	G5		PARC
AMPHIBIAN	WOOD FROG	RANA SYLVATICA				S5	G5		PARC
REPTILE	ATLANTIC GREEN TURTLE	CHELONIA MYDAS MYDAS	FT	FT		FTS?	G3T3		
REPTILE	ATLANTIC HAWKSBILL TURTLE	ERETMOCHELYS IMBRICATA	FE				G3		PARC; IUCN - Critically Endangered
REPTILE	BLACK RAT SNAKE	ELAPHE OBSOLETA		C		S2	G5		PARC
REPTILE	DIAMONDBACK TERRAPIN	MALACLEMYS TERRAPIN		SE	P, NESTAT	S1	G4		PARC
REPTILE	EASTERN BOX TURTLE	TERRAPENE CAROLINA			P, NESTAT	S4	G5		PARC; IUCN - Lower Risk
REPTILE	EASTERN HOGNOSE SNAKE	HETERODON PLATIRHINOS		C	NESTAT	S2	G5		PARC
REPTILE	EASTERN RIBBON SNAKE	THAMNOPHIS SAURITUS		C	NESTAT	S3	G5		PARC

GROUP	COMMON NAME	SCIENTIFIC NAME	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK	STATE	Other
REPTILE	KEMP'S RIDLEY SEA TURTLE	LEPIDOCHELYS KEMPII	FE	FE		FES?	G1		IUCN - Critically Endangered
REPTILE	LEATHERBACK TURTLE	DERMOCHELYS CORIACEA	FE	FE		FES?	G2		IUCN - Critically Endangered
REPTILE	LOGGERHEAD TURTLE	CARETTA CARETTA	FT	FT		FTS?	G3		IUCN - Endangered
REPTILE	SPOTTED TURTLE	CLEMMYS GUTTATA			P, NESTAT	PS5	G5		PARC
REPTILE	WOOD TURTLE	CLEMMYS INSCULPTA		C	P, NESTAT	C/PS2	G4		PARC
FISH FRESH	AMERICAN BROOK LAMPREY	LAMPETRA APPENDIX		C	NESTAT	S1	G4		
FISH FRESH	BANDED SUNFISH	ENNEACANTHUS OBESUS			NESTAT	S3	G5		
FISH FRESH	BLACKNOSE DACE	RHINICHTHYS ATRATULUS				S4	G5		
FISH FRESH	BRIDLE SHINER	NOTROPIS BIFRENATUS			NESTAT	S5	G5		
FISH FRESH	BROOK TROUT	SALVELINUS FONTINALIS				S5	G5		
FISH FRESH	COMMON SHINER	LUXILUS CORNUTUS				S5	G5		
FISH FRESH	CREEK CHUBSUCKER	ERIMYZON OBLONGUS				S3	G5		
FISH FRESH	LONGNOSE DACE	RHINICHTHYS CATARACTAE				S4	G5		
FISH FRESH	REDBREAST SUNFISH	LEPOMIS AURITUS				S3	G5		
FISH FRESH	SPOTFIN KILLIFISH	FUNDULUS LUCIAE					G4		
FISH FRESH	SPOTTAIL SHINER	NOTROPIS HUDSONIUS				S1	G5		
FISH FRESH & SALT	ALEWIFE	ALOSA PSEUDOHARENGUS				S3	G5		
FISH FRESH & SALT	AMERICAN EEL	ANGUILLA ROSTRATA				S5	G5		
FISH FRESH & SALT	AMERICAN SHAD	ALOSA SAPIDISSIMA				S1	G5		
FISH FRESH & SALT	ATLAN TIC MENHADEN	BREVOORTIA TYRANNUS					G5		
FISH FRESH & SALT	ATLANTIC SALMON	SALMO SALAR				S1	G5		Fish (E); IUCN - Lower Risk
FISH FRESH & SALT	ATLANTIC STURGEON	ACIPENSER OXYRINCHUS	SC		NESTAT	SH	G3		Fish (E); IUCN - Lower Risk
FISH FRESH & SALT	ATLANTIC TOMCOD	MICROGADUS TOMCOD					G5		
FISH FRESH & SALT	BLUEBACK HERRING	ALOSA AESTIVALIS				S1	G5		
FISH FRESH & SALT	RAINBOW SMELT	OSMERUS MORDAX	SC			S1	G5		
FISH FRESH & SALT	SHORTNOSE STURGEON	ACIPENSER BREVIROSTRUM	FE			S1S2	G3		Fish (T); IUCN - Vulnerable
FISH SALT	AMERICAN GOOSEFISH (MONKFISH)	LOPHIUS AMERICANUS					G5		
FISH SALT	AMERICAN SAND LANCE	AMMODYTES AMERICANUS					G5		
FISH SALT	CUNNER	TAUTOGOLABRUS ADSPERSUS					G5		
FISH SALT	HOGCHOKER	TRINECTES MACULATUS					G5		
FISH SALT	LINED SEAHORSE	HIPPOCAMPUS ERECTUS					GNR		

GROUP	COMMON NAME	SCIENTIFIC NAME	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK	STATE	Other
FISH SALT	NORTHERN KINGFISH	MENTICIRRHUS SAXATILIS					GNR		
FISH SALT	OYSTER TOADFISH	OPSANUS TAU					GNR		
FISH SALT	SEA RAVEN	HEMITRIPTERUS AMERICANUS					GNR		
FISH SALT	SKATES SPP.	RAJA SPP.							
FISH SALT	SMOOTH DOGFISH	MUSTELUS CANIS							
FISH SALT	WEAKFISH	CYNOSCION REGALIS					GNR		
FISH SALT	WINDOWPANE	SCOPHTHALMUS AQUOSUS					G5		
FISH SALT	WINTER FLOUNDER	PSEUDOPLEURONECTES AMERICANUS					G5		
ARTHROPOD	BAY SHRIMP	CRANGON SEPTEMSPINOSA							
ARTHROPOD	BLUE CRAB	CALLINECTES SAPIDUS							
ARTHROPOD	FIDDLER CRAB	UCA SPP.							
ARTHROPOD	GREEN CRAB	CARCINUS MAENAS							
ARTHROPOD	HORSESHOE CRAB	LIMULUS POLYHEMUS							
ARTHROPOD	LOBSTER	HOMARUS AMERICANUS							
ARTHROPOD	MANTIS SHRIMP	SQUILLA EMPUSA							
ARTHROPOD	ROCK CRAB	CANCER IRROIATUS							
ARTHROPOD	SPIDER CRAB	LIBINIA SP.							
BEETLE	A DIVING BEETLE	CYBISTER FIMBRIOLATUS					GNR		
BEETLE	A DUNG BEETLE	COPRIS FRICATOR							
BEETLE	A DUNG BEETLE	DICHOTOMIUS CAROLINUS							
BEETLE	A FLEA BEETLE	PHYLLOTRETA CHALYBEIPENNIS							
BEETLE	A GROUND BEETLE	BEMBIDION CONFUSUM					GNR		
BEETLE	A GROUND BEETLE	BEMBIDION SEMICINCTUM					GNR		
BEETLE	A GROUND BEETLE	CARABUS SERRATUS					GNR		
BEETLE	A GROUND BEETLE	CARABUS SYLVOSUS					GNR		
BEETLE	A GROUND BEETLE	CARABUS VINCTUS					GNR		
BEETLE	A GROUND BEETLE	OMOPHRON TESSELATUM					GNR		
BEETLE	A HISTER BEETLE	HISTER ARCUATUS							
BEETLE	A SILPHID BEETLE	THANATOPHILUS LAPPONICUS					GNR		
BEETLE	A TIGER BEETLE	CICINDELA TRANQUEBARICA				S1	G5		
BEETLE	AMERICAN BURYING BEETLE	NICROPHORUS AMERICANUS				FES1	G2G3		
BEETLE	BARRENS TIGER BEETLE	CICINDELA PATRUELA				SH	G3		
BEETLE	CLAY BANKS TIGER BEETLE	CICINDELA LIMBALIS		C		S1	G5		
BEETLE	ELDERBERRY BORER	DESMOCERUS PALLIATUS					GNR		
BEETLE	NORTHEASTERN BEACH TIGER BEETLE	CICINDELA DORSALIS	FT	SH		SX	G4T2		
BEETLE	PINE BARRENS TIGER BEETLE	CICINDELA FORMOSA		C		S1	G5T5		
BEETLE	PURPLE TIGER BEETLE	CICINDELA PURPUREA		C		S1	G5		
BEETLE	RED-BELLIED TIGER BEETLE	CICINDELA RUFIVENTRIS		C		S1	G5		
BEETLE	SALT MARSH TIGER BEETLE	CICINDELA MARGINATA		C		S1	G5		
BEETLE	SEABEACH (HAIRY NECKED) TIGER BEETLE	CICINDELA HIRTICOLLIS		C		S4	G5		
BEETLE		ALOBATES MORIO							
BEETLE		AMARA CHALCEA					GNR		
BEETLE		ANAEDUS BRUNNEUS					GNR		

GROUP	COMMON NAME	SCIENTIFIC NAME	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK	STATE	Other
BEETLE		CALATHUS INGRATUS					GNR		
BEETLE		GEOSPINUS INCRASSATUS							
BEETLE		AGONUM DARLINGTONI					GNR		
BEETLE		BRACHINUS CYANIPENNIS					GNR		
BEETLE		CALOSOMA WILCOX							
BEETLE		CANTHON PILULARIUS							
BEETLE		CANTHON VIGILANS					GNR		
BEETLE		COCCINELLA NOVEMNOTATA					GNR		
BEETLE		COTALPA LANIGERA					GNR		
BEETLE		SCAPHINOTUS ELEVATUS					GNR		
BEETLE		STRATEGUS ANTAEUS							
BUTTERFLY	ACADIAN HAIRSTREAK	SATYRIUM ACADICUM		C		S2S3	G5		
BUTTERFLY	BALTIMORE	EUPHYDRYAS PHAETON				S4	G4		
BUTTERFLY	BOG COPPER	LYCAENA EPIXANTHE		C		S3	G4G5		
BUTTERFLY	BROAD-WINGED SKIPPER	POANES VIATOR				S3	G5		
BUTTERFLY	BRONZE COPPER	LYCAENA HYLLUS				SU	G5		
BUTTERFLY	BROWN ELFIN	CALLOPHRYS AUGUSTINUS				S4	G5		
BUTTERFLY	COLUMBINE DUSKYWING	ERYNNIS LUCILIUS				SH	G4		
BUTTERFLY	DUSTED SKIPPER	ATRYTONOPSIS HIANNA		C		S3	G4G5		
BUTTERFLY	EASTERN PINE ELFIN	CALLOPHRYS NIPHON				S3	G5		
BUTTERFLY	EDWARDS' HAIRSTREAK	SATYRIUM EDWARDSII				S5	G4		
BUTTERFLY	FROSTED ELFIN	CALLOPHRYS IRUS		C		S1	G3		
BUTTERFLY	HARVESTER	FENISECA TARQUINIUS				SU	G4		
BUTTERFLY	HENRY'S ELFIN	CALLOPHRYS HENRICI		C		S1S2	G5		
BUTTERFLY	HESSEL'S HAIRSTREAK	CALLOPHRYS HESSELI		C		S2S3	G3G4		
BUTTERFLY	HICKORY HAIRSTREAK	SATYRIUM CARYAEVORUM		C		S1	G4		
BUTTERFLY	HOARY ELFIN	CALLOPHRYS POLIOS		C		S1	G5		
BUTTERFLY	MEADOW FRITILLARY	BOLORIA BELLONA		C		S?	G5		
BUTTERFLY	MULBERRY WING	POANES MASSASOIT		C		S3S4	G4		
BUTTERFLY	NORTHERN HAIRSTREAK	FIXSENIA FAVONIUS ONTARIO		C		S?	G4T4		
BUTTERFLY	NORTHERN PEARLY EYE	ENODIA ANTHEDON		C		S1	G5		
BUTTERFLY	OLIVE HAIRSTREAK	CALLOPHRYS GRYNEUS				S3	G5		
BUTTERFLY	PERSIUS DUSKYWING	ERYNNIS PERSIUS		SH		SH	G5		
BUTTERFLY	REGAL FRITILLARY	SPEYERIA IDALIA		SH		SX	G3		
BUTTERFLY	SLEEPY DUSKYWING	ERYNNIS BRIZO		C		S2	G5		
BUTTERFLY	WHITE M HAIRSTREAK	PARRHASIUS M-ALBUM		C		S?	G5		
CHORDATA (TUNICATE)	CLUB TUNICATE	STYELA CLAVA							
CHORDATA (TUNICATE)	GOLDEN STAR TUNICATE	BOTRYLLUS SCHLOSSERI							
CHORDATA (TUNICATE)	ORANGE SHEATH TUNICATE	BOTRYLLOIDES DIEGENSIS							
CHORDATA (TUNICATE)	SEA GRAPES	MOLGULA MANHATTENSIS							

GROUP	COMMON NAME	SCIENTIFIC NAME	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK	STATE	Other
CHORDATA (TUNICATE)	SEA VASE	CIONA INTESTINALIS							
CHORDATA (TUNICATE)		ASCIDIELLA ASPERSA							
CHORDATA (TUNICATE)		APLDIUM SPP.							
DAMSELFLY	AMERICAN RUBYSPOT	HETAERINA AMERICANA				S?	G5		
DAMSELFLY	BACKWATER BLUET	ENALLAGMA WEEWA		C		S?	G5		
DAMSELFLY	LYRE-TIPPED SPREADWING	LESTES UNGUICULATUS				S?	G5		
DAMSELFLY	PINE BARRENS BLUET	ENALLAGMA RECURVATUM		C		S2	G3		
DAMSELFLY	SCARLET BLUET	ENALLAGMA PICTUM		C		S?	G3		
DAMSELFLY	SOUTHERN SPRITE	NEHALENNIA INTEGRICOLLIS				S?	G5		
DRAGONFLY	ARROW CLUBTAIL	STYLURUS SPINICEPS				SNR	G5		
DRAGONFLY	ARROWHEAD SPIKETAIL	CORDULEGASTER OBLIQUA		C		S?	G4		
DRAGONFLY	BROOK SNAKETAIL	OPHIOGOMPHUS ASPERSUS		ST		S1	G3G4		
DRAGONFLY	COMET DARNER	ANAX LONGIPES				S?	G5		
DRAGONFLY	COMMON SANDDRAGON	PROGOMPHUS OBSCURUS				S?	G5		
DRAGONFLY	COPPERY EMERALD	SOMATOCHLORA GEORGIANA		C		SU	G3G4		
DRAGONFLY	CRIMSON-RINGED WHITEFACE	LEUCORRHINIA GLACIALIS				S?	G5		
DRAGONFLY	DELTA-SPOTTED SPIKETAIL	CORDULEGASTER DIASTATOPS				S?	G5		
DRAGONFLY	MAINE SNAKETAIL	OPHIOGOMPHUS MAINENSIS				SU	G4		
DRAGONFLY	MUSTACHED CLUBTAIL	GOMPHUS ADELPHUS				S?	G4		
DRAGONFLY	RINGED BOGHAUNTER	WILLIAMSONIA LINTNERI		C		S2	G3		
DRAGONFLY	SOUTHERN PYGMY CLUBTAIL	LANTHUS VERNALIS				S?	G4		
DRAGONFLY	SPATTERDOCK DARNER	AESHNA MUTATA		C		S1?	G3G4		
DRAGONFLY	SPINE-CROWNED CLUBTAIL	GOMPHUS ABBREVIATUS				S1	G3G4		
DRAGONFLY	TAPER-TAILED DARNER	GOMPHAESCHNA ANTILOPE				S1	G4		
DRAGONFLY	TWIN-SPOTTED SPIKETAIL	CORDULEGASTER MACULATA				S?	G5		
DRAGONFLY	ZEBRA CLUBTAIL	STYLURUS SCUDDERI		ST		S1	G4		
DRAGONFLY		NEUROCORDULIA OBSOLETA							
ECHINODERM	SEA STAR	ASTERIAS SPP.							
MOLLUSK	BLUE MUSSEL	MYLITUS EDULIS							
MOLLUSK	DEEP SEA SCALLOP	PLACOPECTEN MAGELLANICUS							
MOLLUSK	LONG FINNED SQUID	LOLIGO PEALEII							
MOLLUSK	OCEAN (BLACK) QUAHOG	ARCTICA ISLANDICA							
MOLLUSK	QUAHOG	MERCENERIA MERCENARIA							
MOLLUSK	WHELK	BUSYCON SPP.					GNR		
MOTH	A BUCK MOTH	HEMILEUCA MAIA				S?	G5		
MOTH	A NOCTUID MOTH	METAXAGLAEA VIOLACEA				S2S4	G5		
MOTH	A NOCTUID MOTH	APLECTOIDES CONDITA		C		S1S3	G4		
MOTH	A NOCTUID MOTH	ZALE SUBMEDIANA		C		S2	G4		
MOTH	AN ARCTIID MOTH	GRAMMIA SPECIOSA		C		S1	G4G5		
MOTH	BARRENS CHAETAGLAEA	CHAETAGLAEA TREMULA				S4	G5		
MOTH	BARRENS XYLOTYPE	XYLOTYPE CAPAX				S2S4	G4		

GROUP	COMMON NAME	SCIENTIFIC NAME	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK	STATE	Other
MOTH	BENJAMIN'S ABAGROTIS	ABAGROTIS CRUMBI BENJAMINI		C		S1S2	G4T3		
MOTH	BLUEBERRY SALLOW	APHARETRA DENTATA		C		S1S2	G4		
MOTH	COASTAL SWAMP METARRANTHIS	METARRANTHIS PILOSARIA		C		S1S3	G3G4		
MOTH	NOCTUID MOTH	LITHOPHANE BAILEYI				S?	G5		
MOTH	PALE GREEEN PINION MOTH	LITHOPHANE VIRIDIPALLENS		C		S2S3	G4		
MOTH	PINE BARRENS NEPYTIA	NEPYTIA SP 1				S1S2	G4G5		
MOTH	PINE BARRENS ZALE	ZALE SP 1		C		S1	G3Q		
MOTH	PITCHER PLANT BORER	PAPAIPEMA APPASSIONATA		C		S1	G4		
MOTH	THAXTER'S PINON MOTH	LITHOPHANE THAXTERI				SU	G4		
MOTH		CAPIS CURVATA				S?	G4		
MOTH		CEPPHIS DECOLORARIA				S?	G5		
MOTH		CONSERVULA ANODONTA				S?	G4		
MOTH		CRYMODES BURGESSI							
MOTH		FARONATA RUBRIPENNIS							
MOTH		OROSAGROTIS PERPOLITA							
MOTH		CYCNIA INOPINATUS					G4		
MOTH		CATOCALA MULIERCULA					G5		
MOTH		THYSANOPYGA INTRACTATA					G5		
MOTH		PSAPHIDA THAXTERIANUS					G4		
MOTH		ARGYROSTROTIS ANILIS					G5		
MOTH		CATOCALA ANTINYMPHA				S?	G5		
MOTH		SIDERIDIS MARYX					G4		
MOTH		ZALE CUREMA				S?	G3G4		
MOTH		ZANCLOGNATHA MARTHA				S?	G4		
MOTH		MACROCHILO LOUISIANA				S?	G4		
MOTH		MEROPLEON DIVERSICOLOR				S?	G4		
MOTH		EXYRA FAX				S?	G4		
MOTH		FAGITANA LITTERA				S?	G4		
MOTH		HOMOPHOBERIA CRISTATA				S?	G4		
MOTH		IODOPEPLA U-ALBUM				S?	G5		
MOTH		OLIGIA MINUSCULA				S?	G4		
MOTH		SCOPULA PURATA				S?	G4		
MOTH		PLAGODIS KUETZINGI					G5		
MOTH		DARAPSA VERSICOLOR				S?	G4		
MUSSEL	ALEWIFE FLOATER	ANODONTA IMPLICATA				S?	G5		Mussels (CS)
MUSSEL	BROOK FLOATER	ALASMIDONTA VARICOSA		SH	NESTAT	SH	G3		Mussels (T)
MUSSEL	EASTERN PEARLSHELL	MARGARITIFERA MARGARITIFERA		C		S2	G4		Mussels (SC)
MUSSEL	EASTERN POND MUSSEL	LIGUMIA NASUTA		C	NESTAT	S1	G4G5		Mussels (SC)
MUSSEL	LAMPMUSSEL	LAMPSILIS RADIATA		C		S1	G5		Mussels (CS)
MUSSEL	SQUAWFOOT	STROPHITUS UNDULATUS		C		S1	G5		Mussels (CS)
MUSSEL	TIDEWATER MUCKET	LEPTODEA OCHRACEA		SH	NESTAT	S?	G4		Mussels (SC)

GROUP	COMMON NAME	SCIENTIFIC NAME	FEDSTAT	STSTAT	OTSTAT	SRANK	GRANK	STATE	Other
MUSSEL	TRIANGLE FLOATER	ALASMIDONTA UNDULATA				S?	G4		Mussels (SC)
PORIFERA	SPONGE BEDS	FAMILY PORIFERA							

Appendix 2a. Relative Condition of Rhode Island's Key Habitats and Crosswalk to Standard Codes

This appendix describes the relative condition of Rhode Island's key habitats (Element 2), the degree of threats to each habitat (Element 3), and provides a crosswalk linkage between the CWCS key habitats and the land cover codes of RIGIS, land use/land cover classifications of Anderson et al. (1976), classes of Cowardin et al. (1979), the natural communities of Enser and Lundgren (2005), and cultural communities of Rhode Island. The locations and distributions of the various communities were determined through existing GIS coverages and analyses for Rhode Island such as those of the RIGIS, and other partners where information was available. These maps are presented in Appendix 2b. The relative condition of each community was assessed by consulting the best available information from RI DEM DFW and RI NHS databases, staff and literature and is ranked as Excellent (E), Good (G), Fair (F), and Poor (P). The degree of threats is ranked as High (H), Medium (M) or Low (L) as determined by a review of the best available information on threats from existing conservation and management plans, published and unpublished literature, and the expert opinion of RI DEM DFW staff and its partners. A "U" in either threat or condition column signifies that there is insufficient information and knowledge to assign a status to either (U = Unknown). IAFWA guidance (2002) and subsequent Steering Committee correspondence recommended that the crosswalk linkages to regional and national standardized classification systems for use in large landscape level analysis and monitoring. This crosswalk directly addresses Element 2 and IAFWA guidance.

Broad Habitat Grouping		Key Habitat	Natural Community*	RIGIS / Anderson / Cowardin Code		#	Threat*	Condition*	Comments
Forests	Deciduous Forest	Deciduous forest beech/maple	Beech - Maple - Red Oak Forest	310	DFBM	1	M	G	
		Deciduous forest oak/heath	Oak/ Heath Forest	310	DFO	2	M	G	Oak forests generally in good condition relatively speaking for a widespread community.
		Deciduous forest oak/hickory	Oak - Hickory Forest	310	DFOH	3	M	G	
		Deciduous forest oak/holly	Oak-Holly Forest	310	DFBG	4	M	G	
		Deciduous forest unspecified		310	DF	5			
	Evergreen Forest	Evergreen forest hemlock	Hemlock - Hardwood Forest	320	EFH	6	H	F	Although widespread, threat reflects woolly adelgid and conversion of these forests to deciduous types; condition fair because many lost already.
		Evergreen forest pine	White Pine - Oak Forest	320	EFP	7	M	G	
		Evergreen forest red cedar	Red Cedar Rocky Summit	320	EFR	8	M	F	

Broad Habitat Grouping		Key Habitat	Natural Community*	RIGIS / Anderson / Cowardin Code		#	Threat*	Condition*	Comments
		Evergreen forest spruce (plantation)		320	EFS	9	L	F	
		Evergreen forest unspecified		320	EF	10	U	U	
	Pitch Pine Communi-ties	Pitch pine/oak	Pitch Pine - Oak Forest		EFPO	11	H	F	
		Pitch pine/scrub oak barren	Pitch Pine/ Scrub Oak Barrens	320	EFPS	12	H	F	Threat is high for all Pitch Pine types because highly developable; also fire gone to maintain barrens. Condition is fair based on outright loss of habitat and succession in areas that have not burned.
	Mixed Forest	Mixed forest deciduous unspecified		330	MFD	13	M	G	
		Mixed forest evergreen unspecified		340	MFE	14	M	G	
		Forest unspecified		300	F	15	U	U	
Non-forested Terrestrial	Agriculture	Agricultural cropland hay		220	AGH	16	H	P	
		Agricultural grazing		210	AGP	17	H	P	
		Idle agriculture		250	AF	18	M	F	

Broad Habitat Grouping		Key Habitat	Natural Community*	RIGIS / Anderson / Cowardin Code		#	Threat*	Condition*	Comments
		Agricultural land unspecified		200	AG	19	U	U	
	Early Successional	Maritime grassland	Maritime Grassland	400	BRG	20	H	F	Threat is high because due to development pressure; condition of grasslands fair because little is left of historic range. (These are not "managed" habitats).
		Coastal shrubland	Maritime Shrubland	400	BRS	21	H	G	
	Sparsely Vegetated	Barren land unspecified		700	B	22	U	U	
		Beach grass dune		400	BR	23	M	F	
		Freshwater beach		710	BF	24	M	G	
		Gravel pits and quarries		740	BA	25	L	G	
		Inland dune / cobble	Inland Dune/ Sand Barren	720	IDC	26	H	P	
		Inland dune / sand barren	Inland Dune/ Sand Barren	720	IDS	27	H	P	Very small occurrences and no fire to maintain them naturally.
		Natural quartz rock outcrops		730	ROQ	28	M	F	Not much of this habitat type.

Broad Habitat Grouping		Key Habitat	Natural Community*	RIGIS / Anderson / Cowardin Code		#	Threat*	Condition*	Comments
Wetland	Emergent Wetland	Emergent fen/bog	Acidic Graminoid Fen	600	EMB	29	M	F	
		Coastal plain quagmire	Coastal Plain Quagmire	600	EMBQ	30	M	G	
		Emergent marsh deep	Semipermanently Flooded (Deep) Emergent Marsh	600	EMAD	31	M	F	
		Emergent marsh shallow / wet meadow	Seasonally Flooded (Shallow) Emergent Marsh	600	EMAS	32	M	F	
		Freshwater wetland unspecified		600	FW	33	U	U	
		Seasonally flooded coastal plain pondshores	Coastal Plain Pondshore	600	EMAC	34	M	G	Coastal plain ponds have been conservation targets for many years and many have been secured.
	Shrub Wetland	Shrub bog unspecified	Dwarf Shrub Fen/Bog	600	SSB	35	M	G	Although not abundant, community is generally in good condition and protected by wetlands regulations.
		Shrub swamp alder	Shrub Swamp	600	SSAA	36	M	G	
		Shrub swamp water willow	Shrub Swamp	600	SSAD	37	M	F	

Broad Habitat Grouping		Key Habitat	Natural Community*	RIGIS / Anderson / Cowardin Code		#	Threat*	Condition*	Comments
	Forested Wetland	Forested coniferous wetland white cedar	Atlantic White Cedar Swamp	600	FOAC	38	M	G	Although of regional conservation concern, Rhode Island white cedar habitats generally in good condition and widely distributed.
		Forested coniferous wetland unspecified		600	FOA	39			
		Forested deciduous red maple swamp	Floodplain Forest and Red Maple Swamp	600	FOBMA	40	M	F	Although a common community, subject to fragmentation and isolation
		Forested deciduous wetland unspecified	Floodplain Forest	600	FOB	41	M	F	
Freshwater	Springs	Springs	Forested Seep	600	SS	42	H	F	More work needed to assess this habitat type.
	Rivers and Streams	River blackwater creek	Blackwater Creek	500	RBC	43	M	F	
		River upper perennial	Upper Perennial Stream/ River	500	RUP	44	M	G	

Broad Habitat Grouping		Key Habitat	Natural Community*	RIGIS / Anderson / Cowardin Code		#	Threat*	Condition*	Comments
		River lower perennial	Lower Perennial Stream/ River	500	RLP	45	M	F	
	Lakes and Ponds	Lacustrine eutrophic lake/pond		500	LE	46	M	G	
		Lacustrine oligotrophic lake/pond	Oligotrophic Lake, Oligotrophic Pond	500	LO	47	M	G	
		Permanent fishless pond		500	PFP	48	U	U	
		Seasonally flooded pond	Vernal Pool	500	SFP	49	H	G	
		Semi-permanently flooded pond	Vernal Pool	500	SPP	50	H	G	Little protection offered by regulation; no protection of surrounding uplands.
Marine and Estuarine	Intertidal	Estuarine intertidal emergent brackish marsh	Estuarine Intertidal	550	EEBM	51	M	G	
		Estuarine bluff clay	Maritime Bluff	550	EBC	52	L	G	Most of the estuarine/maritime communities are relatively stable with threats reduced in recent decades by regulation.
		Estuarine rocky shore bedrock	Maritime Rocky Cliff	550	ERSB	53	L	G	

Broad Habitat Grouping		Key Habitat	Natural Community*	RIGIS / Anderson / Cowardin Code		#	Threat*	Condition*	Comments
		Estuarine unconsolidated shore sand dune beach	Marine Intertidal Gravel/ Sand Beach		EUSG	54	U	U	
		Estuarine unconsolidated shore cobble / shell		550	EUC	55	L	G	
		Estuarine beaches unspecified	Maritime Beach Strand	710	BE	56	M	F	
	Subtidal	Estuarine subtidal aquatic bed rooted vascular	Brackish Subtidal Aquatic Bed	550	ESAA ESAFV ESARV	57	M	G	
		Hard / Rocky Bottom			MRB ERB	58	U	U	
		Soft Bottom / Unconsolidated Sediments			MUB EUB	59	U	U	
		Varied Bottom / Invertebrate Beds			MRF ERF	60	U	U	
		Estuarine / Marine (open water)	Marine Open Water	550	EOW MOW	61	L	G	
Other		Predator free islands			PFI	62	M	F	
		Urban		100		63	L	E	
		Unknown			K	64	U	U	

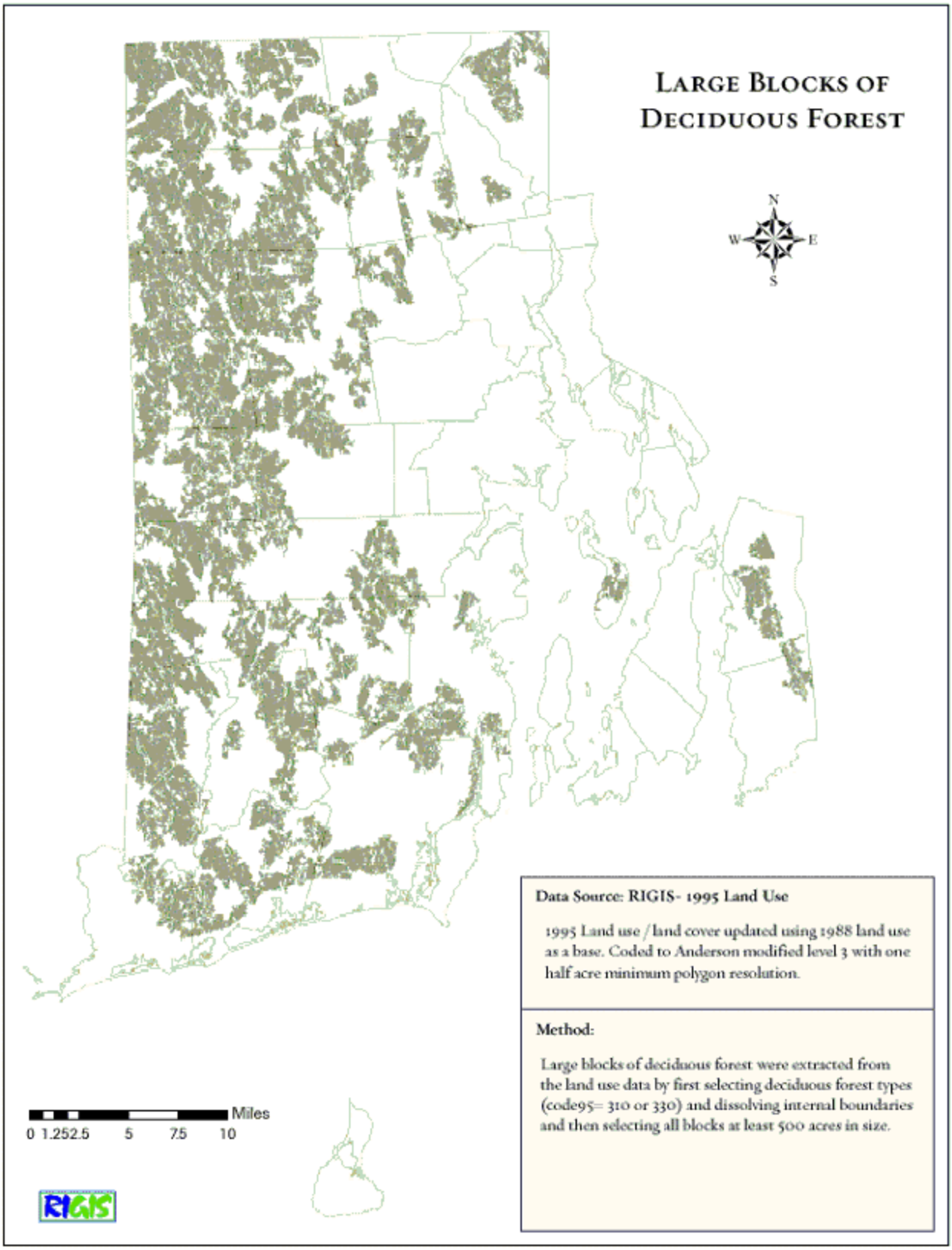
Appendix 2b. Maps of Key Habitats and information on data sources and mapping methods

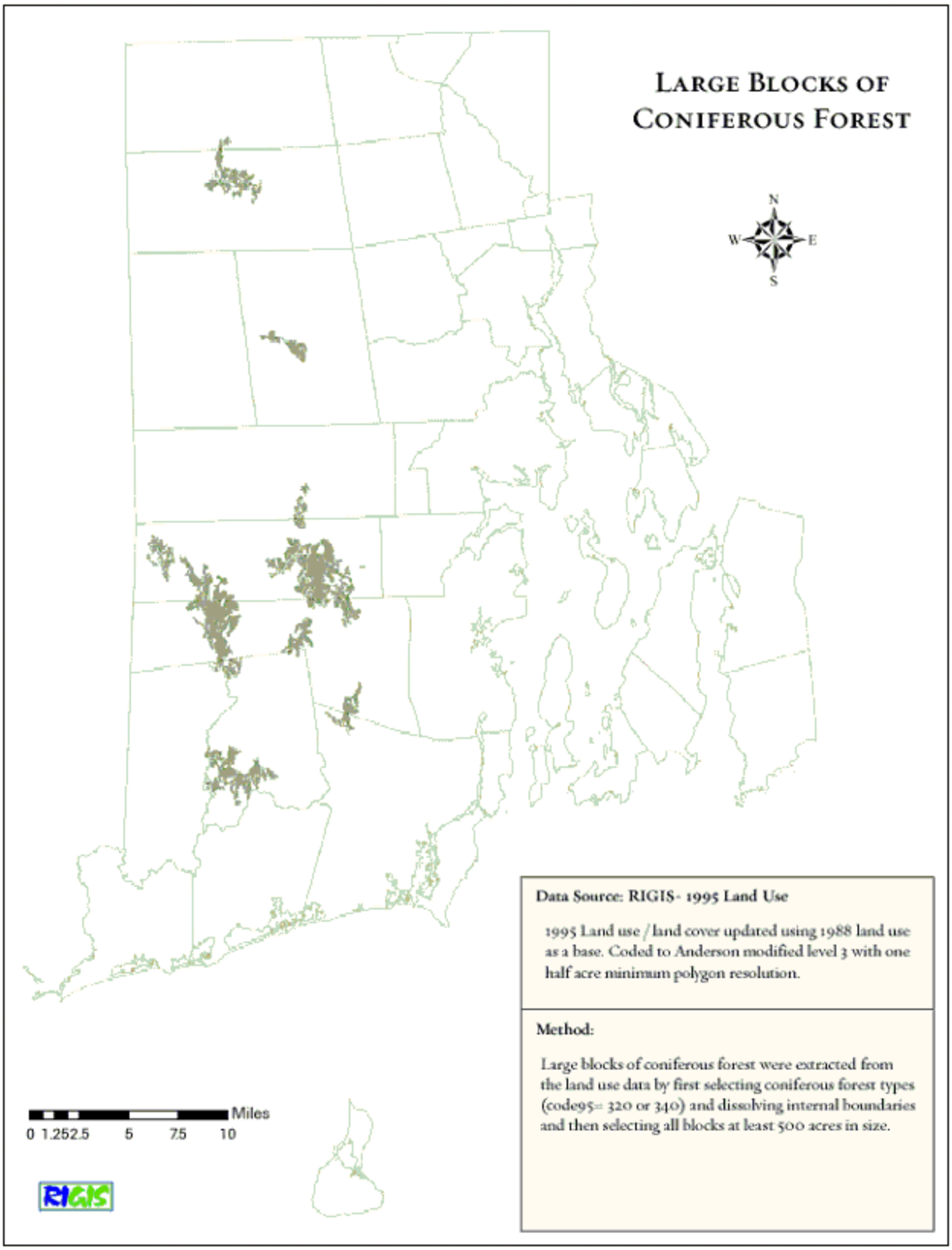
The following maps were produced for this CWCS effort through a collaborative effort of the CWCS Habitat/GIS Team. This team was assembled to assess the available geospatial data, evaluate the status of key habitats and to map them at the most accurate level possible. The team identified and mapped as many key habitats as possible, and then identified the data necessary to map the remaining habitats. It was determined that insufficient information existed for most of the 64 key habitats to accurately map their distribution and determine their condition. A statewide conservation action and research need in Chapter 4 was developed to address this needed information.

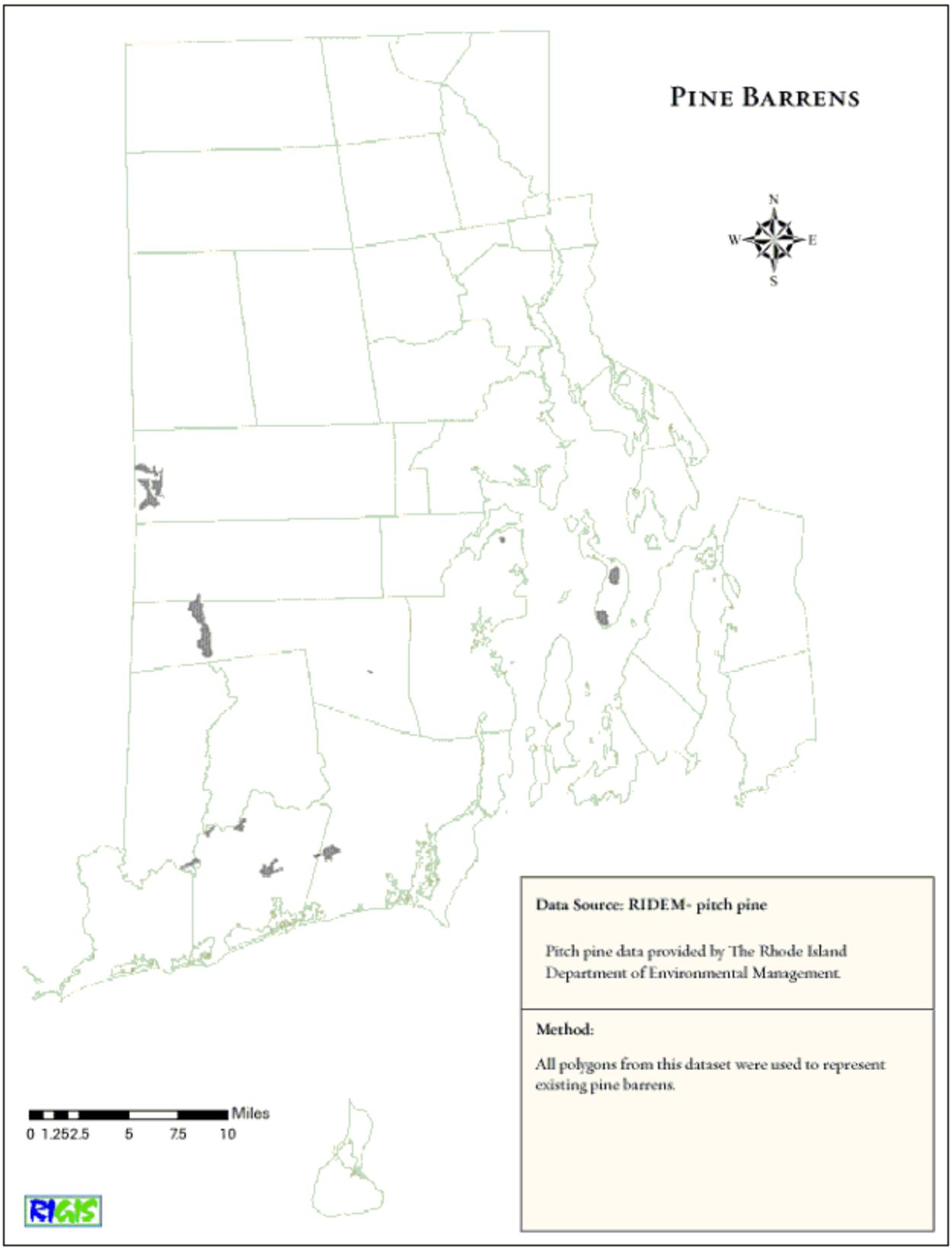
These maps resulted from the significant information and knowledge contributed from the team representing major federal, state, and local data sources. They would not have been possible without the extensive GIS efforts of Kevin Ruddock, Paul Jordan and Peter August, as well as the ecological knowledge of Christopher Raithel, Richard Enser, and Julie Lundgren. The team focused their mapping efforts on those key habitats containing the highest number of GCN species. Additional maps in Chapter 4 were provided by TCI as placeholders for presentation purposes, to help describe the location and distribution of these key habitat categories and were not included in this analysis. Data sources and layers are indicated on each map. Please note that these maps are designed for CWCS presentation purposes only, some with buffers and line-width modifications, and therefore do not reflect the exact location of these habitats. They are intended to provide general information on the location and distribution of these key habitats to guide conservation efforts in the state. More detailed maps will be produced in future updates and revisions, as more accurate data are collected and digitized through the implementation of this CWCS.

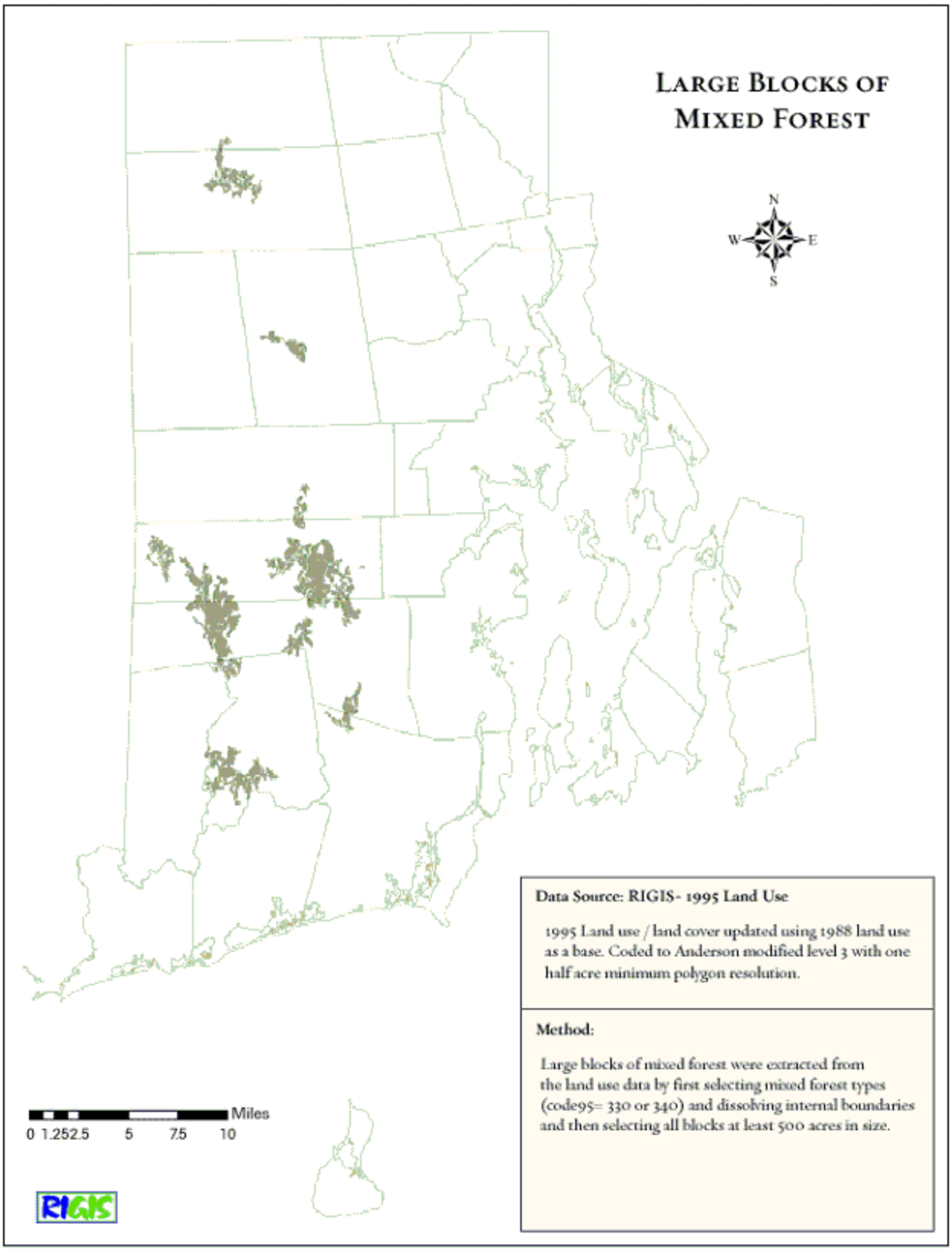
<u>List of following maps</u>

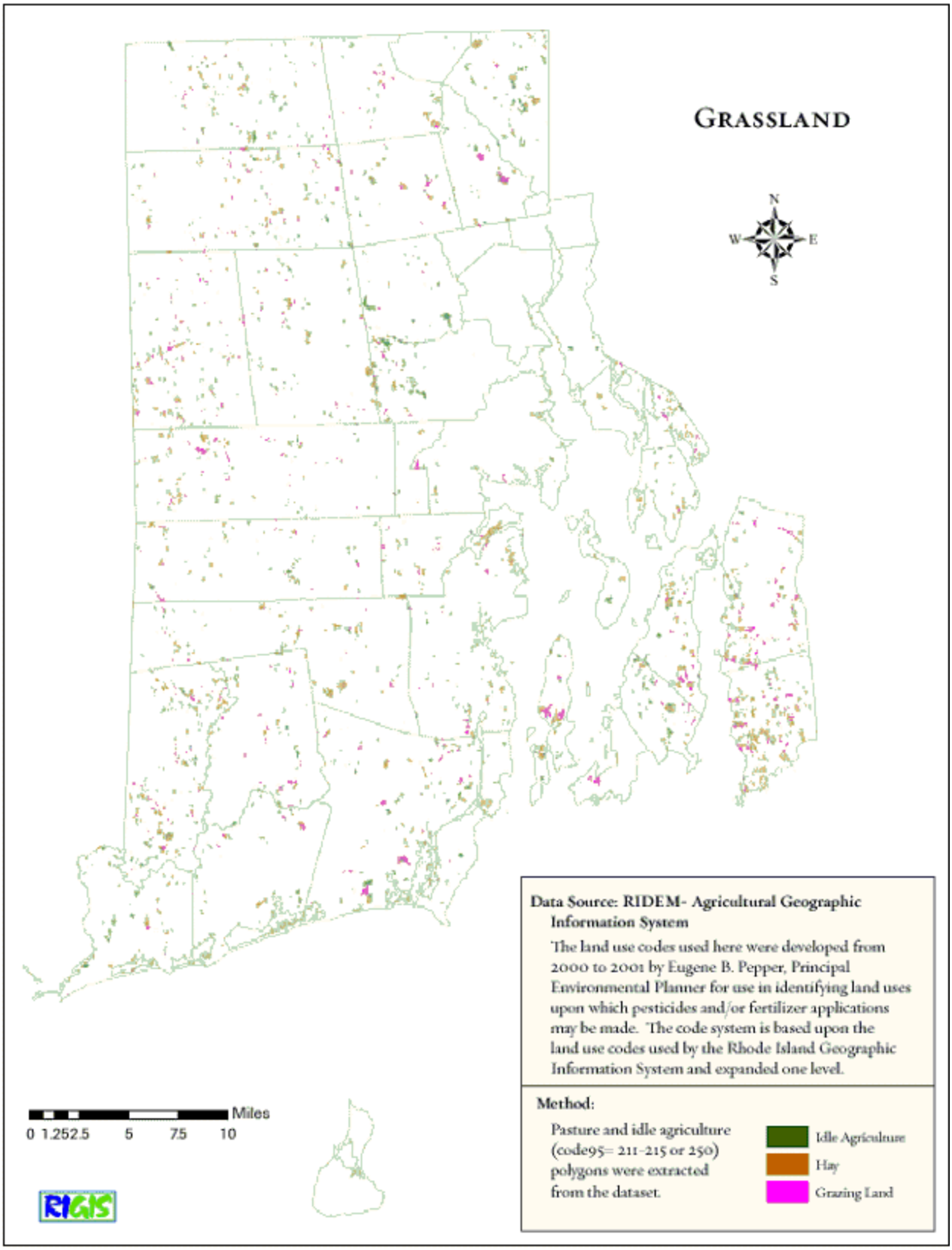
- Large Blocks of Deciduous Forest
- Large Blocks of Coniferous Forest
- Pine Barrens
- Large Blocks of Mixed Forest
- Grasslands
- Coastal Brushland
- Wetland and Surrounding Habitat
- Emergent Fen or Bog
- Emergent Marsh
- Coniferous Wetland
- Rivers and Streams
- Coldwater Streams (100 m Bufffer)
- Estuarine Unconsolidated Shore
- Estuarine Unconsolidated Sand
- Eelgrass Beds
- Anadromous Fish Stream Reaches and Ponds
- Disturbed Areas
- Natural Land away from Disturbance
- Legend for Figure 2.2 Geologic Map of Rhode Island

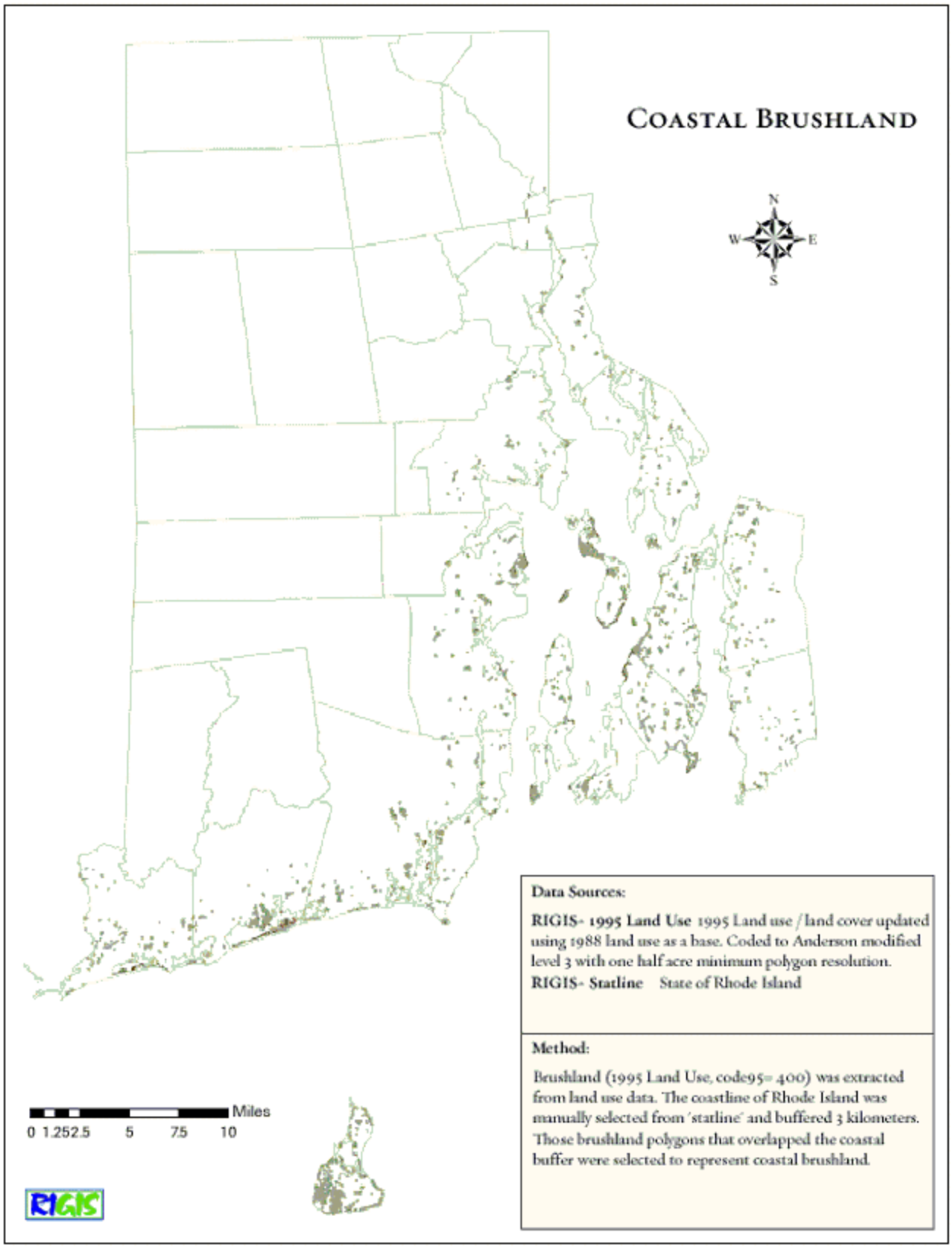

LARGE BLOCKS OF DECIDUOUS FOREST
N
W
E
S
Data Source: RIGIS- 1995 Land Use
1995 Land use / land cover updated using 1988 land use as a base. Coded to Anderson modified level 3 with one half acre minimum polygon resolution.
Method:
Large blocks of deciduous forest were extracted from the land use data by first selecting deciduous forest types (code95= 310 or 330) and dissolving internal boundaries and then selecting all blocks at least 500 acres in size.
Miles
0 1.252.5 5 7.5 10
RIGIS

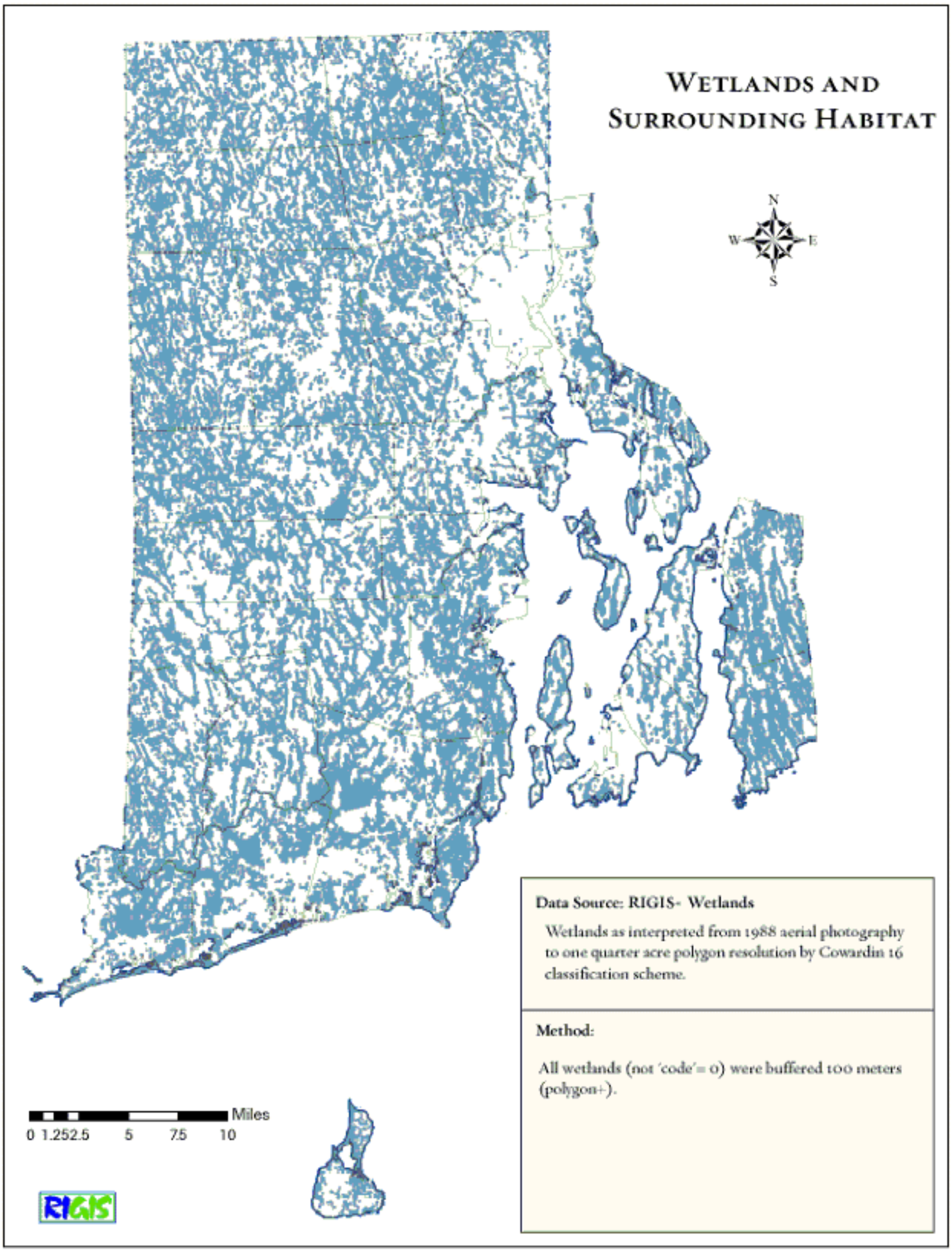

LARGE BLOCKS OF
CONIFEROUS FOREST
N
W
E
S
Data Source: RIGIS- 1995 Land Use
1995 Land use / land cover updated using 1988 land use as a base. Coded to Anderson modified level 3 with one half acre minimum polygon resolution.
Method:
Large blocks of coniferous forest were extracted from the land use data by first selecting coniferous forest types (code95= 320 or 340) and dissolving internal boundaries and then selecting all blocks at least 500 acres in size.
Miles
0 1.252.5 5 7.5 10
RIGIS

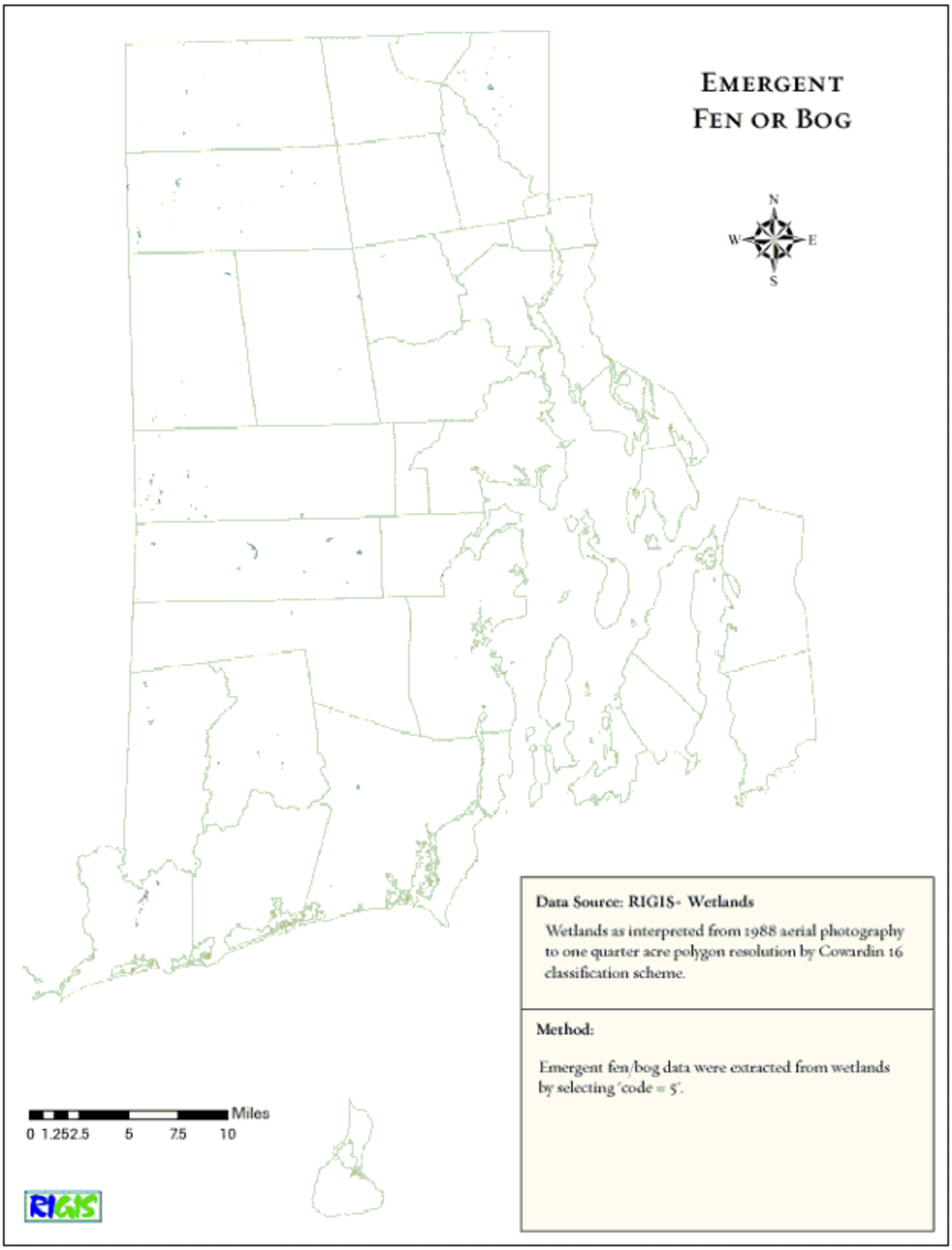

PINE BARRENS
N
W
E
S
Data Source: RIDEM- pitch pine
Pitch pine data provided by The Rhode Island Department of Environmental Management.
Method:
All polygons from this dataset were used to represent existing pine barrens.
Miles
0 1.252.5 5 7.5 10
RIGIS

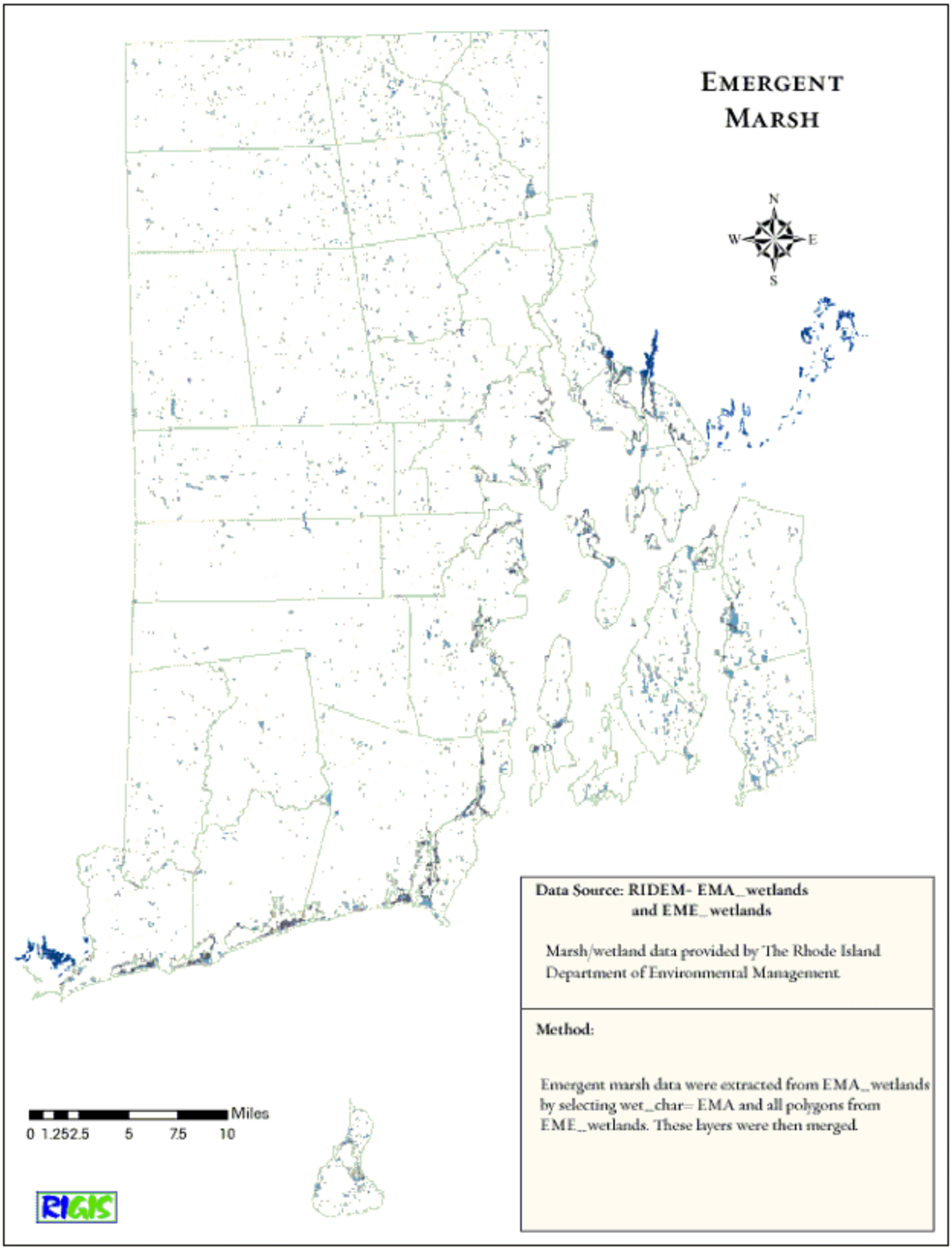

LARGE BLOCKS OF MIXED FOREST
N
W
E
S
Data Source: RIGIS- 1995 Land Use
1995 Land use / land cover updated using 1988 land use as a base. Coded to Anderson modified level 3 with one half acre minimum polygon resolution.
Method:
Large blocks of mixed forest were extracted from the land use data by first selecting mixed forest types (code95= 330 or 340) and dissolving internal boundaries and then selecting all blocks at least 500 acres in size.
Miles
0 1.252.5 5 7.5 10
RIGIS

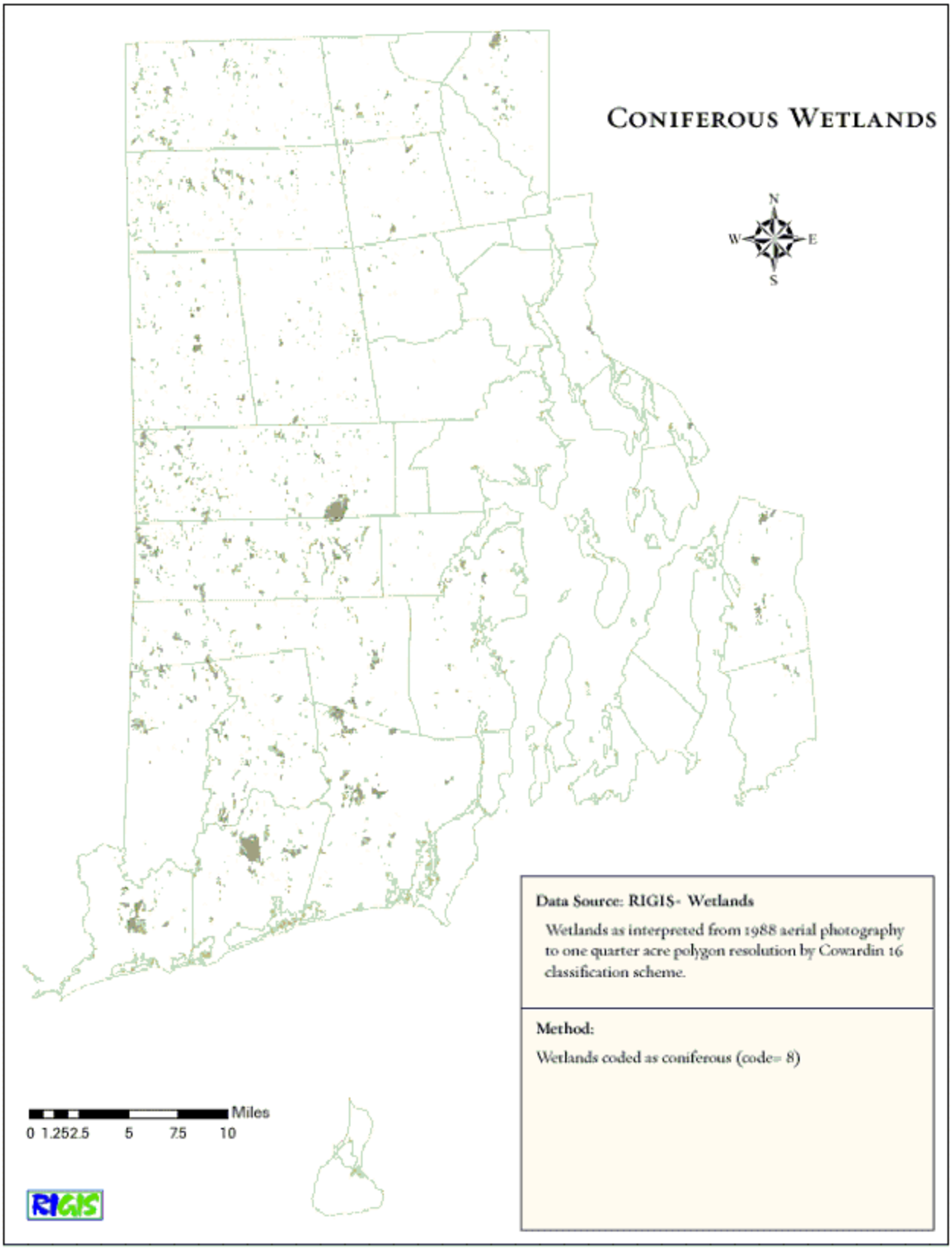

GRASSLAND
N
W
E
S
Data Source: RIDEM- Agricultural Geographic Information System
The land use codes used here were developed from 2000 to 2001 by Eugene B. Pepper, Principal Environmental Planner for use in identifying land uses upon which pesticides and/or fertilizer applications may be made. The code system is based upon the land use codes used by the Rhode Island Geographic Information System and expanded one level.
Method:
Pasture and idle agriculture (code95= 211-215 or 250) polygons were extracted from the dataset.
Idle Agriculture
Hay
Grazing Land
Miles
0 1.252.5 5 7.5 10
RIGIS

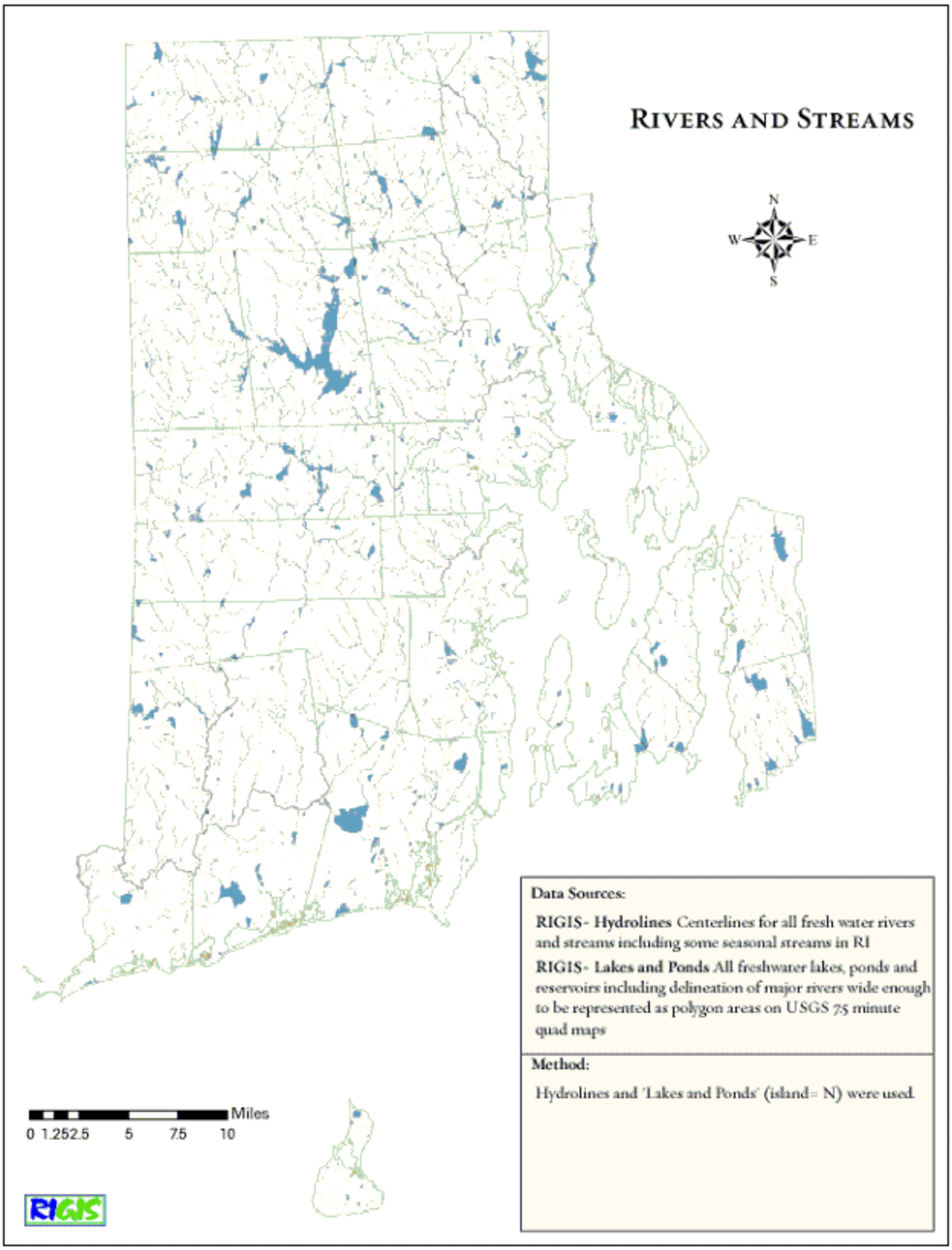

COASTAL BRUSHLAND
N
W
E
S
Data Sources:
RIGIS- 1995 Land Use 1995 Land use / land cover updated using 1988 land use as a base. Coded to Anderson modified level 3 with one half acre minimum polygon resolution.
RIGIS- Statline State of Rhode Island
Method:
Brushland (1995 Land Use, code95= 400) was extracted from land use data. The coastline of Rhode Island was manually selected from 'statline' and buffered 3 kilometers. Those brushland polygons that overlapped the coastal buffer were selected to represent coastal brushland.
Miles
0 1.252.5 5 7.5 10
RIGIS

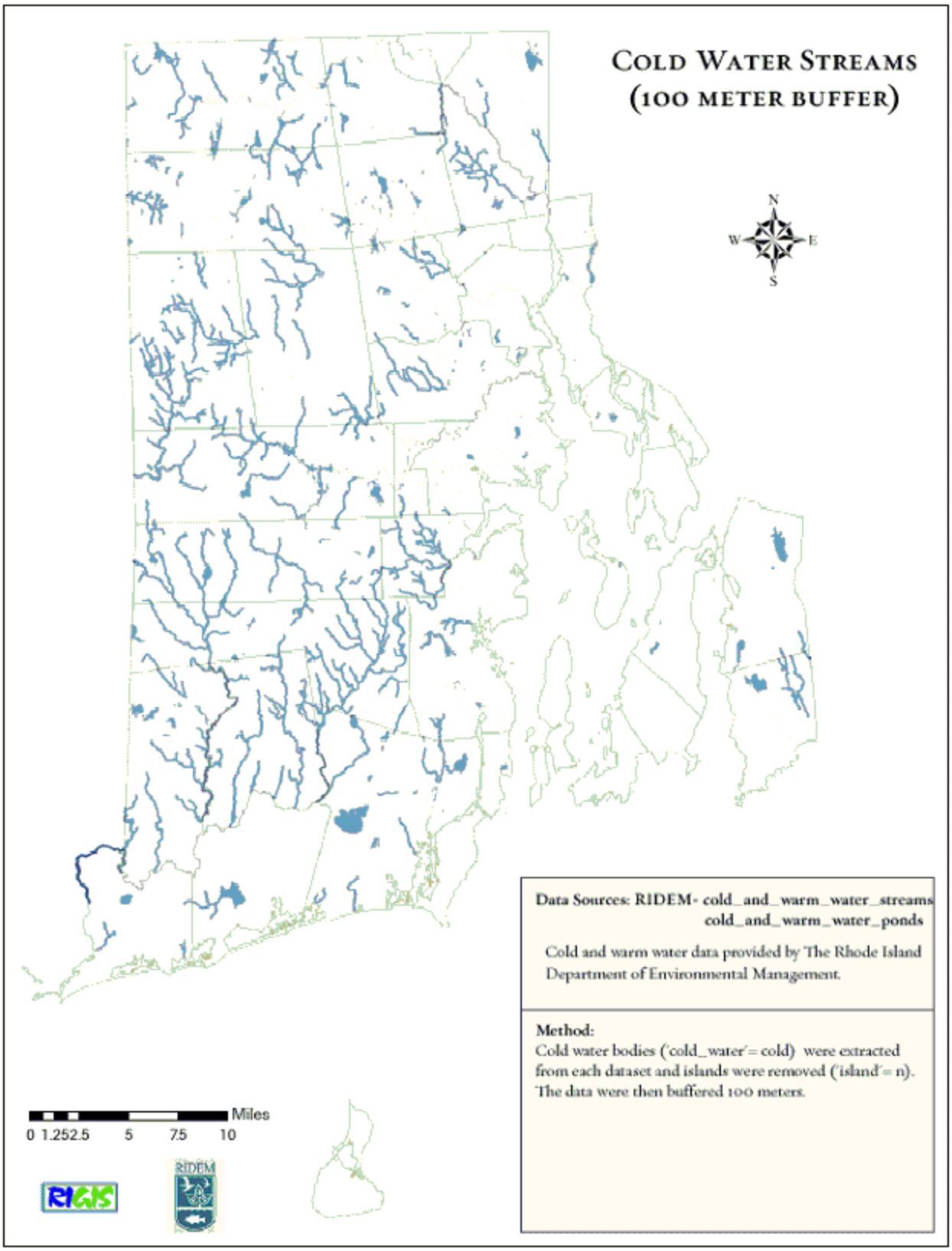

WETLANDS AND
SURROUNDING HABITAT
N
W
E
S
Data Source: RIGIS- Wetlands
Wetlands as interpreted from 1988 aerial photography to one quarter acre polygon resolution by Cowardin 16 classification scheme.
Method:
All wetlands (not 'code'= 0) were buffered 100 meters (polygon+).
Miles
0 1.252.5 5 7.5 10
RIGIS

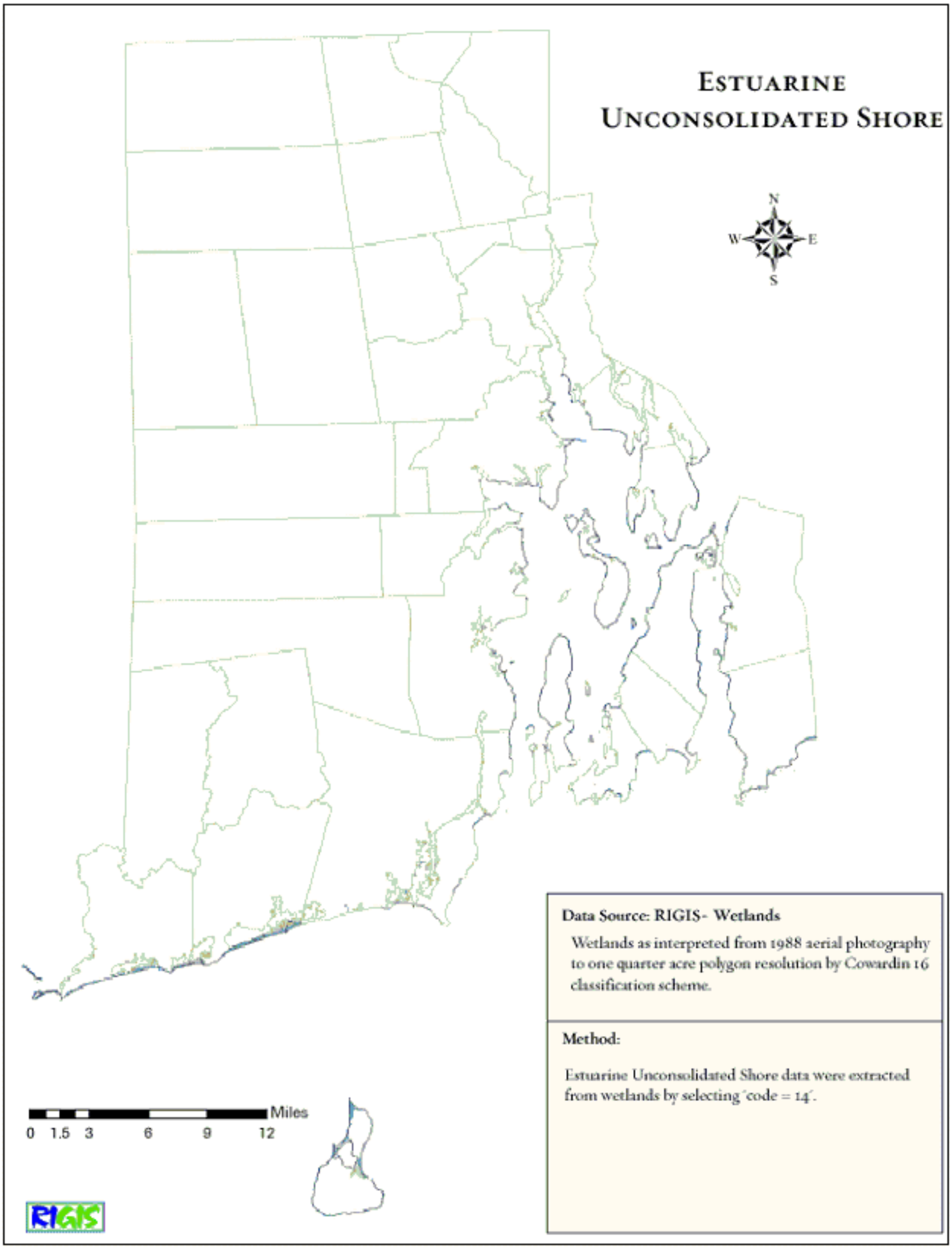

EMERGENT
FEN OR BOG
N
W
E
S
Data Source: RIGIS- Wetlands
Wetlands as interpreted from 1988 aerial photography to one quarter acre polygon resolution by Cowardin 16 classification scheme.
Method:
Emergent fen/bog data were extracted from wetlands by selecting 'code = 5'.
Miles
0 1.252.5 5 7.5 10
RIGIS

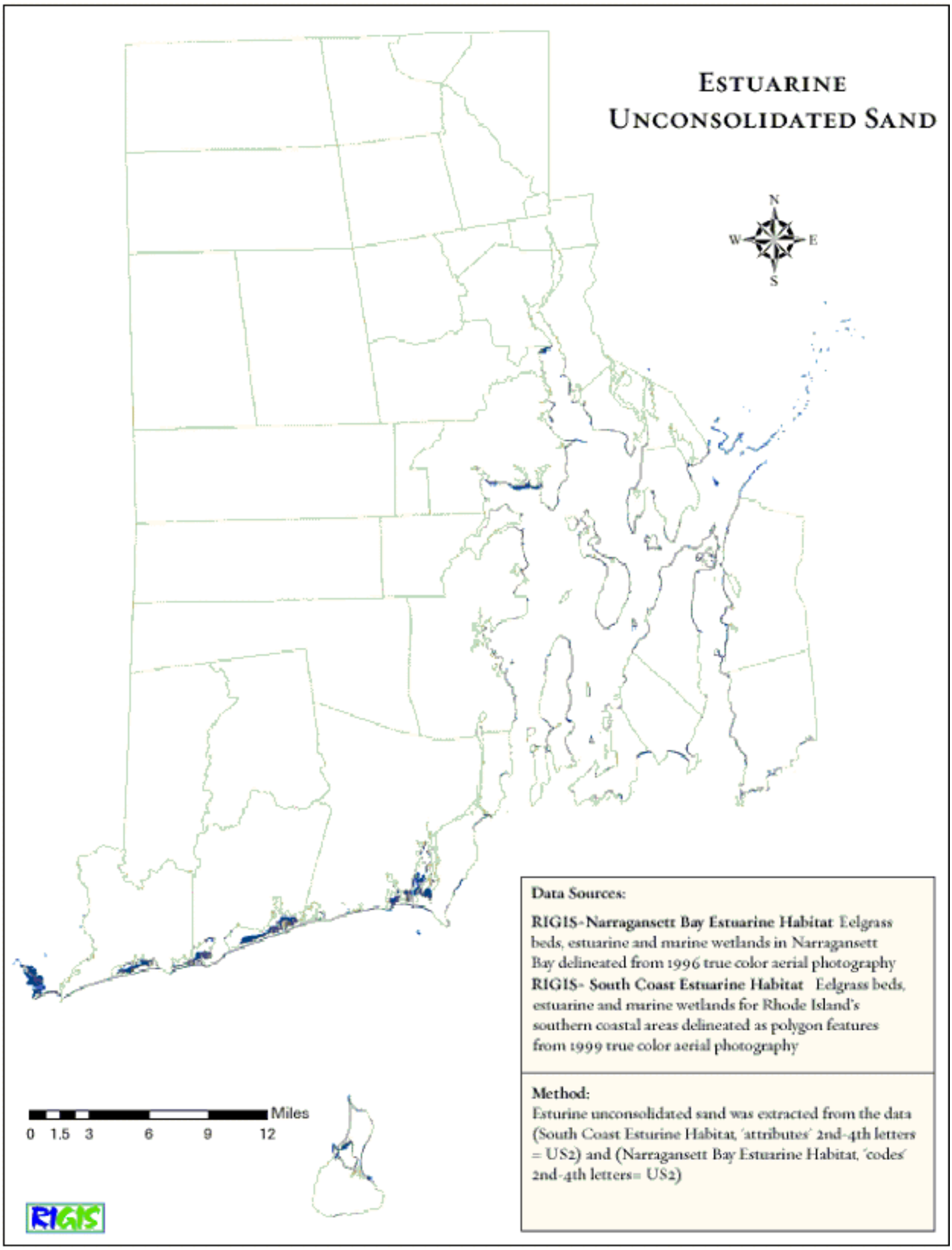

EMERGENT MARSH
N
W
E
S
Data Source: RIDEM- EMA_wetlands and EME_wetlands
Marsh/wetland data provided by The Rhode Island Department of Environmental Management.
Method:
Emergent marsh data were extracted from EMA_wetlands by selecting wet_char= EMA and all polygons from EME_wetlands. These layers were then merged.
Miles
0 1.252.5 5 7.5 10
RIGIS

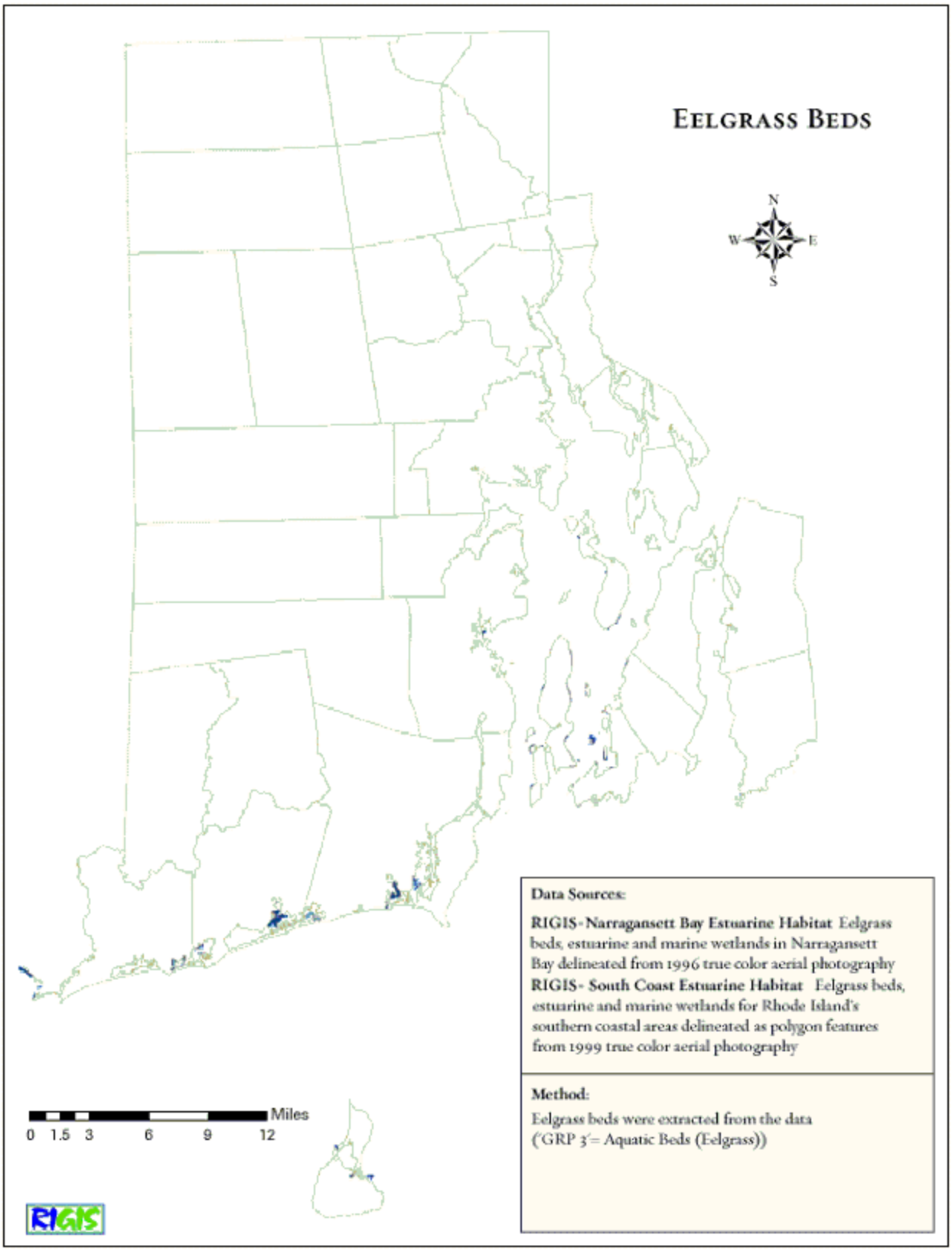

CONIFEROUS WETLANDS
N
W
E
S
Data Source: RIGIS- Wetlands
Wetlands as interpreted from 1988 aerial photography to one quarter acre polygon resolution by Cowardin 16 classification scheme.
Method:
Wetlands coded as coniferous (code= 8)
Miles
0 1.252.5 5 7.5 10
RIGIS

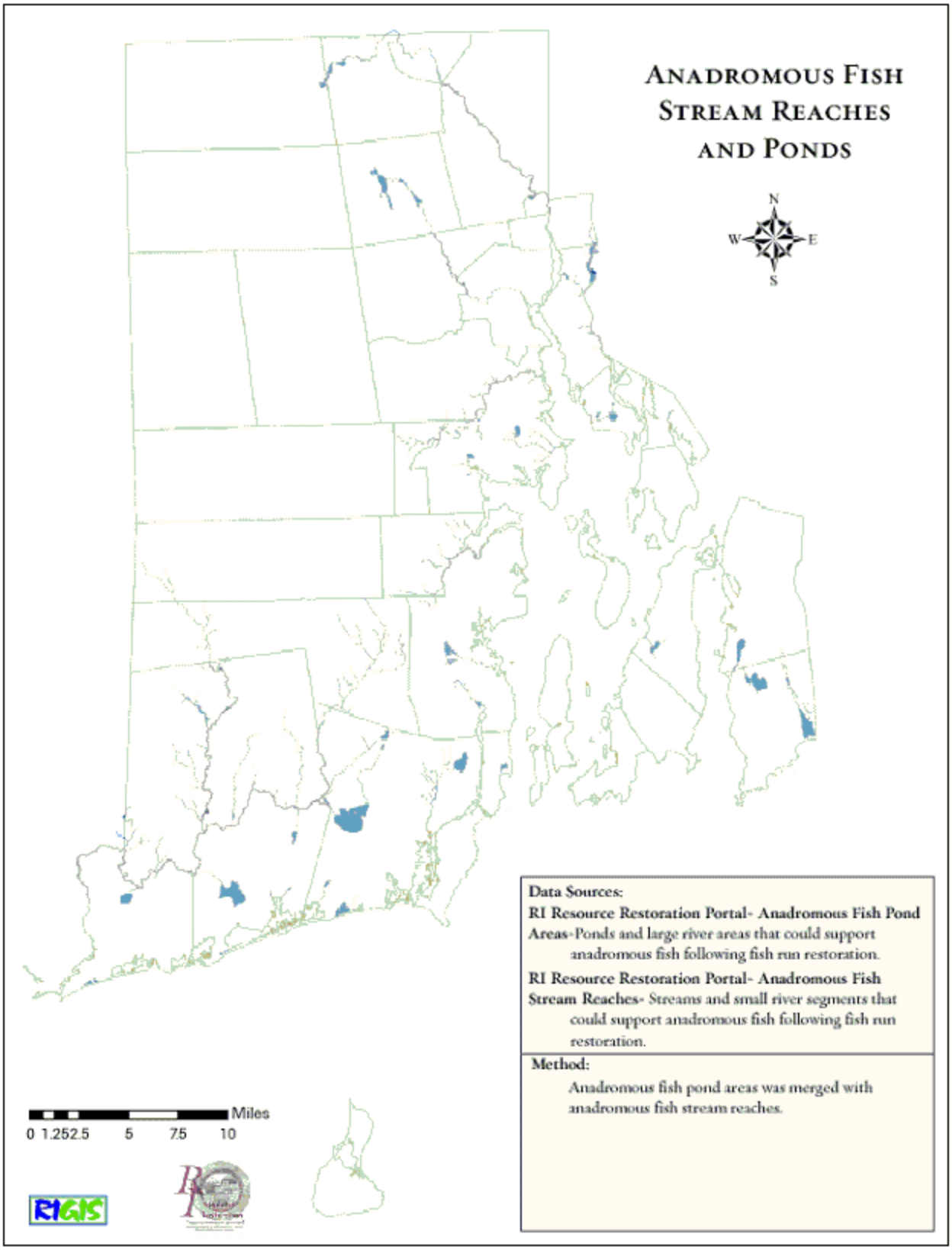

RIVERS AND STREAMS
N
W
E
S
Data Sources:
RIGIS- Hydrolines Centerlines for all fresh water rivers and streams including some seasonal streams in RI
RIGIS- Lakes and Ponds All freshwater lakes, ponds and reservoirs including delineation of major rivers wide enough to be represented as polygon areas on USGS 75 minute quad maps
Method:
Hydrolines and 'Lakes and Ponds' (island= N) were used.
Miles
0 1.252.5 5 7.5 10
RIGIS

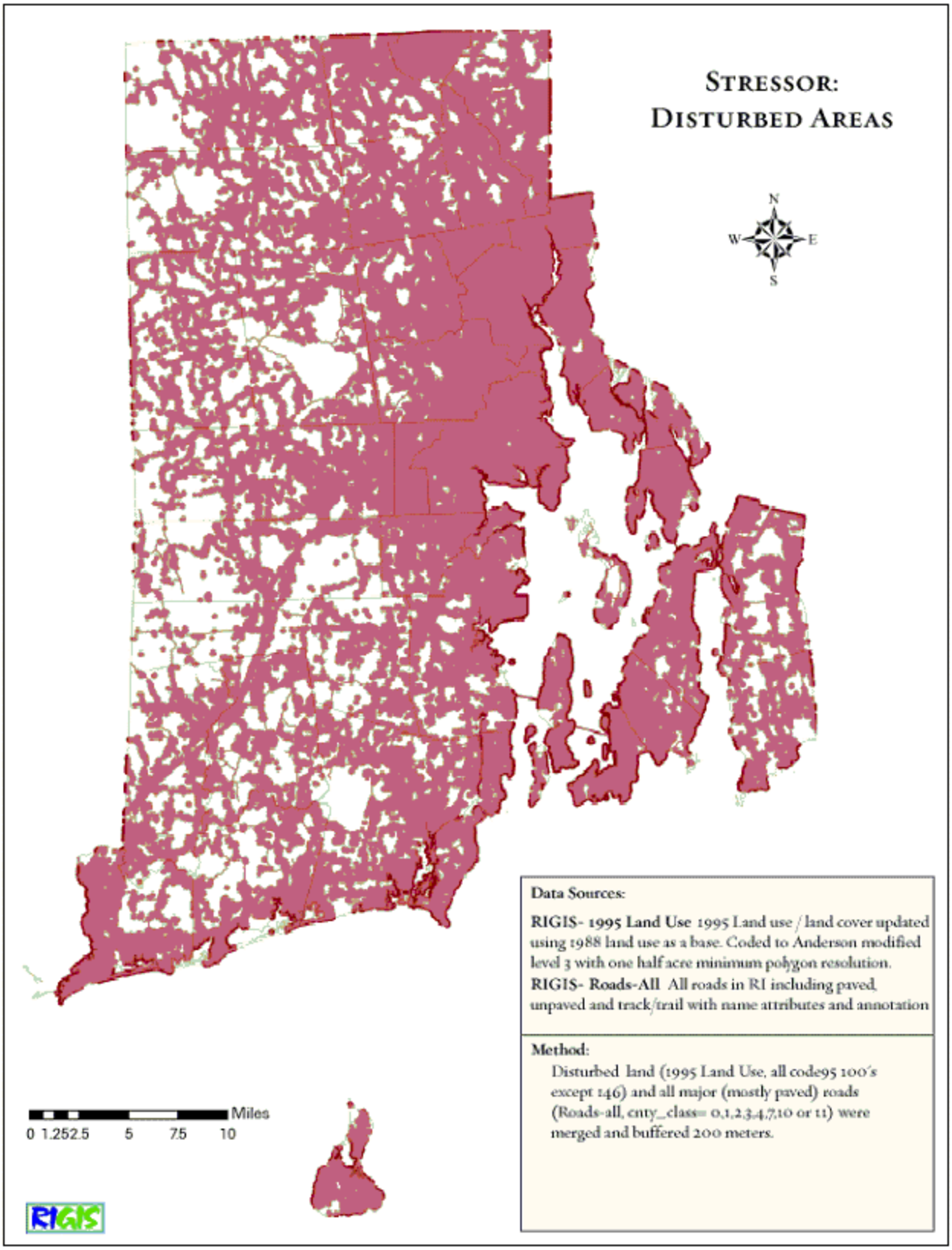

COLD WATER STREAMS
(100 METER BUFFER)
N
W
E
S
Data Sources: RIDEM- cold_and_warm_water_streams
cold_and_warm_water_ponds
Cold and warm water data provided by The Rhode Island Department of Environmental Management.
Method:
Cold water bodies ('cold_water' = cold) were extracted from each dataset and islands were removed ('island' = n). The data were then buffered 100 meters.
Miles
0 1.252.5 5 7.5 10
RIGIS
RIDEM

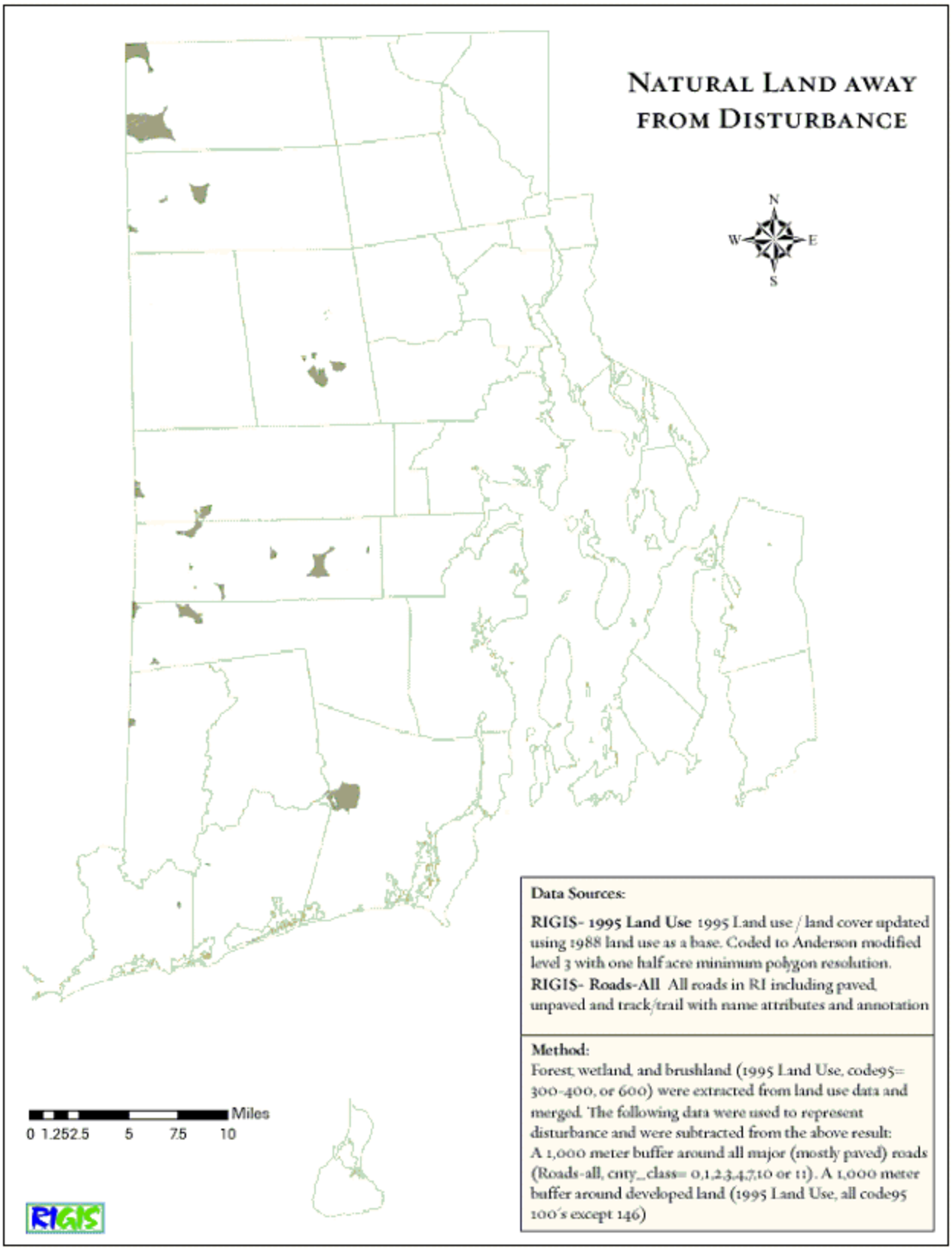

ESTUARINE
UNCONSOLIDATED SHORE
N
W
E
S
Data Source: RIGIS- Wetlands
Wetlands as interpreted from 1988 aerial photography to one quarter acre polygon resolution by Cowardin 16 classification scheme.
Method:
Estuarine Unconsolidated Shore data were extracted from wetlands by selecting 'code = 14'.
Miles
0 1.5 3 6 9 12
RIGIS


ESTUARINE
UNCONSOLIDATED SAND
N
W
E
S
Data Sources:
RIGIS-Narragansett Bay Estuarine Habitat Eelgrass beds, estuarine and marine wetlands in Narragansett Bay delineated from 1996 true color aerial photography
RIGIS- South Coast Estuarine Habitat Eelgrass beds, estuarine and marine wetlands for Rhode Island's southern coastal areas delineated as polygon features from 1999 true color aerial photography
Method:
Esturine unconsolidated sand was extracted from the data (South Coast Esturine Habitat, 'attributes' 2nd-4th letters = US2) and (Narragansett Bay Estuarine Habitat, 'codes' 2nd-4th letters= US2)
Miles
0 1.5 3 6 9 12
RIGIS

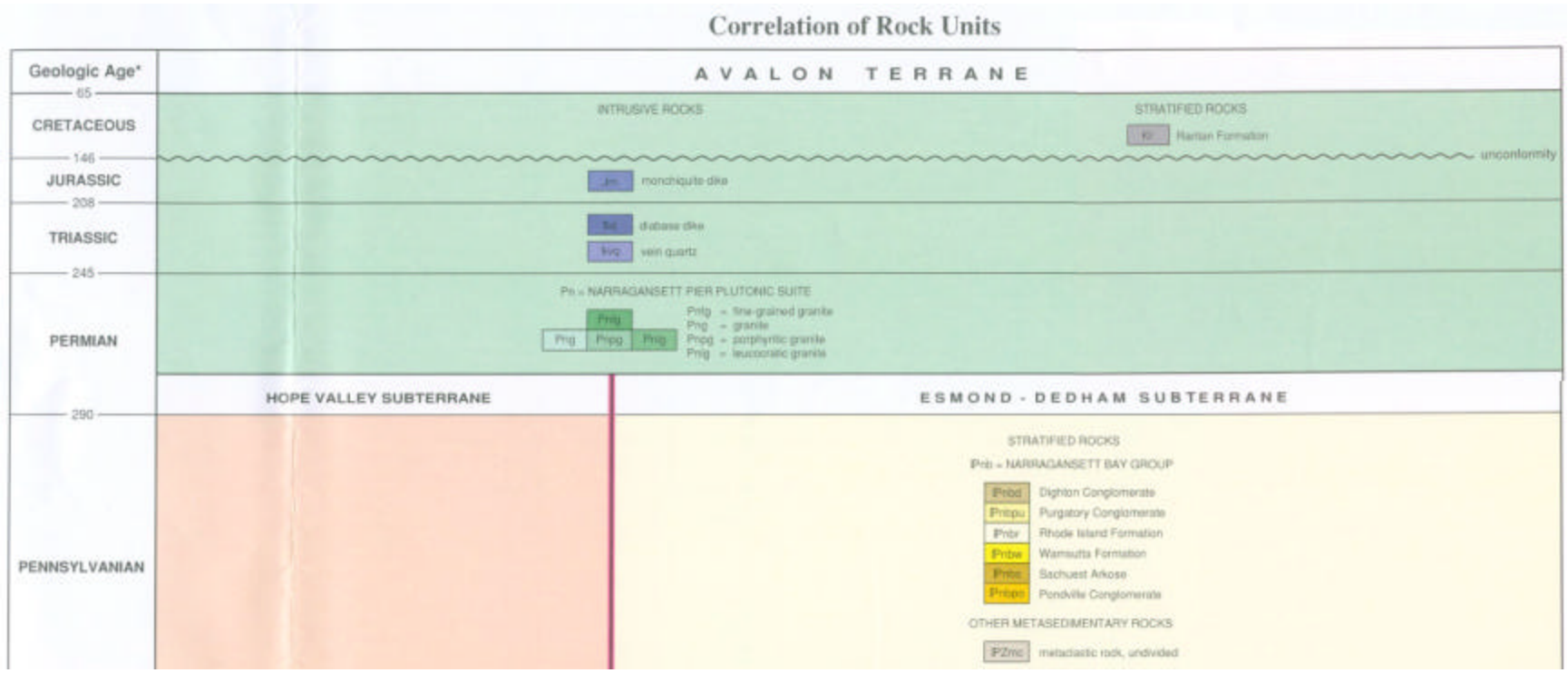

EELGRASS BEDS
N
W
E
S
Data Sources:
RIGIS- Narragansett Bay Estuarine Habitat Eelgrass beds, estuarine and marine wetlands in Narragansett Bay delineated from 1996 true color aerial photography
RIGIS- South Coast Estuarine Habitat Eelgrass beds, estuarine and marine wetlands for Rhode Island's southern coastal areas delineated as polygon features from 1999 true color aerial photography
Method:
Eelgrass beds were extracted from the data ('GRP 3'= Aquatic Beds (Eelgrass))
Miles
0 1.5 3 6 9 12
RIGIS


ANADROMOUS FISH STREAM REACHES AND PONDS
N
W
E
S
Data Sources:
RI Resource Restoration Portal- Anadromous Fish Pond Areas-Ponds and large river areas that could support anadromous fish following fish run restoration.
RI Resource Restoration Portal- Anadromous Fish Stream Reaches- Streams and small river segments that could support anadromous fish following fish run restoration.
Method:
Anadromous fish pond areas was merged with anadromous fish stream reaches.
Miles
0 1.252.5 5 7.5 10
RIGIS

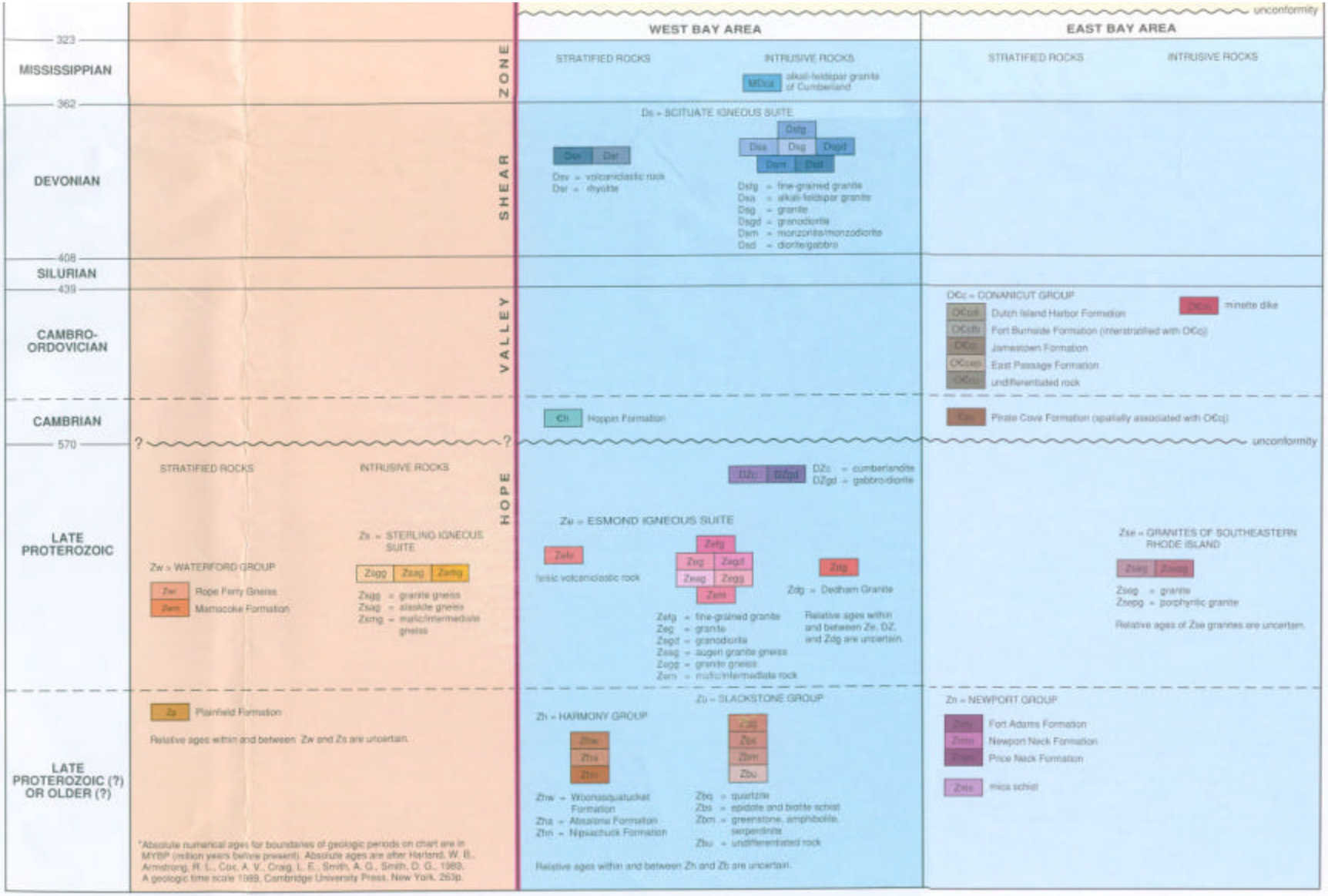

STRESSOR:
DISTURBED AREAS
N
W
E
S
Data Sources:
RIGIS- 1995 Land Use 1995 Land use / land cover updated using 1988 land use as a base. Coded to Anderson modified level 3 with one half acre minimum polygon resolution.
RIGIS- Roads-All All roads in RI including paved, unpaved and track/trail with name attributes and annotation
Method:
Disturbed land (1995 Land Use, all code95 100's except 146) and all major (mostly paved) roads (Roads-all, cnty_class= 0,1,2,3,4,7,10 or 11) were merged and buffered 200 meters.
Miles
0 1.252.5 5 7.5 10
RIGIS


NATURAL LAND AWAY FROM DISTURBANCE
N
W
E
S
Data Sources:
RIGIS- 1995 Land Use 1995 Land use / land cover updated using 1988 land use as a base. Coded to Anderson modified level 3 with one half acre minimum polygon resolution.
RIGIS- Roads-All All roads in RI including paved, unpaved and track/trail with name attributes and annotation
Method:
Forest, wetland, and brushland (1995 Land Use, code95= 300-400, or 600) were extracted from land use data and merged. The following data were used to represent disturbance and were subtracted from the above result:
A 1,000 meter buffer around all major (mostly paved) roads (Roads-all, cnty_class= 0,1,2,3,4,7,10 or 11). A 1,000 meter buffer around developed land (1995 Land Use, all code95 100's except 146)
Miles
0 1.252.5 5 7.5 10
RIGIS

Legend for Figure 2.2 Geologic Map of Rhode Island



continued on next page….


323
MISSISSIPPIAN
362
DEVONIAN
408
SILURIAN
439
CAMBRO-ORDOVICIAN
CAMBRIAN
570
LATE PROTEROZOIC
LATE PROTEROZOIC (?) OR OLDER (?)
SHEAR ZONE
VALLEY
HOPE
WEST BAY AREA
EAST BAY AREA
unconformity
STRATIFIED ROCKS
INTRUSIVE ROCKS
MDca alkali-feldspar granite of Cumberland
Ds = SCITUATE IGNEOUS SUITE
Dsv = volcaniclastic rock
Dsr = rhyolite
Dsfg = fine-grained granite
Dsa = alkali-feldspar granite
Dsg = granite
Dsgd = granodiorite
Dsm = monzonite/monzodiorite
Dsd = diorite/gabbro
OCc = CONANICUT GROUP
OCcd Dutch Island Harbor Formation
OCcfb Fort Burnside Formation (interstratified with OCcj)
OCcj Jamestown Formation
OCcep East Passage Formation
OCcu undifferentiated rock
OCm minette dike
Ch Hoppin Formation
Cpc Pirate Cove Formation (spatially associated with OCcj)
Zw = WATERFORD GROUP
Zw Rope Ferry Gneiss
Zwm Mamacoke Formation
Zs = STERLING IGNEOUS SUITE
Zsgg = granite gneiss
Zsag = alaskite gneiss
Zsmg = mafic/intermediate gneiss
DZu DZgd DZu = cumberlandite
DZgd = gabbro/diorite
Ze = ESMOND IGNEOUS SUITE
Zefv felsic volcaniclastic rock
Zefg = fine-grained granite
Zeg = granite
Zegd = granodiorite
Zeag = augen granite gneiss
Zegg = granite gneiss
Zem = mafic/intermediate rock
Zdg Zdg = Dedham Granite
Relative ages within and between Ze, DZ, and Zdg are uncertain.
Zse = GRANITES OF SOUTHEASTERN RHODE ISLAND
Zseg = granite
Zsepg = porphyritic granite
Relative ages of Zse granites are uncertain.
Zp Plainfield Formation
Relative ages within and between Zw and Zs are uncertain.
Zb = SLACKSTONE GROUP
Zh = HARMONY GROUP
Zhw = Woonasquatucket Formation
Zha = Absalona Formation
Zhn = Nipsachuck Formation
Zbq = quartzite
Zbs = epidote and biotite schist
Zbm = greenstone, amphibolite, serpentinite
Zbu = undifferentiated rock
Relative ages within and between Zh and Zb are uncertain.
Zn = NEWPORT GROUP
Zn Fort Adams Formation
Zn Newport Neck Formation
Zn Price Neck Formation
Zns mica schist
*Absolute numerical ages for boundaries of geologic periods on chart are in MYBP (million years before present). Absolute ages are after Harland, W. B., Armstrong, R. L., Cox, A. V., Craig, L. E., Smith, A. G., Smith, D. G., 1989. A geologic time scale 1989, Cambridge University Press, New York, 263p.

Appendix 3. Threats to Rhode Island's GCN Species and Habitats

This appendix lists the threats identified from a review of existing, relevant local, state, regional, national and international conservation plans (Appendix 1a) compiled for this CWCS effort (Element 3). This table represents the final condensation of that compilation that was then used as a foundation from which the RI DEM DFW and its partners began the development of conservation actions to address these threats. The table first lists the overarching statewide threats to Rhode Island, then threats to GCN species according to taxa group, and then all the key habitat specific threats. This table also represent the link from threats to conservation actions and inventory, research, and monitoring needs as excerpted from the RI DEM DFW CWCS database. Inventory, research, monitoring needs are in italics.

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
State Wide				
S	25	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*on-going assessment of threats to GCN species and key habitats*
S	2	lack of comprehensive strategy	lack of GCN species and key habitat data incorporated into comprehensive strategy	Assemble all parcel data for state in digital form
S	3	lack of comprehensive strategy	lack of GCN species and key habitat data incorporated into comprehensive strategy	get/create overlay of protected lands
S	45	habitat loss	habitat loss from inadequate sized preserves	*identify key unprotected parcels in focal areas*
S	46	habitat loss	habitat loss from inadequate sized preserves	Facilitate acquisition or easement of key parcels in focal areas
S	47	habitat loss	habitat loss from inadequate sized preserves	Coordinate focal area projects with other state and regional programs

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
S	6	lack of comprehensive strategy	lack of GCN species and key habitat data incorporated into comprehensive strategy	assemble all life history information into digital form
S	7	lack of comprehensive strategy	lack of GCN species and key habitat data incorporated into comprehensive strategy	assemble all known GCN species distribution/abundance information into digital form
S	26	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*(combined with above)*
S	149	lack of strategy	lack of strategy to implement landscape-level monitoring to support planning and assessment	*Obtain remote sensing data at periodic intervals*
S	150	lack of strategy	lack of strategy to implement landscape-level monitoring to support planning and assessment	*determine variables suitable for measuring environmental/patch quality*
S	151	lack of strategy	lack of strategy to implement landscape-level monitoring to support planning and assessment	*develop algorithm to measure fragmentation*
S	164	lack of advocacy	lack of advocacy for comprehensive wildlife conservation	Organize workshops and technical training for staff in GIS, statistics, etc.
S	42	habitat fragmentation	habitat fragmentation from lack of focal area approach to conservation	outreach to appropriate state parks in focal area
S	30	habitat fragmentation	habitat fragmentation from lack of conservation planning capabilities and coordination	identify appropriate partners for coordinated conservation planning
S	31	habitat fragmentation	habitat fragmentation from lack of conservation planning capabilities and coordination	develop new partnerships with private landowners

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
S	32	habitat fragmentation	habitat fragmentation from lack of conservation planning capabilities and coordination	promote existing programs with private landowners
S	33	habitat fragmentation	habitat fragmentation from lack of conservation planning capabilities and coordination	provide technical assistance in conservation planning where required
S	34	habitat fragmentation	habitat fragmentation from lack of conservation planning capabilities and coordination	develop liaison with towns and partners
S	165	lack of advocacy		(combined with above)
S	163	lack of advocacy	lack of advocacy for comprehensive wildlife conservation	Disseminate results
S	162	lack of advocacy	lack of advocacy for comprehensive wildlife conservation	Compile and publish research and planning results
S	140	lack of strategy	lack of strategy to support priority research	Develop process to facilitate research priorities
S	37	habitat fragmentation	habitat fragmentation from lack of focal area approach to conservation	*identify focal areas or defensible populations for focal species/area approach to conservation*
S	38	habitat fragmentation	habitat fragmentation from lack of focal area approach to conservation	initiate contact with private landowners identified within focal areas
S	39	habitat fragmentation	habitat fragmentation from lack of focal area approach to conservation	*identify priority issues specific for all parcels in focal area*
S	22	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify other critical habitat*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
S	14	lack of comprehensive strategy	lack of GCN species and key habitat data incorporated into comprehensive strategy	Geo-reference existing taxonomic data sets
S	10	lack of comprehensive strategy	lack of GCN species and key habitat data incorporated into comprehensive strategy	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research
S	127	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	outreach to appropriate landowners concerning chemical management
S	144	lack of strategy	habitat fragmentation and degradation from chemical contaminants and disease	*Determine lethal and non-lethal effects of chemicals*
Taxa Focused				
Mammals				
M	19	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*survey GCN species at priority sites*
M	17	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*
M	61	habitat loss	loss of habitat from plant succession	Coordinate burn management with other state and regional programs
M	23	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*determine geographic distribution of GCN species, especially invertebrates*
M	27	lack of comprehensive	lack of research to guide threat assessment and prioritization of conservation planning	coordinate processing of specimens and conversion and storage of electronic data

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
		strategy		
M	40	habitat fragmentation	habitat fragmentation from lack of focal area approach to conservation	outreach to golf courses in focal areas concerning impact of vegetation and chemical use
M	41	habitat fragmentation	habitat fragmentation from lack of focal area approach to conservation	outreach to nurseries in focal areas concerning chemical use
Birds				
Bi	11	lack of comprehensive strategy	lack of GCN species and key habitat data incorporated into comprehensive strategy	create GIS coverage of forest age-class
Bi	12	lack of comprehensive strategy	lack of GCN species and key habitat data incorporated into comprehensive strategy	create GIS coverage of shrublands
Bi	13	lack of comprehensive strategy	lack of GCN species and key habitat data incorporated into comprehensive strategy	create GIS coverage of field habitats
Bi	131	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	Facilitate detection and diagnosis of diseases outbreaks
Bi	61	habitat loss	loss of habitat from plant succession	Coordinate burn management with other state and regional programs
Bi	145	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	*Facilitate research to identify and mitigate disease potential*
Herpetofauna				

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
H	80	demography	demographic changes from incidental take (human)	Develop and provide educational program/materials to reduce incidental mortality and take from humans
H	82	demography	demographic changes from incidental take (human)	Coordinate incidental take programs with regional or national initiatives
H	40	habitat fragmentation	habitat fragmentation from lack of focal area approach to conservation	outreach to golf courses in focal areas concerning impact of vegetation and chemical use
H	41	habitat fragmentation	habitat fragmentation from lack of focal area approach to conservation	outreach to nurseries in focal areas concerning chemical use
H	85	demography	habitat loss and demographic changes from invasive species (vegetation and animal)	*research invasive species management and monitoring protocols*
H	86	demography	habitat loss and demographic changes from invasive species (vegetation and animal)	create and implement invasive species monitoring protocol
H	87	demography	habitat loss and demographic changes from invasive species (vegetation and animal)	coordinate invasive species management with other state and regional programs
H	90	demography		(repeat of above general invasives)
H	91	demography	demographic changes from aquatic invasives	*Identify potential damaging aquatic invasives and exotics*
H	99	demography		(repeat of above general invasives)
H	110	habitat loss	habitat loss from impairment of aquatic contiguity	enhance habitat connectivity for priority species with culverts
H	125	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	*identify chemical sources and compounds of concern*
H	126	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	Coordinate with mosquito abatement personnel for chemical management

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
H	128	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	Coordinate chemical management with other state and regional programs
H	134	habitat fragmentation	habitat fragmentation from road effects	*Identify areas of significant road effects in focal areas*
H	135	habitat fragmentation	habitat fragmentation from road effects	*Assess means to mitigate road effects*
H	136	habitat fragmentation	habitat fragmentation from road effects	Establish discussions with state and local D.O.T
H	137	habitat fragmentation	habitat fragmentation from road effects	Conduct road mitigations where required
H	159	lack of strategy	lack of information for monitoring and on-going assessment	monitor spatial qualities of habitat
H	17	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*
H	92	demography	demographic changes from aquatic invasives	develop and implement sampling protocol for aquatic exotics
Freshwater Fish				
FF	74	demography	demographic changes from excessive predation (animal)	*Evaluate need for predator control intervention for priority species*
FF	75	demography	demographic changes from excessive predation (animal)	Develop predator control program to conduct intervention where appropriate for priority species
FF	85	demography	habitat loss and demographic changes from invasive species (vegetation and animal)	*research invasive species management and monitoring protocols*
FF	86	demography	habitat loss and demographic changes from invasive species (vegetation and animal)	create and implement invasive species monitoring protocol

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
FF	87	demography	habitat loss and demographic changes from invasive species (vegetation and animal)	coordinate invasive species management with other state and regional programs
FF	90	demography		(repeat of above general invasives)
FF	91	demography	demographic changes from aquatic invasives	*Identify potential damaging aquatic invasives and exotics*
FF	92	demography	demographic changes from aquatic invasives	develop and implement sampling protocol for aquatic exotics
FF	93	demography	demographic changes from aquatic invasives	*Assess threat from fish*
FF	94	demography	demographic changes from aquatic invasives	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel
FF	95	demography		(combined with above)
FF	96	demography	demographic changes from aquatic invasives	develop and implement program to mitigate effect of aquatic exotics
FF	98	demography	demographic changes from aquatic invasives	*Assess pathways of introduction from water gardens and mail order*
FF	99	demography		(repeat of above general invasives)
FF	103	habitat loss	habitat loss and demographic changes from invasive species (vegetation and animal)	*identify potential damaging exotic plants*
FF	104	habitat loss	habitat loss and demographic changes from invasive species (vegetation and animal)	*identify priority areas for invasive plant management*
FF	105	habitat loss	habitat loss and demographic changes from invasive species (vegetation and animal)	develop and implement invasive species management program
FF	106	habitat loss	habitat loss and demographic changes from invasive species (vegetation and animal)	develop and provide educational information about invasive species

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
FF	110	habitat loss	habitat loss from impairment of aquatic contiguity	enhance habitat connectivity for priority species with culverts
FF	111	Habitat loss	habitat loss from impairment of aquatic contiguity	Expand public awareness of fish passage issues
FF	114	habitat loss	habitat degradation from impairment of water quality	*Evaluate water quality effects on priority species*
FF	115	habitat loss	habitat degradation from impairment of water quality	develop strategies to mitigate aquatic degradation
FF	116	habitat loss	habitat degradation from impairment of water quality	coordinate water quality protection with appropriate DOT, regional and federal programs
FF	117	habitat loss		(combined with above)
FF	118	habitat loss	habitat degradation from impairment of water quality	*Assess effects of water releases at dams*
FF	119	habitat loss	habitat degradation from impairment of water quality	*Assess effects of water withdrawals*
FF	120	habitat loss	habitat degradation from impairment of water quality	*Assess effects of prolonged drawdowns*
FF	121	Habitat loss	habitat degradation from impairment of water quality	*Assess effects of sedimentation*
FF	145	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	*Facilitate research to identify and mitigate disease potential*
FF	158	lack of strategy	lack of information for monitoring and on-going assessment	Coordinate monitoring with other state and regional monitoring programs
FF	125	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	*identify chemical sources and compounds of concern*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
FF	126	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	Coordinate with mosquito abatement personnel for chemical management
FF	128	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	Coordinate chemical management with other state and regional programs
FF	134	habitat fragmentation	habitat fragmentation from road effects	*Identify areas of significant road effects in focal areas*
FF	135	habitat fragmentation	habitat fragmentation from road effects	*Assess means to mitigate road effects*
FF	136	habitat fragmentation	habitat fragmentation from road effects	Establish discussions with state and local D.O.T
FF	137	habitat fragmentation	habitat fragmentation from road effects	Conduct road mitigations where required
FF	159	lack of strategy	lack of information for monitoring and on-going assessment	monitor spatial qualities of habitat
FF	17	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*
FF	18	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*identify priority sites for survey, especially for freshwater fish and invertebrates*
FF	19	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*survey GCN species at priority sites*
FF	24	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*
FF	40	habitat fragmentation	habitat fragmentation from lack of focal area approach to conservation	outreach to golf courses in focal areas concerning impact of vegetation and chemical use

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
FF	41	habitat fragmentation	habitat fragmentation from lack of focal area approach to conservation	outreach to nurseries in focal areas concerning chemical use
Pelagic/ Anadromous				
P/A	31	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Study all options for disposal of dredged materials, including disposal sites and methods used. Upland disposal sites should be considered as an alternative to offshore disposal sites.
P/A	1	direct loss of wetlands, fragmentation	Loss of wetlands due to shore line development, bulkheads, and poor urban development	Use an adaptive management plan with ecological indicators to oversee monitoring and ensure mitigation objectives are met. Take corrective action as needed.
P/A	12	removal and disturbance of the plants, suspended sediments blocking the light, physical removal by fishing dredges	Dredging, dredge disposal and other benthic disturbances such as trawling.	Study all options for disposal of dredged materials, including disposal sites and methods used. Upland disposal sites should be considered as an alternative to offshore disposal sites.
P/A	50	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Wherever possible, "soft" approaches (such as beach nourishment, vegetative plantings, and placement of large woody debris) to shoreline modifications should be used.

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
P/A	11	Increased sedimentation and reduction of light in the water column	Loss of wetlands due to shore line development, bulkheads, and poor urban development	The diking and draining of tidal marshlands and estuaries should not be undertaken unless a satisfactory compensatory mitigation plan is in effect and monitored.
P/A	39	direct contamination	oil spills, marine accidents, ocean dumping	increase data bank on species habitat preferences and use in oil spill response planning and mapping.
P/A	40	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Wherever possible, "soft" approaches (such as beach nourishment, vegetative plantings, and placement of large woody debris) to shoreline modifications should be used.
P/A	60	Abundance and distribution	collect data which status and habitat of species can be determined	*Research abundance and distribution of species for which status and habitat can be determined, by including additional data collection in present studies.*
P/A	62	literature search	What has all ready been done on the species and how can we use this to better understand the species in our area	*Conduct a literature search to survey life history information, identify what has already been done on the species, how this information can be used to better understand Rhode Island's species, and identify other research needs.*
P/A	65	Strategic plan for Anadromous fish	Providing passage for shad will allow all fish to use fish way	*Develop a strategic conservation plan for anadromous fish that will provide needed fish passage locations for shad, which can serve as a representative species.*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
P/A	61	high mortality after spawning	what is preying on them after to spawn or is it environmental	*Use gut content analyses to research the causes of high mortality after spawning, determining what is preying on species following spawning or if there are environmental causes.*
P/A	64	Predator prey relationship	Identify where they are in the food chain	*Research predator / prey relationships to determine where species are in the food chain by identifying their most common food sources and what preys on them.*
P/A	66	Spawning area	identify and map critical areas in the life history	*Identify and map critical areas in the life history of species, particularly spawning areas, and determine site fidelity to those areas.*
P/A	67	Spring fish	begin surveys in the bay for pelagic fish earlier in the year	*Begin surveys in Narragansett Bay for pelagic fish earlier in the year to survey spring fish.*
P/A	68	water quality indicator		*Determine appropriate indicator species or parameters to monitor water quality for pelagic / anadromous fauna.*
P/A	63	Marine mortality	determine the mortality rate of the fish once it returns to the estuary	*Research marine mortality to determine the mortality rate of fish once they return to the estuary.*
Catadromous				
C	92	direct competition	invasive (alien) species directly effecting habitat, competitors, predators, pathogens/ parasites, changes in the native species dynamics	Set up preventative measures to limit transportation both internationally and locally.

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
C	92	direct competition	invasive (alien) species directly effecting habitat, competitors, predators, pathogens/ parasites, changes in the native species dynamics	Enforcement of ballast exchange measures well out side the coastal zone.
C	92	direct competition	invasive (alien) species directly effecting habitat, competitors, predators, pathogens/ parasites, changes in the native species dynamics	Identify and characterize fishery habitat functions and service in the area where the invasives have been found. Track changes in the species composition.
C	114	Nutrient loading	sewage pollution- combined sewage overflow, failing and inadequate systems, boat waste	Discharges should be treated to the maximum extent practicable, including implementation of up-to-date methodologies for reducing discharges of biocides such as chlorine and other toxic substances.
C	71	Direct loss of wetlands, ditching and draining wetlands	Dredging, dredge disposal and other benthic disturbances	Undertake Multi season, pre- and post-dredging biological surveys to assess impacts to animal and submerged aquatic vegetation communities.
C	80	Increased sedimentation and reduction of light in the water column	Loss of wetlands due to shore line development, bulkheads, and poor urban development	Avoid locating roads near wetlands and fish bearing streams. Roads should be sited to avoid sensitive areas such as wetlands, streams, step slopes.
C	88	increased pressures on the area	Non point source pollution from erosion, sedimentation, agriculture run off, septic systems	Increase field and landscape buffers to provide cost effective protection against the cumulative effects of many small, but unavoidable, pollutant discharges associated with an active agriculture enterprise and the kinds of catastrophic pollution that can

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
C	88	increased pressures on the area	Non point source pollution from erosion, sedimentation, agriculture run off, septic systems	The full range of agriculture buffer practices has to be systematically deployed, protected and managed across the agriculture landscape or overall aquatic habitat improvements will be minimal.
C	88	increased pressures on the area	Non point source pollution from erosion, sedimentation, agriculture run off, septic systems	Manage stormwater runoff to duplicate the natural hydrologic cycle, maintaining natural infiltration and runoff rates to the maximum extent possible.
C	88	increased pressures on the area	Non point source pollution from erosion, sedimentation, agriculture run off, septic systems	Avoid locating roads near wetlands and fish bearing streams. Roads should be sited to avoid sensitive areas such as wetlands, streams, step slopes.
C	88	increased pressures on the area	Non point source pollution from erosion, sedimentation, agriculture run off, septic systems	Monitor area for sediment, nutrient, and contamination levels, using indicator species or long-term instrumentation analysis.
C	88	increased pressures on the area	Non point source pollution from erosion, sedimentation, agriculture run off, septic systems	Protect and restore vegetated buffer zones of appropriate width along all streams, lakes, and wetlands that include or influence fishery habitat.
C	108	direct contamination	oil spills, marine accidents, ocean dumping	increase data bank on species habitat preferences and use in oil spill response planning and mapping.
C	109	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	The diking and draining of tidal marshlands and estuaries should not be undertaken unless a satisfactory compensatory mitigation plan is in effect and monitored.

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
C	120	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Undertake Multi season, pre- and post-dredging biological surveys to assess impacts to animal and submerged aquatic vegetation communities.
C	70	direct loss of wetlands, fragmentation	Loss of wetlands due to shore line development, bulkheads, and poor urban development	Minimize the loss of riparian habitats as much as possible.
C	81	Dredging, dredge disposal and other benthic disturbances such as trawling.	removal and disturbance of the plants, suspended sediments blocking the light, physical removal by fishing dredges	Undertake Multi season, pre- and post-dredging biological surveys to assess impacts to animal and submerged aquatic vegetation communities.
C	93	direct contamination	oil spills, marine accidents, ocean dumping	Increase number and training of response teams in the event of an accident.
C	93	direct contamination	oil spills, marine accidents, ocean dumping	increase data bank on species habitat preferences and use in oil spill response planning and mapping.
C	100	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Undertake Multi season, pre- and post-dredging biological surveys to assess impacts to animal and submerged aquatic vegetation communities.
C	110	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Undertake Multi season, pre- and post-dredging biological surveys to assess impacts to animal and submerged aquatic vegetation communities.
C	119	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	The diking and draining of tidal marshlands and estuaries should not be undertaken unless a satisfactory compensatory mitigation plan is in effect

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
				and monitored.
C	129	Environmentally sensitive	slight changes may make big impacts, look for the little changes	*Research environmental sensitivity for slight changes in environmental factors that may lead to large impacts to the resource.*
C	130	Existing fish ladders need to be retrofit	follow up to the Anadromous fish plan	*Follow up the anadromous fish conservation plan by identifying fish ladders in need of retrofits to modify and maintain eel ramps at all fish ladders or dams.*
C	131	Population and abundance study over the life span of the eels		*Monitor the population and abundance of eels over their life span, gathering life history data and identifying other research needs.*
C	132	Recruitment in lakes both in and out		*Assess the recruitment of eels into and out of lakes by monitoring their migration out of freshwater.*
Demersal Fish				
DF	178	Nutrient loading	sewage pollution- combined sewage overflow, failing and inadequate systems, boat waste	Improve land use efficiencies for key agricultural inputs including nitrogen phosphorus pesticides and irrigation water.

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
DF	144	Increased sedimentation and reduction of light in the water column	Loss of wetlands due to shore line development, bulkheads, and poor urban development	Avoid placing pipelines and accessory equipment used in conjunction with construction or dredging operations to the maximum extent possible close to kelp beds, eelgrass beds, estuarine / salt marshes and any other high value habitat.
DF	173	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Minimize the loss of riparian habitats as much as possible.
DF	172	direct contamination	oil spills, marine accidents, ocean dumping	increase data bank on species habitat preferences and use in oil spill response planning and mapping.
DF	135	Direct loss of wetlands, ditching and draining wetlands	Dredging, dredge disposal and other benthic disturbances	Address cumulative impacts of past and current dredging operations on fishery resources by considering them as part of the permitting process.
DF	184	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Address cumulative impacts of past and current dredging operations on fishery resources by considering them as part of the permitting process.
DF	145	removal and disturbance of the plants, suspended sediments blocking the light, physical removal by fishing dredges	Dredging, dredge disposal and other benthic disturbances such as trawling.	Address cumulative impacts of past and current dredging operations on fishery resources by considering them as part of the permitting process.

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
DF	174	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Address cumulative impacts of past and current dredging operations on fishery resources by considering them as part of the permitting process.
DF	164	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Address cumulative impacts of past and current dredging operations on fishery resources by considering them as part of the permitting process.
DF	134	direct loss of wetlands, fragmentation	Loss of wetlands due to shore line development, bulkheads, and poor urban development	Avoid locating roads near wetlands and fish bearing streams. Roads should be sited to avoid sensitive areas such as wetlands, streams, step slopes.
DF	183	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Minimize the loss of riparian habitats as much as possible.
DF	193	bottom feeder bio-accumulates pollutants	locate and reduce input of pollutants into the water column	*Research the bioaccumulation of pollutants in bottom feeders by locating, reducing and monitoring the input of pollutants into the water column.*
DF	197	literature search	What has all ready been done on the species and how can we use this to better understand the species in our area	*Conduct a literature search to survey life history information, identify what has already been done on the species, how this information can be used to better understand Rhode Island's species, and identify other research needs.*
DF	199	possible indicator species		*Assess which species are the most susceptible to threats and monitor them as indicator species.*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
DF	202	Succession of species that may be occurring due to temperature changes		*Assess whether a succession of species may be occurring as a result of temperature changes.*
DF	194	Close fisheries in some areas to allow stocks to rebuild	Identify key locations where biggest impact can be made and close the area	*Identify key locations where short-term closures may have the most impact to restore fish populations and close those areas to fisheries.*
DF	195	growth rates	are they growing at the historical rate or is there a population that has been studied that shows a similar pattern	*Monitor the growth rates of demersal finfish to determine if they are growing at the historical rate or if there is a population that has already been studied that shows a similar pattern.*
DF	198	Pollution impacts		*Research the impacts of pollution through tissue sampling of demersal finfish.*
DF	200	Predator prey relationship	Identify where they are in the food chain	*Research predator / prey relationships to determine where species are in the food chain by identifying their most common food sources and what preys on them.*
DF	201	Spawning area	identify and map critical areas in the life history	*Identify and map critical areas in the life history of species, particularly spawning areas.*
DF	196	hypoxia?	is this changing the growth patterns for the species	*Research whether hypoxia is changing the growth patterns for species of demersal finfish by using laboratory testing.*
Beetles				

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
Be	17	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*
Be	18	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*identify priority sites for survey, especially for freshwater fish and invertebrates*
Be	19	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*survey GCN species at priority sites*
Be	125	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	*identify chemical sources and compounds of concern*
Be	126	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	Coordinate with mosquito abatement personnel for chemical management
Be	128	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	Coordinate chemical management with other state and regional programs
Lepidoptera				
L	18	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*identify priority sites for survey, especially for freshwater fish and invertebrates*
L	19	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*survey GCN species at priority sites*
L	20	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*identify breeding locations and geographic distribution, especially for invertebrates*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
L	23	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*determine geographic distribution of GCN species, especially invertebrates*
L	40	habitat fragmentation	habitat fragmentation from lack of focal area approach to conservation	outreach to golf courses in focal areas concerning impact of vegetation and chemical use
L	41	habitat fragmentation	habitat fragmentation from lack of focal area approach to conservation	outreach to nurseries in focal areas concerning chemical use
L	64	habitat loss	lack of management and restoration of degraded Lepidoptera and/or Mussel habitat	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*
L	65	habitat loss	lack of management and restoration of degraded Lepidoptera and/or Mussel habitat	implement priority restoration projects for Lepidoptera and/or Mussel habitat
L	71	habitat loss	habitat loss of critical micro-features	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*
L	85	demography	habitat loss and demographic changes from invasive species (vegetation and animal)	*research invasive species management and monitoring protocols*
L	86	demography	habitat loss and demographic changes from invasive species (vegetation and animal)	create and implement invasive species monitoring protocol
L	87	demography	habitat loss and demographic changes from invasive species (vegetation and animal)	coordinate invasive species management with other state and regional programs
L	90	demography		(repeat of above general invasives)
L	99	demography		(repeat of above general invasives)
L	103	habitat loss	habitat loss and demographic changes from invasive species (vegetation and animal)	*identify potential damaging exotic plants*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
L	104	habitat loss	habitat loss and demographic changes from invasive species (vegetation and animal)	*identify priority areas for invasive plant management*
L	105	habitat loss	habitat loss and demographic changes from invasive species (vegetation and animal)	develop and implement invasive species management program
L	106	habitat loss	habitat loss and demographic changes from invasive species (vegetation and animal)	develop and provide educational information about invasive species
L	125	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	*identify chemical sources and compounds of concern*
L	126	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	Coordinate with mosquito abatement personnel for chemical management
L	128	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	Coordinate chemical management with other state and regional programs
L	159	lack of strategy	lack of information for monitoring and on-going assessment	monitor spatial qualities of habitat
L	56	habitat loss	loss of habitat from plant succession	*Identify priority parcels needing seral-stage management, especially for Lepidoptera habitat*
L	57	habitat loss	loss of habitat from plant succession	Manage important habitats as required, especially for Lepidoptera habitat
L	61	habitat loss	loss of habitat from plant succession	Coordinate burn management with other state and regional programs
L	27	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	coordinate processing of specimens and conversion and storage of electronic data
L	141	lack of strategy	lack of information from research to address habitat and taxonomic issues	*Assess taxonomy/population relationships*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
Odonates				
O	87	demography	habitat loss and demographic changes from invasive species (vegetation and animal)	coordinate invasive species management with other state and regional programs
O	85	demography	habitat loss and demographic changes from invasive species (vegetation and animal)	*research invasive species management and monitoring protocols*
O	86	demography	habitat loss and demographic changes from invasive species (vegetation and animal)	create and implement invasive species monitoring protocol
O	126	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	Coordinate with mosquito abatement personnel for chemical management
O	117	habitat loss		(combined with above)
O	24	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*
O	20	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*identify breeding locations and geographic distribution, especially for invertebrates*
O	19	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*survey GCN species at priority sites*
O	114	habitat loss	habitat degradation from impairment of water quality	*Evaluate water quality effects on priority species*
O	115	habitat loss	habitat degradation from impairment of water quality	develop strategies to mitigate aquatic degradation
O	116	habitat loss	habitat degradation from impairment of water quality	coordinate water quality protection with appropriate DOT, regional and federal programs

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
O	23	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*determine geographic distribution of GCN species, especially invertebrates*
O	90	demography		(repeat of above general invasives)
O	91	demography	demographic changes from aquatic invasives	*Identify potential damaging aquatic invasives and exotics*
O	92	demography	demographic changes from aquatic invasives	develop and implement sampling protocol for aquatic exotics
O	93	demography	demographic changes from aquatic invasives	*Assess threat from fish*
O	94	demography	demographic changes from aquatic invasives	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel
O	95	demography		(combined with above)
O	96	demography	demographic changes from aquatic invasives	develop and implement program to mitigate effect of aquatic exotics
O	103	habitat loss	habitat loss and demographic changes from invasive species (vegetation and animal)	*identify potential damaging exotic plants*
O	104	habitat loss	habitat loss and demographic changes from invasive species (vegetation and animal)	*identify priority areas for invasive plant management*
O	105	habitat loss	habitat loss and demographic changes from invasive species (vegetation and animal)	develop and implement invasive species management program
O	125	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	*identify chemical sources and compounds of concern*
O	18	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*identify priority sites for survey, especially for freshwater fish and invertebrates*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
O	40	habitat fragmentation	habitat fragmentation from lack of focal area approach to conservation	outreach to golf courses in focal areas concerning impact of vegetation and chemical use
O	41	habitat fragmentation	habitat fragmentation from lack of focal area approach to conservation	outreach to nurseries in focal areas concerning chemical use
O	99	demography		(repeat of above general invasives)
O	106	habitat loss	habitat loss and demographic changes from invasive species (vegetation and animal)	develop and provide educational information about invasive species
O	128	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	Coordinate chemical management with other state and regional programs
O	134	habitat fragmentation	habitat fragmentation from road effects	*Identify areas of significant road effects in focal areas*
O	135	habitat fragmentation	habitat fragmentation from road effects	*Assess means to mitigate road effects*
O	136	habitat fragmentation	habitat fragmentation from road effects	Establish discussions with state and local D.O.T
O	137	habitat fragmentation	habitat fragmentation from road effects	Conduct road mitigations where required
O	159	lack of strategy	lack of information for monitoring and on-going assessment	monitor spatial qualities of habitat
Mussels				
Mu	40	habitat fragmentation	habitat fragmentation from lack of focal area approach to conservation	outreach to golf courses in focal areas concerning impact of vegetation and chemical use
Mu	41	habitat fragmentation	habitat fragmentation from lack of focal area approach to conservation	outreach to nurseries in focal areas concerning chemical use

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
Mu	82	demography	demographic changes from incidental take (human)	Coordinate incidental take programs with regional or national initiatives
Mu	85	demography	habitat loss and demographic changes from invasive species (vegetation and animal)	*research invasive species management and monitoring protocols*
Mu	86	demography	habitat loss and demographic changes from invasive species (vegetation and animal)	create and implement invasive species monitoring protocol
Mu	87	demography	habitat loss and demographic changes from invasive species (vegetation and animal)	coordinate invasive species management with other state and regional programs
Mu	90	demography		(repeat of above general invasives)
Mu	91	demography	demographic changes from aquatic invasives	*Identify potential damaging aquatic invasives and exotics*
Mu	92	demography	demographic changes from aquatic invasives	develop and implement sampling protocol for aquatic exotics
Mu	96	demography	demographic changes from aquatic invasives	develop and implement program to mitigate effect of aquatic exotics
Mu	98	demography	demographic changes from aquatic invasives	*Assess pathways of introduction from water gardens and mail order*
Mu	99	demography		(repeat of above general invasives)
Mu	114	habitat loss	habitat degradation from impairment of water quality	*Evaluate water quality effects on priority species*
Mu	115	habitat loss	habitat degradation from impairment of water quality	develop strategies to mitigate aquatic degradation
Mu	116	habitat loss	habitat degradation from impairment of water quality	coordinate water quality protection with appropriate DOT, regional and federal programs
Mu	117	habitat loss		(combined with above)

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
Mu	118	habitat loss	habitat degradation from impairment of water quality	*Assess effects of water releases at dams*
Mu	119	habitat loss	habitat degradation from impairment of water quality	*Assess effects of water withdrawals*
Mu	120	habitat loss	habitat degradation from impairment of water quality	*Assess effects of prolonged drawdowns*
Mu	121	Habitat loss	habitat degradation from impairment of water quality	*Assess effects of sedimentation*
Mu	125	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	*identify chemical sources and compounds of concern*
Mu	126	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	Coordinate with mosquito abatement personnel for chemical management
Mu	128	habitat fragmentation	habitat fragmentation and degradation from chemical contaminants and disease	Coordinate chemical management with other state and regional programs
Mu	134	habitat fragmentation	habitat fragmentation from road effects	*Identify areas of significant road effects in focal areas*
Mu	135	habitat fragmentation	habitat fragmentation from road effects	*Assess means to mitigate road effects*
Mu	136	habitat fragmentation	habitat fragmentation from road effects	Establish discussions with state and local D.O.T
Mu	137	habitat fragmentation	habitat fragmentation from road effects	Conduct road mitigations where required
Mu	158	lack of strategy	lack of information for monitoring and on-going assessment	Coordinate monitoring with other state and regional monitoring programs
Mu	80	demography	demographic changes from incidental take (human)	Develop and provide educational program/materials to reduce incidental mortality and take from humans
Mu	109	habitat loss	habitat loss from impairment of aquatic contiguity	enhance habitat connectivity for priority species with fish ladders

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
Mu	111	Habitat loss	habitat loss from impairment of aquatic contiguity	Expand public awareness of fish passage issues
Mu	18	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*identify priority sites for survey, especially for freshwater fish and invertebrates*
Mu	19	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*survey GCN species at priority sites*
Mu	24	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*
Mu	64	habitat loss	lack of management and restoration of degraded Lepidoptera and/or Mussel habitat	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*
Mu	65	habitat loss	lack of management and restoration of degraded Lepidoptera and/or Mussel habitat	implement priority restoration projects for Lepidoptera and/or Mussel habitat
Mu	74	demography	demographic changes from excessive predation (animal)	*Evaluate need for predator control intervention for priority species*
Mu	75	demography	demographic changes from excessive predation (animal)	Develop predator control program to conduct intervention where appropriate for priority species
Mu	110	habitat loss	habitat loss from impairment of aquatic contiguity	enhance habitat connectivity for priority species with culverts
Mu	122	habitat loss	habitat degradation from impairment of water quality	*Assess effects of stream bank disturbance*
Mu	157	lack of strategy	lack of information for monitoring and on-going assessment	Continue established long-term monitoring protocols

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
Benthic Invertebrates				
BI	248	Nutrient loading	sewage pollution- combined sewage overflow, failing and inadequate systems, boat waste	Incorporate best management practices to prevent or minimize contamination from ship bildge waters, antifouling paints, shipboard accidents, shipyard work, maintenance dredging and disposal, and non point source contaminants from upland facilities related
BI	214	Increased sedimentation and reduction of light in the water column	Loss of wetlands due to shore line development, bulkheads, and poor urban development	Minimize the loss of riparian habitats as much as possible.
BI	243	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Identify excess sedimentation in the watershed that prompts excessive maintenance dredging activities and implement appropriate management techniques to ensure actions are taken to curtail those causes.
BI	242	direct contamination	oil spills, marine accidents, ocean dumping	Increase number and training of response teams in the event of an accident.
BI	205	Direct loss of wetlands, ditching and draining wetlands	Dredging, dredge disposal and other benthic disturbances	Avoid new dredging to the maximum extent possible. Projects should be permitted only for water dependant purposes and only when no feasible alternatives are available.

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
BI	254	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Avoid new dredging to the maximum extent possible. Projects should be permitted only for water dependant purposes and only when no feasible alternatives are available.
BI	215	removal and disturbance of the plants, suspended sediments blocking the light, physical removal by fishing dredges	Dredging, dredge disposal and other benthic disturbances such as trawling.	Avoid new dredging to the maximum extent possible. Projects should be permitted only for water dependant purposes and only when no feasible alternatives are available.
BI	244	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Avoid new dredging to the maximum extent possible. Projects should be permitted only for water dependant purposes and only when no feasible alternatives are available.
BI	234	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Avoid new dredging to the maximum extent possible. Projects should be permitted only for water dependant purposes and only when no feasible alternatives are available.
BI	204	direct loss of wetlands, fragmentation	Loss of wetlands due to shore line development, bulkheads, and poor urban development	The diking and draining of tidal marshlands and estuaries should not be undertaken unless a satisfactory compensatory mitigation plan is in effect and monitored.

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
BI	253	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Identify excess sedimentation in the watershed that prompts excessive maintenance dredging activities and implement appropriate management techniques to ensure actions are taken to curtail those causes.
BI	263	Abundance and distribution	collect data which status and habitat of species can be determined	*Research abundance and distribution of species for which status and habitat can be determined, by including additional data collection in present studies.*
BI	264	Building commercial industry	check in with the species before it is impacted by the fishery	*Monitor the status and condition of species before they are impacted by building commercial fisheries.*
BI	266	Expand survey	increase data collection	*Expand species surveys and increase data collection by adding selected target species to existing surveys.*
BI	269	literature search	identify key periods of the life history	*Conduct a literature search to identify key periods of the life history of benthic invertebrates and identify other research needs.*
BI	265	Environmental insults may be impacting more than we think	slight changes may make big impacts, look for the little changes	*Research slight changes in environmental factors that may lead to large impacts to the resource.*
BI	267	harvest levels	how many are being caught	*Identify harvest levels of benthic invertebrate species.*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
BI	268	Impacts on shellfish restoration	are they effecting the shellfish restoration	*Assess impacts to shellfish restoration projects and determine if they are adversely affecting restoration efforts.*
BI	271	Once disturbed do they relocate to spawn or not spawn at all = site fidelity		*Assess the site fidelity of benthic invertebrates, whether they will relocate to spawn or not spawn at all following disturbance.*
BI	272	Predator prey relationship	Identify where they are in the food chain	*Research predator / prey relationships to determine where species are in the food chain by identifying their most common food sources and what preys on them.*
BI	273	Pre-emergent life history data... Where are they?		*Research life history data to locate species in their pre-emergent life stage.*
BI	274	Reproductive cycle they are extremely vulnerable		*Assess the vulnerability of species during their reproductive cycle.*
BI	275	Spawning area	identify and map critical areas in the life history	*Identify and map critical areas in the life history of species, particularly spawning areas.*
Estuarine Invertebrates				
EI	321	Nutrient loading	sewage pollution- combined sewage overflow, failing and inadequate systems, boat waste	Locate discharge points in coastal waters well away from shellfish beds, seagrass beds, reefs and other similar fragile and productive habitats.

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
EI	287	Increased sedimentation and reduction of light in the water column	Loss of wetlands due to shore line development, bulkheads, and poor urban development	Wherever possible, "soft" approaches (such as beach nourishment, vegetative plantings, and placement of large woody debris) to shoreline modifications should be used.
EI	316	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Avoid locating roads near wetlands and fish bearing streams. Roads should be sited to avoid sensitive areas such as wetlands, streams, step slopes.
EI	315	direct contamination	oil spills, marine accidents, ocean dumping	increase data bank on species habitat preferences and use in oil spill response planning and mapping.
EI	278	Direct loss of wetlands, ditching and draining wetlands	Dredging, dredge disposal and other benthic disturbances	Identify and characterize fishery habitat functions and service in the project area.
EI	327	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Identify and characterize fishery habitat functions and service in the project area.
EI	288	removal and disturbance of the plants, suspended sediments blocking the light, physical removal by fishing dredges	Dredging, dredge disposal and other benthic disturbances such as trawling.	Identify and characterize fishery habitat functions and service in the project area.
EI	317	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Identify and characterize fishery habitat functions and service in the project area.

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
EI	307	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Identify and characterize fishery habitat functions and service in the project area.
EI	277	direct loss of wetlands, fragmentation	Loss of wetlands due to shore line development, bulkheads, and poor urban development	Avoid placing pipelines and accessory equipment used in conjunction with construction or dredging operations to the maximum extent possible close to kelp beds, eelgrass beds, estuarine / salt marshes and any other high value habitat.
EI	326	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Avoid locating roads near wetlands and fish bearing streams. Roads should be sited to avoid sensitive areas such as wetlands, streams, step slopes.
EI	338	Environmental issues/ changes effecting the species	slight changes may make big impacts, look for the little changes	*Research environmental sensitivity for slight changes in environmental factors that may lead to large impacts to the resource.*
EI	339	literature search	identify key periods of the life history	*Conduct a literature search to identify key periods of the life history of estuarine invertebrates, gather abundance and distribution data, and identify other research needs.*
EI	340	Map and identify spawning areas and habitat types	identify and map critical areas in the life history	*Identify and map critical areas and habitat types in the life history of species, particularly spawning areas, by incorporating estuarine invertebrates into other surveys.*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
EI	336	Competition between species. Inter specific competition	are they competing and if how and where and what is it doing to the stock	*Assess competition between species and inter-specific competition to determine if they are competing and, if so, how, where and what the competition is doing to the stocks.*
EI	337	Environmental indicator?	may be indicator of the health of the marsh/ estuarine environment	*Assess which species may be indicators of the health of the marsh / estuarine environment.*
EI	341	Predator prey relationship	Identify where they are in the food chain	*Research predator / prey relationships to determine where species are in the food chain by identifying their most common food sources and what preys on them.*
EI	343	Water quality		*Assess the water quality of estuarine invertebrate habitats, identifying the need for additional conservation actions.*
Habitat Invertebrates				
HI	389	Nutrient loading	sewage pollution- combined sewage overflow, failing and inadequate systems, boat waste	Incorporate best management practices to prevent or minimize contamination from ship bildge waters, antifouling paints, shipboard accidents, shipyard work, maintenance dredging and disposal, and non point source contaminants from upland facilities related
HI	355	Increased sedimentation and reduction of light in the water column	Loss of wetlands due to shore line development, bulkheads, and poor urban development	Use an adaptive management plan with ecological indicators to oversee monitoring and ensure mitigation objectives are met. Take corrective action as needed.

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
HI	384	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Avoid placing pipelines and accessory equipment used in conjunction with construction or dredging operations to the maximum extent possible close to kelp beds, eelgrass beds, estuarine / salt marshes and any other high value habitat.
HI	383	direct contamination	oil spills, marine accidents, ocean dumping	increase data bank on species habitat preferences and use in oil spill response planning and mapping.
HI	346	Direct loss of wetlands, ditching and draining wetlands	Dredging, dredge disposal and other benthic disturbances	Adequate compensatory mitigation should be provided for unavoidable impacts.
HI	395	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Adequate compensatory mitigation should be provided for unavoidable impacts.
HI	356	removal and disturbance of the plants, suspended sediments blocking the light, physical removal by fishing dredges	Dredging, dredge disposal and other benthic disturbances such as trawling.	Adequate compensatory mitigation should be provided for unavoidable impacts.
HI	385	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Adequate compensatory mitigation should be provided for unavoidable impacts.
HI	375	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Adequate compensatory mitigation should be provided for unavoidable impacts.

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
HI	345	direct loss of wetlands, fragmentation	Loss of wetlands due to shore line development, bulkheads, and poor urban development	Wherever possible, "soft" approaches (such as beach nourishment, vegetative plantings, and placement of large woody debris) to shoreline modifications should be used.
HI	394	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Avoid placing pipelines and accessory equipment used in conjunction with construction or dredging operations to the maximum extent possible close to kelp beds, eelgrass beds, estuarine / salt marshes and any other high value habitat.
HI	404	Abundance and distribution	collect data which status and habitat of species can be determined	*Research abundance and distribution of species for which status and habitat can be determined, by including additional data collection to existing surveys.*
HI	406	literature search	identify and map critical areas in the life history	*Conduct a literature search to identify and map critical areas in the life history of habitat specific invertebrates and identify other research needs.*
HI	407	Very long time to reestablish after disturbances		*Assess the length of time for habitat specific invertebrates to reestablish following disturbance.*
HI	405	Competitor/ Epiphytic growth on plants	are they out competing things or are they in a balance	*Research epiphytic growth on plants to determine if they are outcompeting other species or if they are in a balance.*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
HI	408	Food source	identify where they are in the food chain and see if they are limited or a limiting factor	*Identify where habitat specific invertebrates are in the food chain, what they are a food source for, and determine if they are limited or a limiting factor.*
HI	409	May be decline in stocks but is unknown to us		*Assess whether stocks of habitat specific invertebrates are in decline.*
Key Habitats				
1) Deciduous forest beech/maple				
DFMB	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
DFMB	102	lack of information	habitat loss and demographic changes from invasive species (vegetation and animal)	*Evaluate nutritional value of exotic fruit-bearing plants*
DFMB	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
DFMB	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
DFMB	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
2) Deciduous forest oak/heath				
DFO	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
DFO	102	lack of information	habitat loss and demographic changes from invasive species (vegetation and animal)	*Evaluate nutritional value of exotic fruit-bearing plants*
DFO	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
DFO	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
DFO	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
3) Deciduous forest oak/hickory				
DFOH	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
DFOH	102	lack of information	habitat loss and demographic changes from invasive species (vegetation and animal)	*Evaluate nutritional value of exotic fruit-bearing plants*
DFOH	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
DFOH	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
DFOH	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
4) Deciduous forest oak/holly				
DFH	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
DFH	102	lack of information	habitat loss and demographic changes from invasive species (vegetation and animal)	*Evaluate nutritional value of exotic fruit-bearing plants*
DFH	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
DFH	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
DFH	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
5) Deciduous forest unspecified				
DF	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
DF	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
DF	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
DF	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
DF	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
DF	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
DF	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
DF	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
DF	68	habitat loss	habitat loss of critical micro-features	*evaluate need for nesting structures/boxes and identify priority sites for management*
DF	70	habitat loss	habitat loss of critical micro-features	*evaluate need for nesting substrate and identify priority sites for management*
DF	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
DF	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
DF	97	demography	demographic changes from aquatic invasives	*investigate feasibility of altering hydrology of certain wetlands*
DF	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
DF	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
6) Evergreen forest hemlock				
EFH	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
EFH	69	habitat loss	habitat loss of critical micro-features	*evaluate existing significant hibernacula*
EFH	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
EFH	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
7) Evergreen forest pine				

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
EFP	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
EFP	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
EFP	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
EFP	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
EFP	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
8) Evergreen forest red cedar				
EFR	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
EFR	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
EFR	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
EFR	102	lack of information	habitat loss and demographic changes from invasive species (vegetation and animal)	*Evaluate nutritional value of exotic fruit-bearing plants*
EFR	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
EFR	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
EFR	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
9) Evergreen forest spruce plantation				
EFS	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
EFS	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
EFS	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
EFS	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
EFS	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
10) Evergreen forest unspecified				
EF	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
EF	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
EF	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
EF	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
EF	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
11) Pitch pine/oak				

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
EFPO	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
EFPO	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
EFPO	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
EFPO	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
EFPO	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
EFPO	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
EFPO	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
EFPO	69	habitat loss	habitat loss of critical micro-features	*evaluate existing significant hibernacula*
EFPO	81	demography	demographic changes from incidental take (human)	Expand public relations for snakes
EFPO	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
EFPO	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
EFPO	97	demography	demographic changes from aquatic invasives	*investigate feasibility of altering hydrology of certain wetlands*
EFPO	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
EFPO	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
EFPO	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
12) Pitch pine/scrub oak barren				
EFPS	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
EFPS	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
EFPS	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
EFPS	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
EFPS	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
EFPS	102	lack of information	habitat loss and demographic changes from invasive species (vegetation and animal)	*Evaluate nutritional value of exotic fruit-bearing plants*
EFPS	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
EFPS	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
EFPS	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
EFPS	77	Demography	demographic changes from excessive predation (animal)	Protect individual nests from predation

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
13) Mixed forest deciduous unspecified				
MFD	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
MFD	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
MFD	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
MFD	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
MFD	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
MFD	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
MFD	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
MFD	77	Demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
MFD	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
14) Mixed forest evergreen unspecified				
MFE	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
MFE	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
MFE	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
MFE	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
MFE	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
15) Forest unspecified				
F	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
F	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
F	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
F	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
F	69	habitat loss	habitat loss of critical micro-features	*evaluate existing significant hibernacula*
F	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
F	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
F	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
F	68	habitat loss	habitat loss of critical micro-features	*evaluate need for nesting structures/boxes and identify priority sites for management*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
F	81	demography	demographic changes from incidental take (human)	Expand public relations for snakes
F	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
F	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
F	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
F	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
F	102	lack of information	habitat loss and demographic changes from invasive species (vegetation and animal)	*Evaluate nutritional value of exotic fruit-bearing plants*
F	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
F	97	demography	demographic changes from aquatic invasives	*investigate feasibility of altering hydrology of certain wetlands*
16) Agricultural cropland hay				
AGH	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
AGH	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
AGH	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
AGH	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
AGH	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
AGH	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
AGH	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
AGH	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
AGH	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
17) Agricultural grazing				
AGP	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
AGP	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
AGP	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
AGP	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
AGP	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
AGP	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
AGP	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
AGP	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
AGP	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
18) Idle agriculture				
AF	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
AF	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
AF	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
AF	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
AF	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
AF	68	habitat loss	habitat loss of critical micro-features	*evaluate need for nesting structures/boxes and identify priority sites for management*
AF	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
AF	102	lack of information	habitat loss and demographic changes from invasive species (vegetation and animal)	*Evaluate nutritional value of exotic fruit-bearing plants*
AF	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
AF	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
AF	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
AF	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
19) Agricultural land unspecified				
AG	68	habitat loss	habitat loss of critical micro-features	*evaluate need for nesting structures/boxes and identify priority sites for management*
AG	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
AG	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
AG	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
AG	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
20) Maritime grassland				
BRG	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
BRG	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
BRG	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
BRG	102	lack of information	habitat loss and demographic changes from invasive species (vegetation and animal)	*Evaluate nutritional value of exotic fruit-bearing plants*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
BRG	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
BRG	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
BRG	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
21) Coastal shrubland				
BRS	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
BRS	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
BRS	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
BRS	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
BRS	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
BRS	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
BRS	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
BRS	102	lack of information	habitat loss and demographic changes from invasive species (vegetation and animal)	*Evaluate nutritional value of exotic fruit-bearing plants*
BRS	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
BRS	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
BRS	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
BRS	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
22) Barren land unspecified				
B	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
B	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
B	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
B	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
B	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
B	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
B	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
B	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
B	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
23) Beach grass dune				
BR/EUS	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
BR/EUS	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
BR/EUS	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
BR/EUS	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
BR/EUS	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
BR/EUS	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
24) Freshwater beach				
BF	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
BF	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
BF	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
BF	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
BF	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
BF	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
25) Gravel pits and quarries				
BA	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
BA	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
BA	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
BA	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
26) Inland dune/cobble				
IDC	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
IDC	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
IDC	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
IDC	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
IDC	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
IDC	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
IDC	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
27) Inland dune sand barren				
IDS	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
IDS	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
IDS	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
IDS	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
IDS	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
IDS	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
IDS	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
28) Natural rock outcrops				
ROQ	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
ROQ	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
ROQ	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
ROQ	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
ROQ	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
ROQ	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
29) Emergent fen/bog				
EMB	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
EMB	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
EMB	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
EMB	102	lack of information	habitat loss and demographic changes from invasive species (vegetation and animal)	*Evaluate nutritional value of exotic fruit-bearing plants*
EMB	70	habitat loss	habitat loss of critical micro-features	*evaluate need for nesting substrate and identify priority sites for management*
EMB	81	demography	demographic changes from incidental take (human)	Expand public relations for snakes
EMB	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
EMB	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
EMB	50	habitat loss	loss of breeding habitat for amphibians	*evaluate feasibility and efficacy of making additional amphibian breeding habitat*
EMB	51	habitat loss	loss of breeding habitat for amphibians	Construct and maintain new amphibian breeding habitat (seasonal pond project)
EMB	52	habitat loss	loss of breeding habitat for amphibians	Enhance regulations to protect amphibian breeding habitat
EMB	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
EMB	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
EMB	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
EMB	97	demography	demographic changes from aquatic invasives	*investigate feasibility of altering hydrology of certain wetlands*
EMB	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
30) Coastal plain quagmire				
EMBQ	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
EMBQ	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
EMBQ	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
31) Emergent marsh deep				

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
EMAD	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
EMAD	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
EMAD	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
EMAD	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
EMAD	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
EMAD	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
32) Emergent marsh shallow/wet meadow				
EMAS	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
EMAS	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
EMAS	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
EMAS	102	lack of information	habitat loss and demographic changes from invasive species (vegetation and animal)	*Evaluate nutritional value of exotic fruit-bearing plants*
EMAS	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
EMAS	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
EMAS	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
EMAS	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
EMAS	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
EMAS	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
EMAS	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
EMAS	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
33) Freshwater wetland unspecified				
FW	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
FW	102	lack of information	habitat loss and demographic changes from invasive species (vegetation and animal)	*Evaluate nutritional value of exotic fruit-bearing plants*
FW	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
FW	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
FW	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
34) Seasonally flooded coastal plain pondshores				
EMAC	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
EMAC	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
EMAC	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
35) Shrub bog unspecified				
SSB	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
SSB	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
SSB	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
SSB	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
SSB	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
SSB	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
SSB	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
36) Shrub swamp alder				

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
SSAA	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
SSAA	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
SSAA	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
SSAA	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
SSAA	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
SSAA	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
SSAA	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
SSAA	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
SSAA	102	lack of information	habitat loss and demographic changes from invasive species (vegetation and animal)	*Evaluate nutritional value of exotic fruit-bearing plants*
SSAA	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
37) Shrub swamp water willow				
SSAD	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
SSAD	102	lack of information	habitat loss and demographic changes from invasive species (vegetation and animal)	*Evaluate nutritional value of exotic fruit-bearing plants*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
SSAD	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
SSAD	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
SSAD	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
38) Forested coniferous wetland white cedar				
FOAC	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
FOAC	102	lack of information	habitat loss and demographic changes from invasive species (vegetation and animal)	*Evaluate nutritional value of exotic fruit-bearing plants*
FOAC	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
FOAC	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
FOAC	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
39) Forested coniferous wetland unspecified				
FOA	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
FOA	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
FOA	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
FOA	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
FOA	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
40) Forested deciduous red maple swamp				
FOBMA	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
FOBMA	68	habitat loss	habitat loss of critical micro-features	*evaluate need for nesting structures/boxes and identify priority sites for management*
FOBMA	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
FOBMA	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
FOBMA	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
FOBMA	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
41) Forested deciduous wetland unspecified				
FOB	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
FOB	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
FOB	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
FOB	81	demography	demographic changes from incidental take (human)	Expand public relations for snakes
FOB	97	demography	demographic changes from aquatic invasives	*investigate feasibility of altering hydrology of certain wetlands*
FOB	102	lack of information	habitat loss and demographic changes from invasive species (vegetation and animal)	*Evaluate nutritional value of exotic fruit-bearing plants*
FOB	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
FOB	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
FOB	50	habitat loss	loss of breeding habitat for amphibians	*evaluate feasibility and efficacy of making additional amphibian breeding habitat*
FOB	51	habitat loss	loss of breeding habitat for amphibians	Construct and maintain new amphibian breeding habitat (seasonal pond project)
FOB	52	habitat loss	loss of breeding habitat for amphibians	Enhance regulations to protect amphibian breeding habitat
FOB	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
42) Springs				

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
SS	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
SS	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
SS	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
SS	81	demography	demographic changes from incidental take (human)	Expand public relations for snakes
SS	97	demography	demographic changes from aquatic invasives	*investigate feasibility of altering hydrology of certain wetlands*
SS	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
SS	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
SS	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
43) River black water creek				
RBC	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
RBC	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
RBC	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
44) River upper perennial				
RUP	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
RUP	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
RUP	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
RUP	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
RUP	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
RUP	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
RUP	70	habitat loss	habitat loss of critical micro-features	*evaluate need for nesting substrate and identify priority sites for management*
RUP	69	habitat loss	habitat loss of critical micro-features	*evaluate existing significant hibernacula*
RUP	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
RUP	97	demography	demographic changes from aquatic invasives	*investigate feasibility of altering hydrology of certain wetlands*
RUP	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
45) River lower perennial				

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
RLP	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
RLP	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
RLP	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
RLP	70	habitat loss	habitat loss of critical micro-features	*evaluate need for nesting substrate and identify priority sites for management*
RLP	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
RLP	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
RLP	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
RLP	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
RLP	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
RLP	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
RLP	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
46) Lacustrine eutrophic lake pond				
LE	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
LE	81	demography	demographic changes from incidental take (human)	Expand public relations for snakes
LE	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
47) Lacustrine oligotrophic lake pond				
LO	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
LO	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
LO	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
LO	68	habitat loss	habitat loss of critical micro-features	*evaluate need for nesting structures/boxes and identify priority sites for management*
LO	70	habitat loss	habitat loss of critical micro-features	*evaluate need for nesting substrate and identify priority sites for management*
LO	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
LO	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
LO	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
LO	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
48) Permanent fishless pond				
PFP	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
PFP	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
PFP	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
49) Seasonally flooded pond				
SFP	50	habitat loss	loss of breeding habitat for amphibians	*evaluate feasibility and efficacy of making additional amphibian breeding habitat*
SFP	51	habitat loss	loss of breeding habitat for amphibians	Construct and maintain new amphibian breeding habitat (seasonal pond project)
SFP	52	habitat loss	loss of breeding habitat for amphibians	Enhance regulations to protect amphibian breeding habitat
SFP	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
SFP	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
SFP	81	demography	demographic changes from incidental take (human)	Expand public relations for snakes
SFP	97	demography	demographic changes from aquatic invasives	*investigate feasibility of altering hydrology of certain wetlands*
SFP	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
SFP	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
SFP	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
SFP	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
SFP	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
SFP	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
SFP	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
SFP	69	habitat loss	habitat loss of critical micro-features	*evaluate existing significant hibernacula*
50) Semi-permanent flooded pond				
SPP	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
SPP	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
SPP	50	habitat loss	loss of breeding habitat for amphibians	*evaluate feasibility and efficacy of making additional amphibian breeding habitat*
SPP	51	habitat loss	loss of breeding habitat for amphibians	Construct and maintain new amphibian breeding habitat (seasonal pond project)
SPP	52	habitat loss	loss of breeding habitat for amphibians	Enhance regulations to protect amphibian breeding habitat

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
SPP	81	demography	demographic changes from incidental take (human)	Expand public relations for snakes
SPP	97	demography	demographic changes from aquatic invasives	*investigate feasibility of altering hydrology of certain wetlands*
SPP	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
SPP	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
SPP	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
SPP	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
SPP	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
SPP	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
SPP	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
51) Estuarine intertidal emergent brackish marsh				
EEBM	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
EEBM	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
EEBM	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
EEBM	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
EEBM	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
EEBM	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
EEBM	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
EEBM	70	habitat loss	habitat loss of critical micro-features	*evaluate need for nesting substrate and identify priority sites for management*
EEBM	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
EEBM	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*
EEBM	97	Demography	demographic changes from aquatic invasives	*investigate feasibility of altering hydrology of certain wetlands*
EEBM	102	lack of information	habitat loss and demographic changes from invasive species (vegetation and animal)	*Evaluate nutritional value of exotic fruit-bearing plants*
52) Estuarine bluff clay				
EBC	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
EBC	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
EBC	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
EBC	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
EBC	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
EBC	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
53) Estuarine rocky shore bedrock				
ERSB	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
ERSB	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
ERSB	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
ERSB	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
ERSB	77	Demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
ERSB	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
54) Estuarine unconsolidated shore sand dune beach				

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
EUSG	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
EUSG	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
EUSG	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
EUSG	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
EUSG	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
EUSG	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
EUSG	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
55) Estuarine unconsolidated shore cobble/shell				
EUC	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
EUC	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
EUC	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
EUC	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
EUC	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
EUC	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
EUC	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
EUC	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
EUC	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
EUC	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
EUC	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
56) Estuarine beaches unspecified				
BE	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
BE	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
BE	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
BE	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
BE	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
BE	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
BE	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
BE	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
BE	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
BE	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
BE	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
57) Estuarine subtidal aquatic bed rooted vascular				
ESARV	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
ESARV	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
ESARV	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
ESARV	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
ESARV	102	lack of information	habitat loss and demographic changes from invasive species (vegetation and animal)	*Evaluate nutritional value of exotic fruit-bearing plants*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
ESARV	215	removal and disturbance of the plants, suspended sediments blocking the light, physical removal by fishing dredges	Dredging, dredge disposal and other benthic disturbances such as trawling.	Avoid new dredging to the maximum extent possible. Projects should be permitted only for water dependant purposes and only when no feasible alternatives are available.
ESARV	81	removal and disturbance of the plants, suspended sediments blocking the light, physical removal by fishing dredges	Dredging, dredge disposal and other benthic disturbances such as trawling.	Undertake Multi season, pre- and post-dredging biological surveys to assess impacts to animal and submerged aquatic vegetation communities.
ESARV	145	removal and disturbance of the plants, suspended sediments blocking the light, physical removal by fishing dredges	Dredging, dredge disposal and other benthic disturbances such as trawling.	Address cumulative impacts of past and current dredging operations on fishery resources by considering them as part of the permitting process.
ESARV	288	removal and disturbance of the plants, suspended sediments blocking the light, physical removal by fishing dredges	Dredging, dredge disposal and other benthic disturbances such as trawling.	Identify and characterize fishery habitat functions and service in the project area.

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
ESARV	356	removal and disturbance of the plants, suspended sediments blocking the light, physical removal by fishing dredges	Dredging, dredge disposal and other benthic disturbances such as trawling.	Adequate compensatory mitigation should be provided for unavoidable impacts.
ESARV	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
ESARV	214	Increased sedimentation and reduction of light in the water column	Loss of wetlands due to shore line development, bulkheads, and poor urban development	Minimize the loss of riparian habitats as much as possible.
ESARV	80	Increased sedimentation and reduction of light in the water column	Loss of wetlands due to shore line development, bulkheads, and poor urban development	Avoid locating roads near wetlands and fish bearing streams. Roads should be sited to avoid sensitive areas such as wetlands, streams, step slopes.
ESARV	144	Increased sedimentation and reduction of light in the water column	Loss of wetlands due to shore line development, bulkheads, and poor urban development	Avoid placing pipelines and accessory equipment used in conjunction with construction or dredging operations to the maximum extent possible close to kelp beds, eelgrass beds, estuarine / salt marshes and any other high value habitat.
ESARV	287	Increased sedimentation and reduction of light in the water column	Loss of wetlands due to shore line development, bulkheads, and poor urban development	Wherever possible, "soft" approaches (such as beach nourishment, vegetative plantings, and placement of large woody debris) to shoreline modifications should be used.

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
ESARV	355	Increased sedimentation and reduction of light in the water column	Loss of wetlands due to shore line development, bulkheads, and poor urban development	Use an adaptive management plan with ecological indicators to oversee monitoring and ensure mitigation objectives are met. Take corrective action as needed.
ESARV	11	Increased sedimentation and reduction of light in the water column	Loss of wetlands due to shore line development, bulkheads, and poor urban development	The diking and draining of tidal marshlands and estuaries should not be undertaken unless a satisfactory compensatory mitigation plan is in effect and monitored.
ESARV	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
58) Hard rocky bottoms				
MRB/ERB	248	Nutrient loading	sewage pollution- combined sewage overflow, failing and inadequate systems, boat waste	Incorporate best management practices to prevent or minimize contamination from ship bildge waters, antifouling paints, shipboard accidents, shipyard work, maintenance dredging and disposal, and non point source contaminants from upland facilities related
MRB/ERB	114	Nutrient loading	sewage pollution- combined sewage overflow, failing and inadequate systems, boat waste	Discharges should be treated to the maximum extent practicable, including implementation of up-to-date methodologies for reducing discharges of biocides such as chlorine and other toxic substances.

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
MRB/ERB	178	Nutrient loading	sewage pollution- combined sewage overflow, failing and inadequate systems, boat waste	Improve land use efficiencies for key agricultural inputs including nitrogen phosphorus pesticides and irrigation water.
MRB/ERB	321	Nutrient loading	sewage pollution- combined sewage overflow, failing and inadequate systems, boat waste	Locate discharge points in coastal waters well away from shellfish beds, seagrass beds, reefs and other similar fragile and productive habitats.
MRB/ERB	389	Nutrient loading	sewage pollution- combined sewage overflow, failing and inadequate systems, boat waste	
MRB/ERB	45	Nutrient loading	sewage pollution- combined sewage overflow, failing and inadequate systems, boat waste	
MRB/ERB	243	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Identify excess sedimentation in the watershed that prompts excessive maintenance dredging activities and implement appropriate management techniques to ensure actions are taken to curtail those causes.
MRB/ERB	109	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	The diking and draining of tidal marshlands and estuaries should not be undertaken unless a satisfactory compensatory mitigation plan is in effect and monitored.
MRB/ERB	173	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Minimize the loss of riparian habitats as much as possible.

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
MRB/ERB	316	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Avoid locating roads near wetlands and fish bearing streams. Roads should be sited to avoid sensitive areas such as wetlands, streams, step slopes.
MRB/ERB	384	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Avoid placing pipelines and accessory equipment used in conjunction with construction or dredging operations to the maximum extent possible close to kelp beds, eelgrass beds, estuarine / salt marshes and any other high value habitat.
MRB/ERB	40	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Wherever possible, "soft" approaches (such as beach nourishment, vegetative plantings, and placement of large woody debris) to shoreline modifications should be used.
MRB/ERB		increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Use an adaptive management plan with ecological indicators to oversee monitoring and ensure mitigation objectives are met. Take corrective action as needed.
MRB/ERB	244	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Avoid new dredging to the maximum extent possible. Projects should be permitted only for water dependant purposes and only when no feasible alternatives are available.
MRB/ERB	110	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Undertake Multi season, pre- and post-dredging biological surveys to assess impacts to animal and submerged aquatic vegetation communities.

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
MRB/ERB	174	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Address cumulative impacts of past and current dredging operations on fishery resources by considering them as part of the permitting process.
MRB/ERB	317	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Identify and characterize fishery habitat functions and service in the project area.
MRB/ERB	385	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Adequate compensatory mitigation should be provided for unavoidable impacts.
MRB/ERB	41	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	
59) Soft bottom / unconsolidated sediments				
MUB/EUB	253	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Identify excess sedimentation in the watershed that prompts excessive maintenance dredging activities and implement appropriate management techniques to ensure actions are taken to curtail those causes.
MUB/EUB	119	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	The diking and draining of tidal marshlands and estuaries should not be undertaken unless a satisfactory compensatory mitigation plan is in effect and monitored.
MUB/EUB	183	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Minimize the loss of riparian habitats as much as possible.

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
MUB/EUB	326	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Avoid locating roads near wetlands and fish bearing streams. Roads should be sited to avoid sensitive areas such as wetlands, streams, step slopes.
MUB/EUB	394	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Avoid placing pipelines and accessory equipment used in conjunction with construction or dredging operations to the maximum extent possible close to kelp beds, eelgrass beds, estuarine / salt marshes and any other high value habitat.
MUB/EUB	50	increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Wherever possible, "soft" approaches (such as beach nourishment, vegetative plantings, and placement of large woody debris) to shoreline modifications should be used.
MUB/EUB		increased nutrient loading and sedimentation	Loss of riparian vegetation, fringe wetlands due to shore line development, bulkheads, and poor urban development	Use an adaptive management plan with ecological indicators to oversee monitoring and ensure mitigation objectives are met. Take corrective action as needed.
MUB/EUB	254	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Avoid new dredging to the maximum extent possible. Projects should be permitted only for water dependant purposes and only when no feasible alternatives are available.
MUB/EUB	120	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Undertake Multi season, pre- and post-dredging biological surveys to assess impacts to animal and submerged aquatic vegetation communities.

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
MUB/EUB	184	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Address cumulative impacts of past and current dredging operations on fishery resources by considering them as part of the permitting process.
MUB/EUB	327	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Identify and characterize fishery habitat functions and service in the project area.
MUB/EUB	395	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Adequate compensatory mitigation should be provided for unavoidable impacts.
MUB/EUB	51	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	
60) Varied bottom / invertebrate beds				
MRF/ERF	242	direct contamination	oil spills, marine accidents, ocean dumping	Increase number and training of response teams in the event of an accident.
MRF/ERF	108	direct contamination	oil spills, marine accidents, ocean dumping	increase data bank on species habitat preferences and use in oil spill response planning and mapping.
MRF/ERF	172	direct contamination	oil spills, marine accidents, ocean dumping	
MRF/ERF	315	direct contamination	oil spills, marine accidents, ocean dumping	
MRF/ERF	383	direct contamination	oil spills, marine accidents, ocean dumping	
MRF/ERF	39	direct contamination	oil spills, marine accidents, ocean dumping	

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
MRF/ERF	234	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Avoid new dredging to the maximum extent possible. Projects should be permitted only for water dependant purposes and only when no feasible alternatives are available.
MRF/ERF	100	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Undertake Multi season, pre- and post-dredging biological surveys to assess impacts to animal and submerged aquatic vegetation communities.
MRF/ERF	164	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Address cumulative impacts of past and current dredging operations on fishery resources by considering them as part of the permitting process.
MRF/ERF	307	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Identify and characterize fishery habitat functions and service in the project area.
MRF/ERF	375	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Adequate compensatory mitigation should be provided for unavoidable impacts.
MRF/ERF	31	direct removal, increased sedimentation	Dredging, dredge disposal and other benthic disturbances such as trawling.	Study all options for disposal of dredged materials, including disposal sites and methods used. Upland disposal sites should be considered as an alternative to offshore disposal sites.
61) Estuarine/Marine open water				
MOW/EOW	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
MOW/EOW	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
MOW/EOW	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
62) Predator free islands				
PFI	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
PFI	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
PFI	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
PFI	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
PFI	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
PFI	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
PFI	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
PFI	70	habitat loss	habitat loss of critical micro-features	*evaluate need for nesting substrate and identify priority sites for management*
PFI	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
PFI	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
				parcels
PFI	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
PFI	68	habitat loss	habitat loss of critical micro-features	*evaluate need for nesting structures/boxes and identify priority sites for management*
63) Urban				
U	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
U	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
U	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
U	68	habitat loss	habitat loss of critical micro-features	*evaluate need for nesting structures/boxes and identify priority sites for management*
U	70	habitat loss	habitat loss of critical micro-features	*evaluate need for nesting substrate and identify priority sites for management*
U	76	habitat fragmentation	habitat fragmentation and degradation from human disturbance	Control public access at priority sites
U	77	demography	demographic changes from excessive predation (animal)	Protect individual nests from predation
U	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
64) Unknown				

Category	Tracking #	Threat or Research Need	Description	Conservation Action or I/R/M Need
K	142	lack of strategy	lack of information from research to address habitat and taxonomic issues	*research additional habitat use issues*
K	154	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at breeding sites
K	55	habitat loss	loss of habitat from plant succession	*Identify priority parcels to retain as core forest areas with minimal management*
K	21	lack of comprehensive strategy	lack of research to guide threat assessment and prioritization of conservation planning	*Identify concentration areas for non-breeding populations*
K	68	habitat loss	habitat loss of critical micro-features	*evaluate need for nesting structures/boxes and identify priority sites for management*
K	69	habitat loss	habitat loss of critical micro-features	*evaluate existing significant hibernacula*
K	58	habitat loss	loss of habitat from plant succession	Develop fire prescriptions for priority parcels
K	59	habitat loss	loss of habitat from plant succession	Implement burn management on priority parcels
K	60	habitat loss	loss of habitat from plant succession	Expand public relations for fire management
K	155	lack of strategy	lack of information for monitoring and on-going assessment	initiate monitoring of species at non-breeding sites
K	147	lack of information	lack of information from research to address habitat and taxonomic issues	*Evaluate use of migratory stopover/winter habitat*
K	143	lack of strategy	lack of information from research to address habitat and taxonomic issues	*determine metapopulation structure*

Appendix 4. Conservation Actions

This appendix lists the conservation actions and inventory, research and monitoring needs prioritized after a review of existing relevant local, state, regional, national and international conservation plans compiled for this CWCS effort (Element 4). This table presents the final prioritization of actions developed to address the threats identified by RI DEM DFW and its partners (Appendix 3). The table is broken down by the 64 key habitats. Inventory, research and monitoring needs are in italics. Appendix 3 represents the link from threats to conservation actions as excerpted from the RI DEM DFW CWCS database.
Category: S, T, H = State, Taxa, or Habitat Action
 # = Tracking Number

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
1) Deciduous forest beech/maple					
DFMB	S	2	Assemble all parcel data for state in digital form	Number of parcels converted to digital; % of parcels with digital data	**3**
DFMB	S	3	Get/create overlay of protected lands	Number of overlays created; % of protected lands with overlay	**3**
DFMB	S	6	Assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**3**
DFMB	S	7	Assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**3**
DFMB	S	10	Create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**3**
DFMB	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**3**
DFMB	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**3**
DFMB	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**3**
DFMB	S	26	*(combined with above)*		**3**
DFMB	S	37	*Identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DFMB	S	38	Initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**3**
DFMB	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**3**
DFMB	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**3**
DFMB	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**3**
DFMB	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**3**
DFMB	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**3**
DFMB	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**3**
DFMB	S	140	Develop process to facilitate research priorities		**3**
DFMB	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
DFMB	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**3**
DFMB	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**3**
DFMB	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**3**
DFMB	S	162	Compile and publish research and planning results	# of research and plan results published	**3**
DFMB	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**3**
DFMB	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**3**
DFMB	S	165	(combined with above)		**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DFMB	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**2**
DFMB	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**2**
DFMB	S	32	promote existing programs with private landowners	# of programs with increased participation	**2**
DFMB	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**2**
DFMB	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**2**
DFMB	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**3**
DFMB	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**3**
DFMB	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**
DFMB	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**3**
DFMB	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**3**
DFMB	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**3**
DFMB	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**3**
DFMB	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**3**
DFMB	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
DFMB	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**3**
DFMB	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DFMB	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**3**
DFMB	T	90	(repeat of above general invasives)		**3**
DFMB	T	99	(repeat of above general invasives)		**3**
DFMB	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**3**
DFMB	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**3**
DFMB	T	105	develop and implement invasive species management program	# of invasive management plans established	**3**
DFMB	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**3**
DFMB	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
DFMB	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**3**
DFMB	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**3**
DFMB	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**3**
DFMB	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**2**
DFMB	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFMB	T	11	create GIS coverage of forest age-class	# of GIS data sets	**1**
DFMB	T	12	create GIS coverage of shrublands	# of GIS data sets	**1**
DFMB	T	13	create GIS coverage of field habitats	# of GIS data sets	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DFMB	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**1**
DFMB	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**1**
DFMB	T	56	*Identify priority parcels needing serial-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**1**
DFMB	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**1**
DFMB	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**1**
DFMB	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**1**
DFMB	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
DFMB	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**1**
DFMB	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**1**
DFMB	T	117	(combined with above)		**1**
DFMB	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
DFMB	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
DFMB	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
DFMB	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DFMB	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
DFMB	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**1**
DFMB	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
DFMB	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**1**
DFMB	T	137	Conduct road mitigations where required	# of mitigation projects established	**1**
DFMB	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
DFMB	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**1**
DFMB	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**2**
DFMB	H	102	*Evaluate nutritional value of exotic fruit-bearing plants*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
DFMB	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
DFMB	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
DFMB	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
2) Deciduous forest oak/heath					
DFO	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**9**
DFO	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				with overlay	
DFO	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**9**
DFO	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**9**
DFO	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**9**
DFO	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**9**
DFO	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**9**
DFO	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**9**
DFO	S	26	*(combined with above)*		**9**
DFO	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**9**
DFO	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**9**
DFO	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**9**
DFO	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**9**
DFO	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**9**
DFO	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**9**
DFO	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**9**
DFO	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				chemical management	
DFO	S	140	Develop process to facilitate research priorities		**9**
DFO	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
DFO	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**9**
DFO	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**9**
DFO	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**9**
DFO	S	162	Compile and publish research and planning results	# of research and plan results published	**9**
DFO	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**9**
DFO	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**9**
DFO	S	165	(combined with above)		**9**
DFO	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**6**
DFO	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**6**
DFO	S	32	promote existing programs with private landowners	# of programs with increased participation	**6**
DFO	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**6**
DFO	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**6**
DFO	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**9**
DFO	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DFO	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**9**
DFO	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**9**
DFO	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**9**
DFO	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**9**
DFO	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**9**
DFO	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**9**
DFO	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
DFO	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**9**
DFO	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**9**
DFO	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**9**
DFO	T	90	(repeat of above general invasives)		**9**
DFO	T	99	(repeat of above general invasives)		**9**
DFO	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**9**
DFO	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**9**
DFO	T	105	develop and implement invasive species management program	# of invasive management plans established	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DFO	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**9**
DFO	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
DFO	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**9**
DFO	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**9**
DFO	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**9**
DFO	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**6**
DFO	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
DFO	T	11	create GIS coverage of forest age-class	# of GIS data sets	**3**
DFO	T	12	create GIS coverage of shrublands	# of GIS data sets	**3**
DFO	T	13	create GIS coverage of field habitats	# of GIS data sets	**3**
DFO	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**3**
DFO	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**3**
DFO	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**3**
DFO	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**3**
DFO	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**3**
DFO	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				into their plans	
DFO	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
DFO	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**3**
DFO	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**3**
DFO	T	117	(combined with above)		**3**
DFO	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
DFO	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
DFO	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
DFO	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
DFO	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
DFO	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**
DFO	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
DFO	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**3**
DFO	T	137	Conduct road mitigations where required	# of mitigation projects established	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DFO	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
DFO	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**3**
DFO	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**6**
DFO	H	102	*Evaluate nutritional value of exotic fruit-bearing plants*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
DFO	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
DFO	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
DFO	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**3**
3) Deciduous forest oak/hickory					
DFOH	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**6**
DFOH	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**6**
DFOH	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**6**
DFOH	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**6**
DFOH	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**6**
DFOH	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**6**
DFOH	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DFOH	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**6**
DFOH	S	26	*(combined with above)*		**6**
DFOH	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**6**
DFOH	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**6**
DFOH	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**6**
DFOH	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**6**
DFOH	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**6**
DFOH	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**6**
DFOH	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**6**
DFOH	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**6**
DFOH	S	140	Develop process to facilitate research priorities		**6**
DFOH	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
DFOH	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**6**
DFOH	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**6**
DFOH	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DFOH	S	162	Compile and publish research and planning results	# of research and plan results published	**6**
DFOH	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**6**
DFOH	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**6**
DFOH	S	165	(combined with above)		**6**
DFOH	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**4**
DFOH	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**4**
DFOH	S	32	promote existing programs with private landowners	# of programs with increased participation	**4**
DFOH	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**4**
DFOH	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**4**
DFOH	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**6**
DFOH	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**6**
DFOH	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**6**
DFOH	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**6**
DFOH	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implanting recommendations	**6**
DFOH	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**6**
DFOH	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**6**
DFOH	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				time	
DFOH	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
DFOH	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**6**
DFOH	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**6**
DFOH	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**6**
DFOH	T	90	(repeat of above general invasives)		**6**
DFOH	T	99	(repeat of above general invasives)		**6**
DFOH	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**6**
DFOH	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**6**
DFOH	T	105	develop and implement invasive species management program	# of invasive management plans established	**6**
DFOH	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**6**
DFOH	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
DFOH	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**6**
DFOH	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**6**
DFOH	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DFOH	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**4**
DFOH	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
DFOH	T	11	create GIS coverage of forest age-class	# of GIS data sets	**2**
DFOH	T	12	create GIS coverage of shrublands	# of GIS data sets	**2**
DFOH	T	13	create GIS coverage of field habitats	# of GIS data sets	**2**
DFOH	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**2**
DFOH	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**2**
DFOH	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**2**
DFOH	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**2**
DFOH	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**2**
DFOH	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**2**
DFOH	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFOH	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**2**
DFOH	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**2**
DFOH	T	117	(combined with above)		**2**
DFOH	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DFOH	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFOH	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFOH	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFOH	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFOH	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**2**
DFOH	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFOH	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**2**
DFOH	T	137	Conduct road mitigations where required	# of mitigation projects established	**2**
DFOH	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFOH	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**2**
DFOH	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**4**
DFOH	H	102	*Evaluate nutritional value of exotic fruit-bearing plants*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFOH	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DFOH	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFOH	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**2**
4) Deciduous forest oak/holly					
DFH	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**6**
DFH	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**6**
DFH	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**6**
DFH	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**6**
DFH	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**6**
DFH	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**6**
DFH	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**6**
DFH	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**6**
DFH	S	26	*(combined with above)*		**6**
DFH	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**6**
DFH	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**6**
DFH	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**6**
DFH	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DFH	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**6**
DFH	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**6**
DFH	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**6**
DFH	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**6**
DFH	S	140	Develop process to facilitate research priorities		**6**
DFH	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
DFH	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**6**
DFH	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**6**
DFH	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**6**
DFH	S	162	Compile and publish research and planning results	# of research and plan results published	**6**
DFH	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**6**
DFH	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**6**
DFH	S	165	(combined with above)		**6**
DFH	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**4**
DFH	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**4**
DFH	S	32	promote existing programs with private landowners	# of programs with increased participation	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DFH	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**4**
DFH	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**4**
DFH	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**6**
DFH	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**6**
DFH	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**6**
DFH	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**6**
DFH	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implanting recommendations	**6**
DFH	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**6**
DFH	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**6**
DFH	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**6**
DFH	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
DFH	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**6**
DFH	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**6**
DFH	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**6**
DFH	T	90	(repeat of above general invasives)		**6**
DFH	T	99	(repeat of above general invasives)		**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DFH	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**6**
DFH	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**6**
DFH	T	105	develop and implement invasive species management program	# of invasive management plans established	**6**
DFH	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**6**
DFH	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
DFH	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**6**
DFH	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**6**
DFH	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**6**
DFH	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**4**
DFH	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
DFH	T	11	create GIS coverage of forest age-class	# of GIS data sets	**2**
DFH	T	12	create GIS coverage of shrublands	# of GIS data sets	**2**
DFH	T	13	create GIS coverage of field habitats	# of GIS data sets	**2**
DFH	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**2**
DFH	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**2**
DFH	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DFH	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**2**
DFH	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**2**
DFH	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**2**
DFH	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFH	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**2**
DFH	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**2**
DFH	T	117	(combined with above)		**2**
DFH	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFH	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFH	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFH	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFH	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFH	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**2**
DFH	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DFH	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**2**
DFH	T	137	Conduct road mitigations where required	# of mitigation projects established	**2**
DFH	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFH	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**2**
DFH	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**4**
DFH	H	102	*Evaluate nutritional value of exotic fruit-bearing plants*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFH	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFH	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DFH	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**2**
5) Deciduous forest unspecified					
DF	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**72**
DF	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**72**
DF	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**72**
DF	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**72**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DF	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**72**
DF	S	26	*(combined with above)*		**72**
DF	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**72**
DF	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**72**
DF	S	32	promote existing programs with private landowners	# of programs with increased participation	**72**
DF	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**72**
DF	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**72**
DF	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**72**
DF	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**72**
DF	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**72**
DF	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**72**
DF	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**72**
DF	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**72**
DF	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**72**
DF	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**72**
DF	S	162	Compile and publish research and planning results	# of research and plan results published	**71**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DF	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**71**
DF	S	165	(combined with above)		**71**
DF	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**70**
DF	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**70**
DF	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**49**
DF	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**49**
DF	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**49**
DF	S	140	Develop process to facilitate research priorities		**49**
DF	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**48**
DF	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**26**
DF	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**24**
DF	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**3**
DF	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**3**
DF	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**3**
DF	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**3**
DF	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**3**
DF	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DF	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**3**
DF	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**3**
DF	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**3**
DF	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**3**
DF	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**3**
DF	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**3**
DF	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**2**
DF	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**2**
DF	S	26	*(combined with above)*		**2**
DF	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**2**
DF	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**2**
DF	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**2**
DF	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**2**
DF	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**2**
DF	S	162	Compile and publish research and planning results	# of research and plan results published	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DF	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**2**
DF	S	165	(combined with above)		**2**
DF	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**1**
DF	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**1**
DF	S	32	promote existing programs with private landowners	# of programs with increased participation	**1**
DF	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**1**
DF	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**1**
DF	S	140	Develop process to facilitate research priorities		**1**
DF	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
DF	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**1**
DF	T	13	create GIS coverage of field habitats	# of GIS data sets	**71**
DF	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**70**
DF	T	11	create GIS coverage of forest age-class	# of GIS data sets	**69**
DF	T	12	create GIS coverage of shrublands	# of GIS data sets	**69**
DF	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**49**
DF	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**49**
DF	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**49**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DF	T	137	Conduct road mitigations where required	# of mitigation projects established	**49**
DF	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**48**
DF	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**47**
DF	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**47**
DF	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**43**
DF	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**34**
DF	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**28**
DF	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implanting recommendations	**26**
DF	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**26**
DF	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**26**
DF	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**26**
DF	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**26**
DF	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**26**
DF	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**25**
DF	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**25**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DF	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**25**
DF	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**24**
DF	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**24**
DF	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**23**
DF	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**19**
DF	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**19**
DF	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**15**
DF	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**15**
DF	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**6**
DF	T	80	Develop and provide educational program/ materials to reduce incidental mortality and take from humans	# of educational programs developed and delivered concerning human take and incidental mortality to GCN species	**3**
DF	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**3**
DF	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**3**
DF	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**3**
DF	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**3**
DF	T	90	(repeat of above general invasives)		**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DF	T	91	*Identify potential damaging aquatic invasives and exotics*	completion of needed research by RI Dem or partners; # of new species added to management plans	**3**
DF	T	92	develop and implement sampling protocol for aquatic exotics	# of sampling protocols developed; % incorporated into existing data bases	**3**
DF	T	99	(repeat of above general invasives)		**3**
DF	T	110	enhance habitat connectivity for priority species with culverts	# of culverts established; # of sites with GCN species monitored over time	**3**
DF	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
DF	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
DF	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**3**
DF	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**3**
DF	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
DF	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DF	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**2**
DF	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**2**
DF	T	117	(combined with above)		**2**
DF	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DF	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				into conservation actions	
DF	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DF	T	11	create GIS coverage of forest age-class	# of GIS data sets	**2**
DF	T	12	create GIS coverage of shrublands	# of GIS data sets	**2**
DF	T	13	create GIS coverage of field habitats	# of GIS data sets	**2**
DF	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**2**
DF	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**2**
DF	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**2**
DF	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**2**
DF	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**2**
DF	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**2**
DF	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**2**
DF	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DF	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**2**
DF	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**2**
DF	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DF	T	93	*Assess threat from fish*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
DF	T	94	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel	# of partners involved in aquatic exotic management; # of partners with modifications to existing procedures to address exotics	**1**
DF	T	95	(combined with above)		**1**
DF	T	96	develop and implement program to mitigate effect of aquatic exotics	# of mitigation projects established	**1**
DF	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**1**
DF	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**1**
DF	T	105	develop and implement invasive species management program	# of invasive management plans established	**1**
DF	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**1**
DF	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**1**
DF	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**1**
DF	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**1**
DF	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**1**
DF	T	85	research invasive species management and monitoring protocols	completion of needed research by RI DEM or partners; # of monitoring protocols established	**1**
DF	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**1**
DF	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
DF	T	90	(repeat of above general invasives)		**1**
DF	T	99	(repeat of above general invasives)		**1**
DF	T	103	identify potential damaging exotic plants	completion of needed research by RI Dem or partners; # of new species added to management plans	**1**
DF	T	104	identify priority areas for invasive plant management	# of priority sites identified and mapped; % incorporated into existing digital data bases	**1**
DF	T	105	develop and implement invasive species management program	# of invasive management plans established	**1**
DF	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**1**
DF	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**1**
DF	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**1**
DF	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
DF	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**1**
DF	T	137	Conduct road mitigations where required	# of mitigation projects established	**1**
DF	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
DF	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**49**
DF	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**45**
DF	H	76	Control public access at priority sites	# of sites with restricted public access	**23**
DF	H	77	Protect individual nests from predation	# of individual nests protected	**23**
DF	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into	**23**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				existing data bases	
DF	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**15**
DF	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**15**
DF	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**15**
DF	H	68	*evaluate need for nesting structures/boxes and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
DF	H	70	*Evaluate need for nesting substrate and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
DF	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**3**
DF	H	69	*evaluate existing significant hibernacula*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
DF	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**2**
DF	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
DF	H	97	*investigate feasibility of altering hydrology of certain wetlands*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
DF	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
DF	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
DF	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
DF	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
6) Evergreen forest hemlock					
EFH	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**3**
EFH	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**3**
EFH	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**3**
EFH	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**3**
EFH	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**3**
EFH	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**3**
EFH	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**3**
EFH	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**3**
EFH	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**3**
EFH	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**3**
EFH	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**3**
EFH	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**3**
EFH	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**2**
EFH	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFH	S	26	*(combined with above)*		**2**
EFH	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**2**
EFH	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**2**
EFH	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**2**
EFH	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**2**
EFH	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**2**
EFH	S	162	Compile and publish research and planning results	# of research and plan results published	**2**
EFH	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**2**
EFH	S	165	(combined with above)		**2**
EFH	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**1**
EFH	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**1**
EFH	S	32	promote existing programs with private landowners	# of programs with increased participation	**1**
EFH	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**1**
EFH	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**1**
EFH	S	140	Develop process to facilitate research priorities		**1**
EFH	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFH	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFH	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**3**
EFH	T	71	evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
EFH	T	11	create GIS coverage of forest age-class	# of GIS data sets	**2**
EFH	T	12	create GIS coverage of shrublands	# of GIS data sets	**2**
EFH	T	13	create GIS coverage of field habitats	# of GIS data sets	**2**
EFH	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**2**
EFH	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**2**
EFH	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**2**
EFH	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**2**
EFH	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**2**
EFH	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**2**
EFH	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**2**
EFH	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EFH	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**2**
EFH	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**2**
EFH	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFH	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**1**
EFH	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**1**
EFH	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**1**
EFH	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**1**
EFH	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**1**
EFH	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**1**
EFH	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**1**
EFH	T	90	(repeat of above general invasives)		**1**
EFH	T	99	(repeat of above general invasives)		**1**
EFH	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**1**
EFH	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**1**
EFH	T	105	develop and implement invasive species management program	# of invasive management plans established	**1**
EFH	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**1**
EFH	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**1**
EFH	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFH	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFH	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**1**
EFH	T	137	Conduct road mitigations where required	# of mitigation projects established	**1**
EFH	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFH	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**3**
EFH	H	69	*evaluate existing significant hibernacula*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
EFH	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFH	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
7) Evergreen forest pine					
EFP	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**6**
EFP	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**6**
EFP	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**6**
EFP	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**6**
EFP	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**6**
EFP	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFP	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**6**
EFP	S	26	*(combined with above)*		**6**
EFP	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**6**
EFP	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**6**
EFP	S	32	promote existing programs with private landowners	# of programs with increased participation	**6**
EFP	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**6**
EFP	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**6**
EFP	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**6**
EFP	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**6**
EFP	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**6**
EFP	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**6**
EFP	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**6**
EFP	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**6**
EFP	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**6**
EFP	S	162	Compile and publish research and planning results	# of research and plan results published	**6**
EFP	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFP	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**6**
EFP	S	165	(combined with above)		**6**
EFP	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**4**
EFP	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**4**
EFP	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**4**
EFP	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**4**
EFP	S	140	Develop process to facilitate research priorities		**4**
EFP	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**2**
EFP	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EFP	T	11	create GIS coverage of forest age-class	# of GIS data sets	**6**
EFP	T	12	create GIS coverage of shrublands	# of GIS data sets	**6**
EFP	T	13	create GIS coverage of field habitats	# of GIS data sets	**6**
EFP	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**6**
EFP	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**4**
EFP	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**4**
EFP	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFP	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
EFP	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**4**
EFP	T	137	Conduct road mitigations where required	# of mitigation projects established	**4**
EFP	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
EFP	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**4**
EFP	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**
EFP	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**2**
EFP	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**2**
EFP	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**2**
EFP	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**2**
EFP	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**2**
EFP	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**2**
EFP	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**2**
EFP	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EFP	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFP	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**2**
EFP	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EFP	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**2**
EFP	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**2**
EFP	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**6**
EFP	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
EFP	H	76	Control public access at priority sites	# of sites with restricted public access	**2**
EFP	H	77	Protect individual nests from predation	# of individual nests protected	**2**
EFP	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**2**
8) Evergreen forest red cedar					
EFR	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**3**
EFR	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**3**
EFR	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**3**
EFR	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**3**
EFR	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**3**
EFR	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFR	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**3**
EFR	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**3**
EFR	S	26	*(combined with above)*		**3**
EFR	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**3**
EFR	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**3**
EFR	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**3**
EFR	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**3**
EFR	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**3**
EFR	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**3**
EFR	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**3**
EFR	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**3**
EFR	S	140	Develop process to facilitate research priorities		**3**
EFR	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
EFR	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**3**
EFR	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFR	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**3**
EFR	S	162	Compile and publish research and planning results	# of research and plan results published	**3**
EFR	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**3**
EFR	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**3**
EFR	S	165	(combined with above)		**3**
EFR	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**2**
EFR	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**2**
EFR	S	32	promote existing programs with private landowners	# of programs with increased participation	**2**
EFR	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**2**
EFR	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**2**
EFR	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**3**
EFR	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**3**
EFR	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**
EFR	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**3**
EFR	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**3**
EFR	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**3**
EFR	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFR	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**3**
EFR	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**3**
EFR	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**3**
EFR	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**3**
EFR	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
EFR	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**3**
EFR	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**3**
EFR	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**3**
EFR	T	90	(repeat of above general invasives)		**3**
EFR	T	99	(repeat of above general invasives)		**3**
EFR	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**3**
EFR	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**3**
EFR	T	105	develop and implement invasive species management program	# of invasive management plans established	**3**
EFR	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**3**
EFR	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFR	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**3**
EFR	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**3**
EFR	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**3**
EFR	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**2**
EFR	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EFR	T	11	create GIS coverage of forest age-class	# of GIS data sets	**1**
EFR	T	12	create GIS coverage of shrublands	# of GIS data sets	**1**
EFR	T	13	create GIS coverage of field habitats	# of GIS data sets	**1**
EFR	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**1**
EFR	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**1**
EFR	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**1**
EFR	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFR	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**1**
EFR	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**1**
EFR	T	117	(combined with above)		**1**
EFR	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFR	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFR	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFR	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFR	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFR	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**1**
EFR	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFR	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**1**
EFR	T	137	Conduct road mitigations where required	# of mitigation projects established	**1**
EFR	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFR	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**1**
EFR	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**1**
EFR	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**1**
EFR	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**1**
EFR	H	102	*Evaluate nutritional value of exotic fruit-bearing plants*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFR	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				into conservation actions	
EFR	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFR	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
9) Evergreen forest spruce plantation					
EFS	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**3**
EFS	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**3**
EFS	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**3**
EFS	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**3**
EFS	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**3**
EFS	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**3**
EFS	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**3**
EFS	S	26	*(combined with above)*		**3**
EFS	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**3**
EFS	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**3**
EFS	S	32	promote existing programs with private landowners	# of programs with increased participation	**3**
EFS	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFS	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**3**
EFS	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**3**
EFS	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**3**
EFS	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**3**
EFS	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**3**
EFS	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**3**
EFS	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**3**
EFS	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**3**
EFS	S	162	*Compile and publish research and planning results*	# of research and plan results published	**3**
EFS	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**3**
EFS	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**3**
EFS	S	165	(combined with above)		**3**
EFS	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**2**
EFS	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**2**
EFS	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**2**
EFS	S	39	identify priority issues specific for all parcels in focal area	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFS	S	140	Develop process to facilitate research priorities		**2**
EFS	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**1**
EFS	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFS	T	11	create GIS coverage of forest age-class	# of GIS data sets	**3**
EFS	T	12	create GIS coverage of shrublands	# of GIS data sets	**3**
EFS	T	13	create GIS coverage of field habitats	# of GIS data sets	**3**
EFS	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**3**
EFS	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**2**
EFS	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**2**
EFS	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**2**
EFS	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EFS	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**2**
EFS	T	137	Conduct road mitigations where required	# of mitigation projects established	**2**
EFS	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EFS	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFS	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**1**
EFS	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**1**
EFS	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**1**
EFS	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**1**
EFS	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**1**
EFS	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**1**
EFS	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**1**
EFS	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFS	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFS	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**1**
EFS	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFS	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**1**
EFS	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**1**
EFS	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**1**
EFS	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFS	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EFS	H	76	Control public access at priority sites	# of sites with restricted public access	**1**
EFS	H	77	Protect individual nests from predation	# of individual nests protected	**1**
EFS	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
10) Evergreen forest unspecified					
EF	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**27**
EF	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**27**
EF	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**27**
EF	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**27**
EF	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**27**
EF	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**27**
EF	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**27**
EF	S	26	*(combined with above)*		**27**
EF	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**27**
EF	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**27**
EF	S	32	promote existing programs with private landowners	# of programs with increased participation	**27**
EF	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**27**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EF	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**27**
EF	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**27**
EF	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**27**
EF	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**27**
EF	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**27**
EF	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**27**
EF	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**27**
EF	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**27**
EF	S	162	Compile and publish research and planning results	# of research and plan results published	**27**
EF	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**27**
EF	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**27**
EF	S	165	(combined with above)		**27**
EF	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**18**
EF	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**18**
EF	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**18**
EF	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**18**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EF	S	140	Develop process to facilitate research priorities		**18**
EF	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**9**
EF	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
EF	T	11	create GIS coverage of forest age-class	# of GIS data sets	**27**
EF	T	12	create GIS coverage of shrublands	# of GIS data sets	**27**
EF	T	13	create GIS coverage of field habitats	# of GIS data sets	**27**
EF	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**27**
EF	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**18**
EF	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**18**
EF	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**18**
EF	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**18**
EF	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**18**
EF	T	137	Conduct road mitigations where required	# of mitigation projects established	**18**
EF	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**18**
EF	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**18**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EF	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**15**
EF	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**9**
EF	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**9**
EF	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**9**
EF	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**9**
EF	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**9**
EF	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**9**
EF	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**9**
EF	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
EF	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
EF	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**9**
EF	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
EF	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**9**
EF	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**9**
EF	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**27**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EF	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**18**
EF	H	76	Control public access at priority sites	# of sites with restricted public access	**9**
EF	H	77	Protect individual nests from predation	# of individual nests protected	**9**
EF	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**7**
11) Pitch pine/oak					
EFPO	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**15**
EFPO	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**15**
EFPO	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**15**
EFPO	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**15**
EFPO	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**15**
EFPO	S	26	*(combined with above)*		**15**
EFPO	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**15**
EFPO	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**15**
EFPO	S	32	promote existing programs with private landowners	# of programs with increased participation	**15**
EFPO	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**15**
EFPO	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**15**
EFPO	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data	**15**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				bases	
EFPO	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**15**
EFPO	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**15**
EFPO	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**15**
EFPO	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**15**
EFPO	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**15**
EFPO	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**13**
EFPO	S	140	Develop process to facilitate research priorities		**13**
EFPO	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**13**
EFPO	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**12**
EFPO	S	165	(combined with above)		**12**
EFPO	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**11**
EFPO	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**11**
EFPO	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**11**
EFPO	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**11**
EFPO	S	162	Compile and publish research and planning results	# of research and plan results published	**10**
EFPO	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access	**10**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				PDF reports	
EFPO	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
EFPO	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**7**
EFPO	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**7**
EFPO	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**11**
EFPO	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**11**
EFPO	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**10**
EFPO	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**10**
EFPO	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**10**
EFPO	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**10**
EFPO	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**10**
EFPO	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**10**
EFPO	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**9**
EFPO	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**9**
EFPO	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFPO	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**9**
EFPO	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**9**
EFPO	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**9**
EFPO	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**9**
EFPO	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
EFPO	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**9**
EFPO	T	137	Conduct road mitigations where required	# of mitigation projects established	**9**
EFPO	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**9**
EFPO	T	13	create GIS coverage of field habitats	# of GIS data sets	**8**
EFPO	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**7**
EFPO	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**7**
EFPO	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**7**
EFPO	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**7**
EFPO	T	99	(repeat of above general invasives)		**7**
EFPO	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**7**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFPO	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**7**
EFPO	T	11	create GIS coverage of forest age-class	# of GIS data sets	**6**
EFPO	T	12	create GIS coverage of shrublands	# of GIS data sets	**6**
EFPO	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**5**
EFPO	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**5**
EFPO	T	90	(repeat of above general invasives)		**5**
EFPO	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**4**
EFPO	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
EFPO	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**3**
EFPO	T	80	Develop and provide educational program/materials to reduce incidental mortality and take from humans	# of educational programs developed and delivered concerning human take and incidental mortality to GCN species	**3**
EFPO	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**3**
EFPO	T	91	*Identify potential damaging aquatic invasives and exotics*	completion of needed research by RI Dem or partners; # of new species added to management plans	**3**
EFPO	T	92	develop and implement sampling protocol for aquatic exotics	# of sampling protocols developed; % incorporated into existing data bases	**3**
EFPO	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**3**
EFPO	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**3**
EFPO	T	105	develop and implement invasive species management	# of invasive management plans established	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
			program		
EFPO	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**3**
EFPO	T	110	enhance habitat connectivity for priority species with culverts	# of culverts established; # of sites with GCN species monitored over time	**3**
EFPO	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EFPO	T	93	*Assess threat from fish*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFPO	T	94	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel	# of partners involved in aquatic exotic management; # of partners with modifications to existing procedures to address exotics	**1**
EFPO	T	95	(combined with above)		**1**
EFPO	T	96	develop and implement program to mitigate effect of aquatic exotics	# of mitigation projects established	**1**
EFPO	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFPO	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFPO	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**13**
EFPO	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**10**
EFPO	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**10**
EFPO	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**10**
EFPO	H	76	Control public access at priority sites	# of sites with restricted public access	**8**
EFPO	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**7**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFPO	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**
EFPO	H	69	*evaluate existing significant hibernacula*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
EFPO	H	81	Expand public relations for snakes	# of educational programs developed and delivered concerning snakes	**3**
EFPO	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**2**
EFPO	H	77	Protect individual nests from predation	# of individual nests protected	**2**
EFPO	H	97	*investigate feasibility of altering hydrology of certain wetlands*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFPO	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFPO	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFPO	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
12) Pine pine/scrub oak barren					
EFPS	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**72**
EFPS	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**72**
EFPS	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**72**
EFPS	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**72**
EFPS	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research	**72**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				projects identified to address threats	
EFPS	S	26	*(combined with above)*		**72**
EFPS	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**72**
EFPS	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**72**
EFPS	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**72**
EFPS	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**72**
EFPS	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**72**
EFPS	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**72**
EFPS	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**71**
EFPS	S	140	Develop process to facilitate research priorities		**71**
EFPS	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**70**
EFPS	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**70**
EFPS	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**69**
EFPS	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**69**
EFPS	S	165	(combined with above)		**69**
EFPS	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**68**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFPS	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**68**
EFPS	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**68**
EFPS	S	162	Compile and publish research and planning results	# of research and plan results published	**66**
EFPS	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**66**
EFPS	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**63**
EFPS	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**63**
EFPS	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**52**
EFPS	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**52**
EFPS	S	32	promote existing programs with private landowners	# of programs with increased participation	**52**
EFPS	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**52**
EFPS	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**52**
EFPS	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**70**
EFPS	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**70**
EFPS	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**70**
EFPS	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**70**
EFPS	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**70**
EFPS	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**70**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFPS	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**69**
EFPS	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**69**
EFPS	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**68**
EFPS	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**68**
EFPS	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**67**
EFPS	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**67**
EFPS	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**66**
EFPS	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**66**
EFPS	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**66**
EFPS	T	99	(repeat of above general invasives)		**66**
EFPS	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**65**
EFPS	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**64**
EFPS	T	90	(repeat of above general invasives)		**63**
EFPS	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**63**
EFPS	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**63**
EFPS	T	105	develop and implement invasive species management	# of invasive management plans established	**63**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
			program		
EFPS	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**63**
EFPS	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**62**
EFPS	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**61**
EFPS	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**48**
EFPS	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**40**
EFPS	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**30**
EFPS	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**25**
EFPS	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**25**
EFPS	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**25**
EFPS	T	137	Conduct road mitigations where required	# of mitigation projects established	**25**
EFPS	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**25**
EFPS	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**24**
EFPS	T	11	create GIS coverage of forest age-class	# of GIS data sets	**23**
EFPS	T	12	create GIS coverage of shrublands	# of GIS data sets	**23**
EFPS	T	13	create GIS coverage of field habitats	# of GIS data sets	**23**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFPS	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**21**
EFPS	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**20**
EFPS	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**20**
EFPS	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**20**
EFPS	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**20**
EFPS	T	117	(combined with above)		**20**
EFPS	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**20**
EFPS	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**20**
EFPS	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**20**
EFPS	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**20**
EFPS	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**20**
EFPS	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**3**
EFPS	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EFPS	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EFPS	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**70**
EFPS	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**70**
EFPS	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**70**
EFPS	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**31**
EFPS	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**27**
EFPS	H	102	*Evaluate nutritional value of exotic fruit-bearing plants*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**20**
EFPS	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**20**
EFPS	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**3**
EFPS	H	76	Control public access at priority sites	# of sites with restricted public access	**1**
EFPS	H	77	Protect individual nests from predation	# of individual nests protected	**1**
13) Mixed forest deciduous unspecified					
MFD	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**21**
MFD	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**21**
MFD	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**21**
MFD	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**21**
MFD	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**21**
MFD	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**21**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
MFD	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**21**
MFD	S	26	*(combined with above)*		**21**
MFD	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**21**
MFD	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**21**
MFD	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**21**
MFD	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**21**
MFD	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**21**
MFD	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**21**
MFD	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**21**
MFD	S	162	Compile and publish research and planning results	# of research and plan results published	**20**
MFD	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**20**
MFD	S	165	(combined with above)		**20**
MFD	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**19**
MFD	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**19**
MFD	S	32	promote existing programs with private landowners	# of programs with increased participation	**19**
MFD	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**19**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
MFD	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**19**
MFD	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**19**
MFD	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**15**
MFD	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**15**
MFD	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**15**
MFD	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**15**
MFD	S	140	Develop process to facilitate research priorities		**15**
MFD	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**8**
MFD	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
MFD	T	11	create GIS coverage of forest age-class	# of GIS data sets	**20**
MFD	T	12	create GIS coverage of shrublands	# of GIS data sets	**20**
MFD	T	13	create GIS coverage of field habitats	# of GIS data sets	**20**
MFD	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**19**
MFD	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**19**
MFD	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**15**
MFD	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**15**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
MFD	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**15**
MFD	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**15**
MFD	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**15**
MFD	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**15**
MFD	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**15**
MFD	T	137	Conduct road mitigations where required	# of mitigation projects established	**15**
MFD	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**15**
MFD	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**12**
MFD	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**12**
MFD	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**9**
MFD	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**9**
MFD	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**9**
MFD	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**9**
MFD	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**9**
MFD	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
MFD	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
MFD	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**9**
MFD	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**9**
MFD	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**8**
MFD	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**8**
MFD	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
MFD	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
MFD	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**8**
MFD	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**4**
MFD	T	80	Develop and provide educational program/materials to reduce incidental mortality and take from humans	# of educational programs developed and delivered concerning human take and incidental mortality to GCN species	**3**
MFD	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**3**
MFD	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
MFD	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**2**
MFD	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
MFD	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**1**
MFD	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**1**
MFD	T	90	(repeat of above general invasives)		**1**
MFD	T	99	(repeat of above general invasives)		**1**
MFD	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**1**
MFD	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**1**
MFD	T	105	develop and implement invasive species management program	# of invasive management plans established	**1**
MFD	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**1**
MFD	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**15**
MFD	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**11**
MFD	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**9**
MFD	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**9**
MFD	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**9**
MFD	H	76	Control public access at priority sites	# of sites with restricted public access	**9**
MFD	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**7**
MFD	H	77	Protect individual nests from predation	# of individual nests protected	**6**
MFD	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
14) Mixed forest evergreen unspecified					
MFE	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**3**
MFE	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**3**
MFE	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**3**
MFE	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**3**
MFE	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**3**
MFE	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**3**
MFE	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**3**
MFE	S	26	*(combined with above)*		**3**
MFE	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**3**
MFE	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**3**
MFE	S	32	promote existing programs with private landowners	# of programs with increased participation	**3**
MFE	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**3**
MFE	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**3**
MFE	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**3**
MFE	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
MFE	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**3**
MFE	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**3**
MFE	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**3**
MFE	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**3**
MFE	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**3**
MFE	S	162	Compile and publish research and planning results	# of research and plan results published	**3**
MFE	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**3**
MFE	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**3**
MFE	S	165	(combined with above)		**3**
MFE	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**2**
MFE	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**2**
MFE	S	38	*initiate contact with private landowners identified within focal areas*	% of landowners contacted within focal areas	**2**
MFE	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**2**
MFE	S	140	Develop process to facilitate research priorities		**2**
MFE	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**1**
MFE	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
MFE	T	11	create GIS coverage of forest age-class	# of GIS data sets	**3**
MFE	T	12	create GIS coverage of shrublands	# of GIS data sets	**3**
MFE	T	13	create GIS coverage of field habitats	# of GIS data sets	**3**
MFE	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**3**
MFE	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**3**
MFE	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**3**
MFE	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**3**
MFE	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**2**
MFE	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**2**
MFE	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**2**
MFE	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
MFE	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**2**
MFE	T	137	Conduct road mitigations where required	# of mitigation projects established	**2**
MFE	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
MFE	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
MFE	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**1**
MFE	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**1**
MFE	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**1**
MFE	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**1**
MFE	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**1**
MFE	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**1**
MFE	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**1**
MFE	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
MFE	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
MFE	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**1**
MFE	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
MFE	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**1**
MFE	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**1**
MFE	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**1**
MFE	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
MFE	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
MFE	H	76	Control public access at priority sites	# of sites with restricted public access	**1**
MFE	H	77	Protect individual nests from predation	# of individual nests protected	**1**
MFE	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
15) Forest unspecified					
F	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**24**
F	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**24**
F	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**24**
F	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**24**
F	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**22**
F	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**22**
F	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**22**
F	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**22**
F	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**22**
F	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**22**
F	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research	**20**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				projects identified to address threats	
F	S	26	*(combined with above)*		**20**
F	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**19**
F	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**18**
F	S	140	Develop process to facilitate research priorities		**18**
F	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**17**
F	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**17**
F	S	32	promote existing programs with private landowners	# of programs with increased participation	**17**
F	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**17**
F	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**17**
F	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**17**
F	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**17**
F	S	165	(combined with above)		**17**
F	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**16**
F	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**16**
F	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**16**
F	S	162	Compile and publish research and planning results	# of research and plan results published	**15**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
F	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**14**
F	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**14**
F	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**14**
F	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**12**
F	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**21**
F	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**19**
F	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**17**
F	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**17**
F	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**17**
F	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**17**
F	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**16**
F	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**14**
F	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**14**
F	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**14**
F	T	13	create GIS coverage of field habitats	# of GIS data sets	**12**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
F	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**12**
F	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**12**
F	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
F	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**12**
F	T	137	Conduct road mitigations where required	# of mitigation projects established	**12**
F	T	11	create GIS coverage of forest age-class	# of GIS data sets	**11**
F	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**11**
F	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**11**
F	T	12	create GIS coverage of shrublands	# of GIS data sets	**10**
F	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**10**
F	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**9**
F	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**9**
F	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**9**
F	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**9**
F	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**8**
F	T	99	(repeat of above general invasives)		**8**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
F	T	90	(repeat of above general invasives)		**7**
F	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**7**
F	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**6**
F	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**6**
F	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**6**
F	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**6**
F	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
F	T	80	Develop and provide educational program/materials to reduce incidental mortality and take from humans	# of educational programs developed and delivered concerning human take and incidental mortality to GCN species	**5**
F	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**5**
F	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**5**
F	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**5**
F	T	105	develop and implement invasive species management program	# of invasive management plans established	**5**
F	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**5**
F	T	110	enhance habitat connectivity for priority species with culverts	# of culverts established; # of sites with GCN species monitored over time	**4**
F	T	91	*Identify potential damaging aquatic invasives and exotics*	completion of needed research by RI Dem or partners; # of new species added to management	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				plans	
F	T	92	develop and implement sampling protocol for aquatic exotics	# of sampling protocols developed; % incorporated into existing data bases	**3**
F	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**3**
F	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
F	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**2**
F	T	156			**2**
F	T	93	*Assess threat from fish*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
F	T	94	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel	# of partners involved in aquatic exotic management; # of partners with modifications to existing procedures to address exotics	**1**
F	T	95	(combined with above)		**1**
F	T	96	develop and implement program to mitigate effect of aquatic exotics	# of mitigation projects established	**1**
F	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
F	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
F	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
F	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**19**
F	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**13**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
F	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**9**
F	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**8**
F	H	69	*evaluate existing significant hibernacula*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
F	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
F	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
F	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**4**
F	H	68	*evaluate need for nesting structures/boxes and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
F	H	81	Expand public relations for snakes	# of educational programs developed and delivered concerning snakes	**3**
F	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**2**
F	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**2**
F	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**2**
F	H	76	Control public access at priority sites	# of sites with restricted public access	**2**
F	H	102	*Evaluate nutritional value of exotic fruit-bearing plants*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
F	H	77	Protect individual nests from predation	# of individual nests protected	**1**
F	H	97	*investigate feasibility of altering hydrology of certain wetlands*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
16) Agricultural cropland hay					

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AGH	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**12**
AGH	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**12**
AGH	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**12**
AGH	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**12**
AGH	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**12**
AGH	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**12**
AGH	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**12**
AGH	S	26	*(combined with above)*		**12**
AGH	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**12**
AGH	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**12**
AGH	S	32	promote existing programs with private landowners	# of programs with increased participation	**12**
AGH	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**12**
AGH	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**12**
AGH	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**12**
AGH	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**12**
AGH	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**12**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AGH	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**12**
AGH	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**12**
AGH	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**12**
AGH	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**12**
AGH	S	162	Compile and publish research and planning results	# of research and plan results published	**12**
AGH	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**12**
AGH	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**12**
AGH	S	165	(combined with above)		**12**
AGH	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**8**
AGH	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**8**
AGH	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**8**
AGH	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**8**
AGH	S	140	Develop process to facilitate research priorities		**8**
AGH	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**4**
AGH	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
AGH	T	11	create GIS coverage of forest age-class	# of GIS data sets	**12**
AGH	T	12	create GIS coverage of shrublands	# of GIS data sets	**12**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AGH	T	13	create GIS coverage of field habitats	# of GIS data sets	**12**
AGH	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**12**
AGH	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**12**
AGH	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**12**
AGH	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**12**
AGH	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**12**
AGH	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**12**
AGH	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**8**
AGH	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**8**
AGH	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**8**
AGH	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
AGH	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**8**
AGH	T	137	Conduct road mitigations where required	# of mitigation projects established	**8**
AGH	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
AGH	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**8**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AGH	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**4**
AGH	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**4**
AGH	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**4**
AGH	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**4**
AGH	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**4**
AGH	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**4**
AGH	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**4**
AGH	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
AGH	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
AGH	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**4**
AGH	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
AGH	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**4**
AGH	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**4**
AGH	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
AGH	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**8**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AGH	H	76	Control public access at priority sites	# of sites with restricted public access	**4**
AGH	H	77	Protect individual nests from predation	# of individual nests protected	**4**
AGH	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
AGH	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**2**
AGH	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**1**
AGH	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**1**
AGH	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**1**
17) Agricultural grazing					
AGP	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**12**
AGP	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**12**
AGP	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**12**
AGP	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**12**
AGP	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**12**
AGP	S	26	*(combined with above)*		**12**
AGP	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**12**
AGP	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**12**
AGP	S	32	promote existing programs with private landowners	# of programs with increased participation	**12**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AGP	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**12**
AGP	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**12**
AGP	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**12**
AGP	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**12**
AGP	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**12**
AGP	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**12**
AGP	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**12**
AGP	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**12**
AGP	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**11**
AGP	S	140	Develop process to facilitate research priorities		**11**
AGP	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**10**
AGP	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**10**
AGP	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**9**
AGP	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**9**
AGP	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AGP	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**9**
AGP	S	165	(combined with above)		**9**
AGP	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**8**
AGP	S	162	Compile and publish research and planning results	# of research and plan results published	**6**
AGP	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**6**
AGP	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**3**
AGP	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**3**
AGP	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**12**
AGP	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**12**
AGP	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**11**
AGP	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**10**
AGP	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**10**
AGP	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**10**
AGP	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**10**
AGP	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**10**
AGP	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AGP	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**9**
AGP	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**9**
AGP	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**8**
AGP	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**7**
AGP	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**7**
AGP	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**6**
AGP	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**6**
AGP	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**6**
AGP	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**6**
AGP	T	99	(repeat of above general invasives)		**6**
AGP	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**6**
AGP	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
AGP	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**5**
AGP	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AGP	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**5**
AGP	T	137	Conduct road mitigations where required	# of mitigation projects established	**5**
AGP	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**5**
AGP	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**4**
AGP	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
AGP	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**4**
AGP	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**4**
AGP	T	11	create GIS coverage of forest age-class	# of GIS data sets	**3**
AGP	T	12	create GIS coverage of shrublands	# of GIS data sets	**3**
AGP	T	13	create GIS coverage of field habitats	# of GIS data sets	**3**
AGP	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**
AGP	T	80	Develop and provide educational program/materials to reduce incidental mortality and take from humans	# of educational programs developed and delivered concerning human take and incidental mortality to GCN species	**3**
AGP	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**3**
AGP	T	90	(repeat of above general invasives)		**3**
AGP	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**3**
AGP	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**3**
AGP	T	105	develop and implement invasive species management program	# of invasive management plans established	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AGP	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**3**
AGP	T	156			**3**
AGP	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**3**
AGP	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
AGP	T	141	Assess taxonomy/population relationships	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
AGP	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**11**
AGP	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**11**
AGP	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**11**
AGP	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**11**
AGP	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**9**
AGP	H	77	Protect individual nests from predation	# of individual nests protected	**4**
AGP	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**3**
AGP	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**3**
AGP	H	76	Control public access at priority sites	# of sites with restricted public access	**1**
18) Idle agriculture					
AGP	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**27**
AGP	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**27**
AGP	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**27**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AGP	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**27**
AGP	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**27**
AGP	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**27**
AGP	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**27**
AGP	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**27**
AGP	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**27**
AGP	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**27**
AGP	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**27**
AGP	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**27**
AGP	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**26**
AGP	S	26	(combined with above)		**26**
AGP	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**26**
AGP	S	162	Compile and publish research and planning results	# of research and plan results published	**26**
AGP	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**26**
AGP	S	165	(combined with above)		**26**
AGP	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**25**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AGP	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**23**
AGP	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**23**
AGP	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**23**
AGP	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**23**
AGP	S	140	Develop process to facilitate research priorities		**23**
AGP	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**20**
AGP	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**20**
AGP	S	32	promote existing programs with private landowners	# of programs with increased participation	**20**
AGP	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**20**
AGP	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**20**
AGP	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**20**
AGP	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**20**
AGP	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**27**
AGP	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**27**
AGP	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**27**
AGP	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**27**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AGP	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**26**
AGP	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**22**
AGP	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**21**
AGP	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**21**
AGP	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**20**
AGP	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**20**
AGP	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**20**
AGP	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**20**
AGP	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**20**
AGP	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**20**
AGP	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**19**
AGP	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**18**
AGP	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**17**
AGP	T	11	create GIS coverage of forest age-class	# of GIS data sets	**16**
AGP	T	12	create GIS coverage of shrublands	# of GIS data sets	**16**
AGP	T	13	create GIS coverage of field habitats	# of GIS data sets	**16**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AGP	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**16**
AGP	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**16**
AGP	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**16**
AGP	T	90	(repeat of above general invasives)		**16**
AGP	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**16**
AGP	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**16**
AGP	T	105	develop and implement invasive species management program	# of invasive management plans established	**16**
AGP	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**16**
AGP	T	99	(repeat of above general invasives)		**15**
AGP	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**13**
AGP	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**12**
AGP	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
AGP	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**12**
AGP	T	137	Conduct road mitigations where required	# of mitigation projects established	**12**
AGP	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AGP	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**10**
AGP	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**10**
AGP	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**9**
AGP	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**7**
AGP	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**5**
AGP	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
AGP	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**5**
AGP	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**5**
AGP	T	117	(combined with above)		**5**
AGP	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
AGP	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
AGP	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
AGP	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
AGP	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AGP	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**5**
AGP	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
AGP	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**3**
AGP	T	156			**1**
AGP	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**13**
AGP	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**13**
AGP	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**13**
AGP	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**13**
AGP	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**13**
AGP	H	68	*evaluate need for nesting structures/boxes and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
AGP	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
AGP	H	102	*Evaluate nutritional value of exotic fruit-bearing plants*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
AGP	H	76	Control public access at priority sites	# of sites with restricted public access	**3**
AGP	H	77	Protect individual nests from predation	# of individual nests protected	**3**
AGP	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**1**
AGP	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
19) Agricultural land unspecified					

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AG	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**6**
AG	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**6**
AG	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**6**
AG	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**6**
AG	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**6**
AG	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**6**
AG	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**6**
AG	S	26	*(combined with above)*		**6**
AG	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**6**
AG	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**6**
AG	S	32	promote existing programs with private landowners	# of programs with increased participation	**6**
AG	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**6**
AG	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**6**
AG	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**6**
AG	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**6**
AG	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AG	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**6**
AG	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**6**
AG	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**6**
AG	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**6**
AG	S	162	Compile and publish research and planning results	# of research and plan results published	**6**
AG	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**6**
AG	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**6**
AG	S	165	(combined with above)		**6**
AG	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**4**
AG	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**4**
AG	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**4**
AG	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**4**
AG	S	140	Develop process to facilitate research priorities		**4**
AG	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**2**
AG	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
AG	T	11	create GIS coverage of forest age-class	# of GIS data sets	**6**
AG	T	12	create GIS coverage of shrublands	# of GIS data sets	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AG	T	13	create GIS coverage of field habitats	# of GIS data sets	**6**
AG	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**6**
AG	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**6**
AG	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**4**
AG	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**4**
AG	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**4**
AG	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**4**
AG	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**4**
AG	T	135	Assess means to mitigate road effects	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
AG	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**4**
AG	T	137	Conduct road mitigations where required	# of mitigation projects established	**4**
AG	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
AG	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**2**
AG	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**2**
AG	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AG	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**2**
AG	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**2**
AG	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**2**
AG	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**2**
AG	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
AG	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
AG	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**2**
AG	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
AG	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**2**
AG	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**2**
AG	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**2**
AG	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**1**
AG	H	68	*evaluate need for nesting structures/boxes and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
AG	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
AG	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
AG	H	76	Control public access at priority sites	# of sites with restricted public access	**2**
AG	H	77	Protect individual nests from predation	# of individual nests protected	**2**
20) Maritime grassland					
BRG	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**9**
BRG	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**9**
BRG	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**9**
BRG	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**9**
BRG	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets ; # of new inventory, monitoring, or research projects identified	**9**
BRG	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**9**
BRG	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**9**
BRG	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**9**
BRG	S	26	*(combined with above)*		**9**
BRG	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**9**
BRG	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**9**
BRG	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**9**
BRG	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**9**
BRG	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				bases	
BRG	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**9**
BRG	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**9**
BRG	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**9**
BRG	S	140	Develop process to facilitate research priorities		**9**
BRG	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
BRG	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**9**
BRG	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**9**
BRG	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**9**
BRG	S	162	Compile and publish research and planning results	# of research and plan results published	**9**
BRG	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**9**
BRG	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**9**
BRG	S	165	(combined with above)		**9**
BRG	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**6**
BRG	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**6**
BRG	S	32	promote existing programs with private landowners	# of programs with increased participation	**6**
BRG	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BRG	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**6**
BRG	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**9**
BRG	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**9**
BRG	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**9**
BRG	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**9**
BRG	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**9**
BRG	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**9**
BRG	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**9**
BRG	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**9**
BRG	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**9**
BRG	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**9**
BRG	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**9**
BRG	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
BRG	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**9**
BRG	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BRG	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**9**
BRG	T	90	(repeat of above general invasives)		**9**
BRG	T	99	(repeat of above general invasives)		**9**
BRG	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**9**
BRG	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**9**
BRG	T	105	develop and implement invasive species management program	# of invasive management plans established	**9**
BRG	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**9**
BRG	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
BRG	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**9**
BRG	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**9**
BRG	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**9**
BRG	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**6**
BRG	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
BRG	T	11	create GIS coverage of forest age-class	# of GIS data sets	**3**
BRG	T	12	create GIS coverage of shrublands	# of GIS data sets	**3**
BRG	T	13	create GIS coverage of field habitats	# of GIS data sets	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BRG	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**3**
BRG	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**3**
BRG	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**3**
BRG	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
BRG	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**3**
BRG	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**3**
BRG	T	117	(combined with above)		**3**
BRG	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
BRG	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
BRG	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
BRG	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
BRG	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
BRG	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**
BRG	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BRG	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**3**
BRG	T	137	Conduct road mitigations where required	# of mitigation projects established	**3**
BRG	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
BRG	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**3**
BRG	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**9**
BRG	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**9**
BRG	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**9**
BRG	H	102	*Evaluate nutritional value of exotic fruit-bearing plants*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
BRG	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
BRG	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
BRG	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**3**
21) Coastal shrubland					
BRS	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**21**
BRS	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**21**
BRS	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**21**
BRS	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**21**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BRS	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**21**
BRS	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**21**
BRS	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**21**
BRS	S	26	(combined with above)		**21**
BRS	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**21**
BRS	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**21**
BRS	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**21**
BRS	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**21**
BRS	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**21**
BRS	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**21**
BRS	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**21**
BRS	S	162	Compile and publish research and planning results	# of research and plan results published	**21**
BRS	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**21**
BRS	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**21**
BRS	S	165	(combined with above)		**21**
BRS	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**20**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BRS	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**20**
BRS	S	32	promote existing programs with private landowners	# of programs with increased participation	**20**
BRS	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**20**
BRS	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**20**
BRS	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**15**
BRS	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**15**
BRS	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**15**
BRS	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**15**
BRS	S	140	Develop process to facilitate research priorities		**15**
BRS	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**9**
BRS	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
BRS	T	11	create GIS coverage of forest age-class	# of GIS data sets	**19**
BRS	T	12	create GIS coverage of shrublands	# of GIS data sets	**19**
BRS	T	13	create GIS coverage of field habitats	# of GIS data sets	**19**
BRS	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**17**
BRS	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**17**
BRS	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**16**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BRS	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**15**
BRS	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**15**
BRS	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**15**
BRS	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**14**
BRS	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**13**
BRS	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**13**
BRS	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**13**
BRS	T	137	Conduct road mitigations where required	# of mitigation projects established	**13**
BRS	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**13**
BRS	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**10**
BRS	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**9**
BRS	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**9**
BRS	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**9**
BRS	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BRS	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**9**
BRS	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
BRS	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
BRS	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**9**
BRS	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**7**
BRS	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**7**
BRS	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**7**
BRS	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**7**
BRS	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
BRS	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**6**
BRS	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**4**
BRS	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**4**
BRS	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**4**
BRS	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BRS	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**4**
BRS	T	105	develop and implement invasive species management program	# of invasive management plans established	**4**
BRS	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**4**
BRS	T	90	(repeat of above general invasives)		**3**
BRS	T	99	(repeat of above general invasives)		**3**
BRS	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
BRS	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**3**
BRS	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**3**
BRS	T	117	(combined with above)		**3**
BRS	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
BRS	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
BRS	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
BRS	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
BRS	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
BRS	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BRS	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
BRS	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**2**
BRS	T	80	Develop and provide educational program/materials to reduce incidental mortality and take from humans	# of educational programs developed and delivered concerning human take and incidental mortality to GCN species	**1**
BRS	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**1**
BRS	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**13**
BRS	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**13**
BRS	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**13**
BRS	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**13**
BRS	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**9**
BRS	H	76	Control public access at priority sites	# of sites with restricted public access	**6**
BRS	H	77	Protect individual nests from predation	# of individual nests protected	**5**
BRS	H	102	*Evaluate nutritional value of exotic fruit-bearing plants*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
BRS	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**
BRS	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
BRS	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**3**
BRS	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
22) Barren land unspecified					
B	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**3**
B	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**3**
B	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**3**
B	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**3**
B	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**3**
B	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**3**
B	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**3**
B	S	26	*(combined with above)*		**3**
B	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**3**
B	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**3**
B	S	32	promote existing programs with private landowners	# of programs with increased participation	**3**
B	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**3**
B	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**3**
B	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**3**
B	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
B	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**3**
B	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**3**
B	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**3**
B	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**3**
B	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**3**
B	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**2**
B	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**2**
B	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**2**
B	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**2**
B	S	140	Develop process to facilitate research priorities		**2**
B	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**1**
B	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
B	T	11	create GIS coverage of forest age-class	# of GIS data sets	**3**
B	T	12	create GIS coverage of shrublands	# of GIS data sets	**3**
B	T	13	create GIS coverage of field habitats	# of GIS data sets	**3**
B	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**
B	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
B	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**3**
B	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**3**
B	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**3**
B	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**3**
B	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**2**
B	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**2**
B	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**2**
B	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
B	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**2**
B	T	137	Conduct road mitigations where required	# of mitigation projects established	**2**
B	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
B	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**1**
B	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**1**
B	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
B	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**1**
B	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**1**
B	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**1**
B	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**1**
B	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
B	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
B	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**1**
B	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
B	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**1**
B	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**2**
B	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**2**
B	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**2**
B	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
B	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**2**
B	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**1**
B	H	76	Control public access at priority sites	# of sites with restricted public access	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
B	H	77	Protect individual nests from predation	# of individual nests protected	**1**
B	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
23) Beach grass dune					
BR/EUS	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**21**
BR/EUS	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**21**
BR/EUS	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**21**
BR/EUS	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**21**
BR/EUS	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**21**
BR/EUS	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**21**
BR/EUS	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**21**
BR/EUS	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**21**
BR/EUS	S	26	*(combined with above)*		**21**
BR/EUS	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**21**
BR/EUS	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**21**
BR/EUS	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**21**
BR/EUS	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**21**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BR/EUS	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**21**
BR/EUS	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**21**
BR/EUS	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**21**
BR/EUS	S	32	promote existing programs with private landowners	# of programs with increased participation	**21**
BR/EUS	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**21**
BR/EUS	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**21**
BR/EUS	S	165	(combined with above)		**21**
BR/EUS	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**21**
BR/EUS	S	162	Compile and publish research and planning results	# of research and plan results published	**21**
BR/EUS	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**21**
BR/EUS	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**21**
BR/EUS	S	140	Develop process to facilitate research priorities		**14**
BR/EUS	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**14**
BR/EUS	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**14**
BR/EUS	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**14**
BR/EUS	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**14**
BR/EUS	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**7**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BR/EUS	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**7**
BR/EUS	T	13	create GIS coverage of field habitats	# of GIS data sets	**21**
BR/EUS	T	11	create GIS coverage of forest age-class	# of GIS data sets	**21**
BR/EUS	T	12	create GIS coverage of shrublands	# of GIS data sets	**21**
BR/EUS	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**21**
BR/EUS	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**14**
BR/EUS	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**14**
BR/EUS	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**14**
BR/EUS	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**14**
BR/EUS	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**7**
BR/EUS	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**7**
BR/EUS	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**7**
BR/EUS	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**7**
BR/EUS	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**7**
BR/EUS	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**7**
BR/EUS	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into	**7**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				existing data bases	
BR/EUS	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**7**
BR/EUS	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**7**
BR/EUS	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**7**
BR/EUS	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**7**
BR/EUS	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**7**
BR/EUS	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**7**
BR/EUS	T	156			**7**
BR/EUS	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**21**
BR/EUS	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**21**
BR/EUS	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**14**
BR/EUS	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**14**
BR/EUS	H	76	Control public access at priority sites	# of sites with restricted public access	**7**
BR/EUS	H	77	Protect individual nests from predation	# of individual nests protected	**7**
24) Freshwater beach					
BF	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**3**
BF	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BF	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**3**
BF	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**3**
BF	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**3**
BF	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**3**
BF	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**3**
BF	S	26	*(combined with above)*		**3**
BF	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**3**
BF	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**3**
BF	S	32	promote existing programs with private landowners	# of programs with increased participation	**3**
BF	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**3**
BF	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**3**
BF	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**3**
BF	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**3**
BF	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**3**
BF	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**3**
BF	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BF	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**3**
BF	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**3**
BF	S	162	Compile and publish research and planning results	# of research and plan results published	**3**
BF	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**3**
BF	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**3**
BF	S	165	(combined with above)		**3**
BF	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**2**
BF	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**2**
BF	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**2**
BF	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**2**
BF	S	140	Develop process to facilitate research priorities		**2**
BF	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**1**
BF	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
BF	T	11	create GIS coverage of forest age-class	# of GIS data sets	**3**
BF	T	12	create GIS coverage of shrublands	# of GIS data sets	**3**
BF	T	13	create GIS coverage of field habitats	# of GIS data sets	**3**
BF	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BF	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**2**
BF	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**2**
BF	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
BF	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**1**
BF	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**1**
BF	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**1**
BF	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**1**
BF	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**1**
BF	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**1**
BF	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**1**
BF	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
BF	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
BF	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**1**
BF	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BF	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**1**
BF	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**1**
BF	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	
BF	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
BF	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**1**
BF	H	76	Control public access at priority sites	# of sites with restricted public access	**1**
BF	H	77	Protect individual nests from predation	# of individual nests protected	**1**
BF	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
BF	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
25) Gravel pits and quarries					
BA	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**6**
BA	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**6**
BA	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**6**
BA	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**6**
BA	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**6**
BA	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BA	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**6**
BA	S	26	*(combined with above)*		**6**
BA	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**6**
BA	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**6**
BA	S	32	promote existing programs with private landowners	# of programs with increased participation	**6**
BA	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**6**
BA	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**6**
BA	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**6**
BA	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**6**
BA	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**6**
BA	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**6**
BA	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**6**
BA	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**6**
BA	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**6**
BA	S	162	Compile and publish research and planning results	# of research and plan results published	**6**
BA	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BA	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**6**
BA	S	165	(combined with above)		**6**
BA	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**4**
BA	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**4**
BA	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**4**
BA	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**4**
BA	S	140	Develop process to facilitate research priorities		**4**
BA	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**2**
BA	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
BA	T	11	create GIS coverage of forest age-class	# of GIS data sets	**6**
BA	T	12	create GIS coverage of shrublands	# of GIS data sets	**6**
BA	T	13	create GIS coverage of field habitats	# of GIS data sets	**6**
BA	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**6**
BA	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**4**
BA	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**4**
BA	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BA	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**4**
BA	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
BA	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**4**
BA	T	137	Conduct road mitigations where required	# of mitigation projects established	**4**
BA	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
BA	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**2**
BA	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**2**
BA	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**2**
BA	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**2**
BA	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**2**
BA	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**2**
BA	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**2**
BA	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**2**
BA	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**2**
BA	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BA	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
BA	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**2**
BA	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
BA	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**2**
BA	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**2**
BA	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
BA	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**3**
BA	H	76	Control public access at priority sites	# of sites with restricted public access	**2**
BA	H	77	Protect individual nests from predation	# of individual nests protected	**2**
26) Inland dune/cobble					
IDC	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**3**
IDC	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**3**
IDC	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**3**
IDC	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**3**
IDC	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
IDC	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**3**
IDC	S	26	*(combined with above)*		**3**
IDC	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**3**
IDC	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**3**
IDC	S	32	promote existing programs with private landowners	# of programs with increased participation	**3**
IDC	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**3**
IDC	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**3**
IDC	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**3**
IDC	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**3**
IDC	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**3**
IDC	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**3**
IDC	S	140	Develop process to facilitate research priorities		**3**
IDC	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
IDC	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**3**
IDC	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**3**
IDC	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				data bases	
IDC	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**2**
IDC	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**2**
IDC	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**2**
IDC	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**2**
IDC	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**2**
IDC	S	165	(combined with above)		**2**
IDC	S	162	Compile and publish research and planning results	# of research and plan results published	**1**
IDC	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**1**
IDC	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**3**
IDC	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**3**
IDC	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**3**
IDC	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**3**
IDC	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**3**
IDC	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**3**
IDC	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
IDC	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**3**
IDC	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**3**
IDC	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**2**
IDC	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**2**
IDC	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**2**
IDC	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**2**
IDC	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**2**
IDC	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**2**
IDC	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**2**
IDC	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**2**
IDC	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**2**
IDC	T	99	(repeat of above general invasives)		**2**
IDC	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**1**
IDC	T	90	(repeat of above general invasives)		**1**
IDC	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
IDC	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**1**
IDC	T	105	develop and implement invasive species management program	# of invasive management plans established	**1**
IDC	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**1**
IDC	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**1**
IDC	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
IDC	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**1**
IDC	T	137	Conduct road mitigations where required	# of mitigation projects established	**1**
IDC	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
IDC	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**1**
IDC	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**3**
IDC	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**3**
IDC	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**3**
IDC	H	76	Control public access at priority sites	# of sites with restricted public access	**3**
IDC	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
IDC	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**2**
IDC	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**1**
27) Inland dune/sand barren					

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
IDS	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**6**
IDS	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**6**
IDS	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**6**
IDS	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**6**
IDS	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**6**
IDS	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**6**
IDS	S	26	*(combined with above)*		**6**
IDS	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**6**
IDS	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**6**
IDS	S	32	promote existing programs with private landowners	# of programs with increased participation	**6**
IDS	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**6**
IDS	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**6**
IDS	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**6**
IDS	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**6**
IDS	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
IDS	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**6**
IDS	S	140	Develop process to facilitate research priorities		**6**
IDS	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
IDS	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**6**
IDS	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**6**
IDS	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**6**
IDS	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**4**
IDS	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**4**
IDS	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**4**
IDS	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**4**
IDS	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**4**
IDS	S	165	(combined with above)		**4**
IDS	S	162	Compile and publish research and planning results	# of research and plan results published	**2**
IDS	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**2**
IDS	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**6**
IDS	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
IDS	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**6**
IDS	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
IDS	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**6**
IDS	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**6**
IDS	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**4**
IDS	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**4**
IDS	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**4**
IDS	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**4**
IDS	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**4**
IDS	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**4**
IDS	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**4**
IDS	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**4**
IDS	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**4**
IDS	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
IDS	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**4**
IDS	T	99	(repeat of above general invasives)		**4**
IDS	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**3**
IDS	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**2**
IDS	T	90	(repeat of above general invasives)		**2**
IDS	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**2**
IDS	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**2**
IDS	T	105	develop and implement invasive species management program	# of invasive management plans established	**2**
IDS	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**2**
IDS	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**2**
IDS	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
IDS	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**2**
IDS	T	137	Conduct road mitigations where required	# of mitigation projects established	**2**
IDS	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
IDS	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**2**
IDS	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				into conservation actions	
IDS	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**4**
IDS	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**4**
IDS	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**4**
IDS	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**4**
IDS	H	76	Control public access at priority sites	# of sites with restricted public access	**3**
IDS	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**2**
28) Natural quartz rock outcrops					
ROQ	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**3**
ROQ	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**3**
ROQ	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**3**
ROQ	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**3**
ROQ	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**3**
ROQ	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**3**
ROQ	S	26	*(combined with above)*		**3**
ROQ	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**3**
ROQ	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
ROQ	S	32	promote existing programs with private landowners	# of programs with increased participation	**3**
ROQ	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**3**
ROQ	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**3**
ROQ	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**3**
ROQ	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**3**
ROQ	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**3**
ROQ	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**3**
ROQ	S	140	Develop process to facilitate research priorities		**3**
ROQ	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
ROQ	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**3**
ROQ	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**3**
ROQ	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**3**
ROQ	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**2**
ROQ	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**2**
ROQ	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**2**
ROQ	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
ROQ	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**2**
ROQ	S	165	(combined with above)		**2**
ROQ	S	162	Compile and publish research and planning results	# of research and plan results published	**1**
ROQ	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**1**
ROQ	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**3**
ROQ	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**3**
ROQ	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**3**
ROQ	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
ROQ	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**3**
ROQ	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**3**
ROQ	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**2**
ROQ	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**2**
ROQ	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**2**
ROQ	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**2**
ROQ	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
ROQ	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**2**
ROQ	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**2**
ROQ	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**2**
ROQ	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**2**
ROQ	T	99	(repeat of above general invasives)		**2**
ROQ	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**1**
ROQ	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**1**
ROQ	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**1**
ROQ	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**1**
ROQ	T	90	(repeat of above general invasives)		**1**
ROQ	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**1**
ROQ	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**1**
ROQ	T	105	develop and implement invasive species management program	# of invasive management plans established	**1**
ROQ	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**1**
ROQ	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
ROQ	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
ROQ	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**1**
ROQ	T	137	Conduct road mitigations where required	# of mitigation projects established	**1**
ROQ	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
ROQ	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**1**
ROQ	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
ROQ	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**2**
ROQ	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**1**
ROQ	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**1**
ROQ	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**1**
ROQ	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**1**
29) Emergent fen/bog					
EMB	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**39**
EMB	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**39**
EMB	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**39**
EMB	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data	**39**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				bases	
EMB	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**39**
EMB	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**39**
EMB	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**39**
EMB	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**39**
EMB	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**39**
EMB	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**39**
EMB	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**38**
EMB	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**38**
EMB	S	26	*(combined with above)*		**38**
EMB	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**38**
EMB	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**38**
EMB	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**38**
EMB	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**38**
EMB	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**38**
EMB	S	140	Develop process to facilitate research priorities		**37**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMB	S	162	Compile and publish research and planning results	# of research and plan results published	**36**
EMB	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**36**
EMB	S	165	(combined with above)		**36**
EMB	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**35**
EMB	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**35**
EMB	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**33**
EMB	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**33**
EMB	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**29**
EMB	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**29**
EMB	S	32	promote existing programs with private landowners	# of programs with increased participation	**29**
EMB	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**29**
EMB	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**29**
EMB	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**39**
EMB	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**39**
EMB	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**39**
EMB	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**39**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMB	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**38**
EMB	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**38**
EMB	T	90	(repeat of above general invasives)		**38**
EMB	T	99	(repeat of above general invasives)		**38**
EMB	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**38**
EMB	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**38**
EMB	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**38**
EMB	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**37**
EMB	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**36**
EMB	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**36**
EMB	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**34**
EMB	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**34**
EMB	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**34**
EMB	T	105	develop and implement invasive species management program	# of invasive management plans established	**34**
EMB	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**34**
EMB	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**32**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMB	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**32**
EMB	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**30**
EMB	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**23**
EMB	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**21**
EMB	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**18**
EMB	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**18**
EMB	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**18**
EMB	T	137	Conduct road mitigations where required	# of mitigation projects established	**18**
EMB	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**16**
EMB	T	117	(combined with above)		**16**
EMB	T	13	create GIS coverage of field habitats	# of GIS data sets	**15**
EMB	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**15**
EMB	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**15**
EMB	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**15**
EMB	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**15**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMB	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**15**
EMB	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**15**
EMB	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**14**
EMB	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**14**
EMB	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**12**
EMB	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**12**
EMB	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**12**
EMB	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
EMB	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
EMB	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
EMB	T	11	create GIS coverage of forest age-class	# of GIS data sets	**10**
EMB	T	12	create GIS coverage of shrublands	# of GIS data sets	**10**
EMB	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**10**
EMB	T	91	*Identify potential damaging aquatic invasives and exotics*	completion of needed research by RI Dem or partners; # of new species added to management plans	**8**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMB	T	92	develop and implement sampling protocol for aquatic exotics	# of sampling protocols developed; % incorporated into existing data bases	**8**
EMB	T	80	Develop and provide educational program/materials to reduce incidental mortality and take from humans	# of educational programs developed and delivered concerning human take and incidental mortality to GCN species	**6**
EMB	T	110	enhance habitat connectivity for priority species with culverts	# of culverts established; # of sites with GCN species monitored over time	**6**
EMB	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
EMB	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**4**
EMB	T	93	*Assess threat from fish*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
EMB	T	94	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel	# of partners involved in aquatic exotic management; # of partners with modifications to existing procedures to address exotics	**4**
EMB	T	95	(combined with above)		**4**
EMB	T	96	develop and implement program to mitigate effect of aquatic exotics	# of mitigation projects established	**4**
EMB	T	98	*Assess pathways of introduction from water gardens and mail order*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
EMB	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**3**
EMB	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**2**
EMB	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**17**
EMB	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**13**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMB	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**13**
EMB	H	102	*Evaluate nutritional value of exotic fruit-bearing plants*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**10**
EMB	H	70	*Evaluate need for nesting substrate and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
EMB	H	81	Expand public relations for snakes	# of educational programs developed and delivered concerning snakes	**3**
EMB	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**3**
EMB	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**2**
EMB	H	50	*evaluate feasibility and efficacy of making additional amphibian breeding habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EMB	H	51	Construct and maintain new amphibian breeding habitat (seasonal pond project)	# of new ponds constructed and mapped; # of new ponds with GCN species monitored over time	**2**
EMB	H	52	Enhance regulations to protect amphibian breeding habitat	# of new regulations established or existing regulations modified to improve protection	**2**
EMB	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**2**
EMB	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**2**
EMB	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**2**
EMB	H	97	*investigate feasibility of altering hydrology of certain wetlands*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EMB	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
30) Coastal plain quagmire					
EMBQ	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				with digital data	
EMBQ	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**9**
EMBQ	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**9**
EMBQ	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**9**
EMBQ	S	32	promote existing programs with private landowners	# of programs with increased participation	**9**
EMBQ	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**9**
EMBQ	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**9**
EMBQ	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**9**
EMBQ	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**9**
EMBQ	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**9**
EMBQ	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**9**
EMBQ	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
EMBQ	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**9**
EMBQ	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**9**
EMBQ	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMBQ	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**8**
EMBQ	S	26	*(combined with above)*		**8**
EMBQ	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**6**
EMBQ	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**6**
EMBQ	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**6**
EMBQ	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**6**
EMBQ	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**6**
EMBQ	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**6**
EMBQ	S	162	Compile and publish research and planning results	# of research and plan results published	**6**
EMBQ	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**6**
EMBQ	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**6**
EMBQ	S	165	(combined with above)		**6**
EMBQ	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**3**
EMBQ	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**3**
EMBQ	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**3**
EMBQ	S	140	Develop process to facilitate research priorities		**3**
EMBQ	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMBQ	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**9**
EMBQ	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**9**
EMBQ	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**9**
EMBQ	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**8**
EMBQ	T	117	(combined with above)		**8**
EMBQ	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**7**
EMBQ	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**7**
EMBQ	T	90	(repeat of above general invasives)		**7**
EMBQ	T	91	*Identify potential damaging aquatic invasives and exotics*	completion of needed research by RI Dem or partners; # of new species added to management plans	**7**
EMBQ	T	92	develop and implement sampling protocol for aquatic exotics	# of sampling protocols developed; % incorporated into existing data bases	**7**
EMBQ	T	93	*Assess threat from fish*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**7**
EMBQ	T	94	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel	# of partners involved in aquatic exotic management; # of partners with modifications to existing procedures to address exotics	**7**
EMBQ	T	95	(combined with above)		**7**
EMBQ	T	96	develop and implement program to mitigate effect of aquatic exotics	# of mitigation projects established	**7**
EMBQ	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**7**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMBQ	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**7**
EMBQ	T	105	develop and implement invasive species management program	# of invasive management plans established	**7**
EMBQ	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**6**
EMBQ	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**6**
EMBQ	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**6**
EMBQ	T	99	(repeat of above general invasives)		**6**
EMBQ	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**6**
EMBQ	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
EMBQ	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**6**
EMBQ	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**6**
EMBQ	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
EMBQ	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**6**
EMBQ	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**6**
EMBQ	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
EMBQ	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**6**
EMBQ	T	137	Conduct road mitigations where required	# of mitigation projects established	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMBQ	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**6**
EMBQ	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**5**
EMBQ	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**4**
EMBQ	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**4**
EMBQ	T	13	create GIS coverage of field habitats	# of GIS data sets	**3**
EMBQ	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**3**
EMBQ	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**3**
EMBQ	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
EMBQ	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EMBQ	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EMBQ	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EMBQ	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EMBQ	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EMBQ	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMBQ	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**5**
EMBQ	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
31) Emergent marsh deep					
EMAD	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**27**
EMAD	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**27**
EMAD	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**27**
EMAD	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**27**
EMAD	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**27**
EMAD	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**27**
EMAD	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**27**
EMAD	S	26	*(combined with above)*		**27**
EMAD	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**27**
EMAD	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**27**
EMAD	S	32	promote existing programs with private landowners	# of programs with increased participation	**27**
EMAD	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**27**
EMAD	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**27**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMAD	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**27**
EMAD	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**27**
EMAD	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**27**
EMAD	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**27**
EMAD	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**27**
EMAD	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**27**
EMAD	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**27**
EMAD	S	162	Compile and publish research and planning results	# of research and plan results published	**27**
EMAD	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**27**
EMAD	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**27**
EMAD	S	165	(combined with above)		**27**
EMAD	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**18**
EMAD	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**18**
EMAD	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**18**
EMAD	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**18**
EMAD	S	140	Develop process to facilitate research priorities		**18**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMAD	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**9**
EMAD	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
EMAD	T	11	create GIS coverage of forest age-class	# of GIS data sets	**27**
EMAD	T	12	create GIS coverage of shrublands	# of GIS data sets	**27**
EMAD	T	13	create GIS coverage of field habitats	# of GIS data sets	**27**
EMAD	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**27**
EMAD	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**27**
EMAD	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**27**
EMAD	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**27**
EMAD	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**27**
EMAD	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**18**
EMAD	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**18**
EMAD	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**18**
EMAD	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**17**
EMAD	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**17**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMAD	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**17**
EMAD	T	117	(combined with above)		**17**
EMAD	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**17**
EMAD	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**17**
EMAD	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**17**
EMAD	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**17**
EMAD	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**17**
EMAD	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**12**
EMAD	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**9**
EMAD	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**9**
EMAD	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**9**
EMAD	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**9**
EMAD	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**9**
EMAD	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMAD	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**9**
EMAD	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
EMAD	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
EMAD	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**9**
EMAD	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
EMAD	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**9**
EMAD	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**9**
EMAD	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**2**
EMAD	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EMAD	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**2**
EMAD	T	137	Conduct road mitigations where required	# of mitigation projects established	**2**
EMAD	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**18**
EMAD	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**18**
EMAD	H	76	Control public access at priority sites	# of sites with restricted public access	**9**
EMAD	H	77	Protect individual nests from predation	# of individual nests protected	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMAD	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**8**
EMAD	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**5**
32) Emergent marsh shallow/wet meadow					
EMAS	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**24**
EMAS	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**24**
EMAS	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**24**
EMAS	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**24**
EMAS	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**24**
EMAS	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**24**
EMAS	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**24**
EMAS	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**24**
EMAS	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**24**
EMAS	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**24**
EMAS	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**24**
EMAS	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**24**
EMAS	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**24**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMAS	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**23**
EMAS	S	26	*(combined with above)*		**23**
EMAS	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**23**
EMAS	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**23**
EMAS	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**23**
EMAS	S	162	Compile and publish research and planning results	# of research and plan results published	**23**
EMAS	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**23**
EMAS	S	165	(combined with above)		**23**
EMAS	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**22**
EMAS	S	140	Develop process to facilitate research priorities		**22**
EMAS	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**22**
EMAS	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**21**
EMAS	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**21**
EMAS	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**16**
EMAS	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**16**
EMAS	S	32	promote existing programs with private landowners	# of programs with increased participation	**16**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMAS	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**16**
EMAS	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**16**
EMAS	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**23**
EMAS	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**23**
EMAS	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**23**
EMAS	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**23**
EMAS	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**23**
EMAS	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**22**
EMAS	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**22**
EMAS	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**22**
EMAS	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**21**
EMAS	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**21**
EMAS	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**21**
EMAS	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**21**
EMAS	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated	**21**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				into conservation actions	
EMAS	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**21**
EMAS	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**21**
EMAS	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**20**
EMAS	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**19**
EMAS	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**19**
EMAS	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**19**
EMAS	T	90	(repeat of above general invasives)		**19**
EMAS	T	99	(repeat of above general invasives)		**19**
EMAS	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**19**
EMAS	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**19**
EMAS	T	105	develop and implement invasive species management program	# of invasive management plans established	**19**
EMAS	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**19**
EMAS	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**16**
EMAS	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
EMAS	T	11	create GIS coverage of forest age-class	# of GIS data sets	**11**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMAS	T	12	create GIS coverage of shrublands	# of GIS data sets	**11**
EMAS	T	13	create GIS coverage of field habitats	# of GIS data sets	**11**
EMAS	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**9**
EMAS	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
EMAS	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**8**
EMAS	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**8**
EMAS	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**7**
EMAS	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**7**
EMAS	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**7**
EMAS	T	137	Conduct road mitigations where required	# of mitigation projects established	**7**
EMAS	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**6**
EMAS	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
EMAS	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**6**
EMAS	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**6**
EMAS	T	117	(combined with above)		**6**
EMAS	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMAS	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
EMAS	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
EMAS	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
EMAS	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
EMAS	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**4**
EMAS	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EMAS	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**1**
EMAS	T	110	enhance habitat connectivity for priority species with culverts	# of culverts established; # of sites with GCN species monitored over time	**1**
EMAS	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**10**
EMAS	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**7**
EMAS	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**7**
EMAS	H	102	*Evaluate nutritional value of exotic fruit-bearing plants*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
EMAS	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**2**
EMAS	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMAS	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**2**
EMAS	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**2**
EMAS	H	76	Control public access at priority sites	# of sites with restricted public access	**1**
EMAS	H	77	Protect individual nests from predation	# of individual nests protected	**1**
EMAS	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EMAS	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
33) Freshwater wetland unspecified					
FW	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**9**
FW	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**9**
FW	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**9**
FW	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**9**
FW	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**9**
FW	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**9**
FW	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**9**
FW	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**9**
FW	S	26	(combined with above)		**9**
FW	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FW	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**9**
FW	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**9**
FW	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**9**
FW	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**9**
FW	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**9**
FW	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**9**
FW	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**9**
FW	S	140	Develop process to facilitate research priorities		**9**
FW	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
FW	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**9**
FW	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**9**
FW	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**9**
FW	S	162	Compile and publish research and planning results	# of research and plan results published	**9**
FW	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**9**
FW	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**9**
FW	S	165	(combined with above)		**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FW	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**6**
FW	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**6**
FW	S	32	promote existing programs with private landowners	# of programs with increased participation	**6**
FW	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**6**
FW	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**6**
FW	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**9**
FW	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**9**
FW	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**9**
FW	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**9**
FW	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**9**
FW	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**9**
FW	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**9**
FW	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**9**
FW	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
FW	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**9**
FW	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FW	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**9**
FW	T	90	(repeat of above general invasives)		**9**
FW	T	99	(repeat of above general invasives)		**9**
FW	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**9**
FW	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**9**
FW	T	105	develop and implement invasive species management program	# of invasive management plans established	**9**
FW	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**9**
FW	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
FW	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**9**
FW	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**9**
FW	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**9**
FW	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**6**
FW	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
FW	T	11	create GIS coverage of forest age-class	# of GIS data sets	**3**
FW	T	12	create GIS coverage of shrublands	# of GIS data sets	**3**
FW	T	13	create GIS coverage of field habitats	# of GIS data sets	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FW	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**3**
FW	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**3**
FW	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**3**
FW	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**3**
FW	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**3**
FW	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**3**
FW	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
FW	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**3**
FW	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**3**
FW	T	117	(combined with above)		**3**
FW	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
FW	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
FW	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
FW	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FW	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
FW	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**
FW	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
FW	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**3**
FW	T	137	Conduct road mitigations where required	# of mitigation projects established	**3**
FW	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
FW	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**3**
FW	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**3**
FW	H	102	*Evaluate nutritional value of exotic fruit-bearing plants*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
FW	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
FW	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
FW	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**3**
34) Seasonally flooded coastal plain pondshores					
EMAC	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**3**
EMAC	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				with overlay	
EMAC	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**3**
EMAC	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**3**
EMAC	S	32	promote existing programs with private landowners	# of programs with increased participation	**3**
EMAC	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**3**
EMAC	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**3**
EMAC	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**3**
EMAC	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**3**
EMAC	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**3**
EMAC	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**3**
EMAC	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
EMAC	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**3**
EMAC	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**3**
EMAC	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**3**
EMAC	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**2**
EMAC	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				habitats with digital data	
EMAC	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**2**
EMAC	S	26	*(combined with above)*		**2**
EMAC	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**2**
EMAC	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**2**
EMAC	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**2**
EMAC	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**2**
EMAC	S	162	Compile and publish research and planning results	# of research and plan results published	**2**
EMAC	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**2**
EMAC	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**2**
EMAC	S	165	(combined with above)		**2**
EMAC	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**1**
EMAC	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**1**
EMAC	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**1**
EMAC	S	140	Develop process to facilitate research priorities		**1**
EMAC	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**3**
EMAC	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMAC	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**3**
EMAC	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**3**
EMAC	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**3**
EMAC	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**3**
EMAC	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**3**
EMAC	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**3**
EMAC	T	105	develop and implement invasive species management program	# of invasive management plans established	**3**
EMAC	T	117	(combined with above)		**3**
EMAC	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
EMAC	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**3**
EMAC	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**2**
EMAC	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**2**
EMAC	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**2**
EMAC	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**2**
EMAC	T	90	(repeat of above general invasives)		**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMAC	T	91	*Identify potential damaging aquatic invasives and exotics*	completion of needed research by RI Dem or partners; # of new species added to management plans	**2**
EMAC	T	92	develop and implement sampling protocol for aquatic exotics	# of sampling protocols developed; % incorporated into existing data bases	**2**
EMAC	T	93	*Assess threat from fish*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EMAC	T	94	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel	# of partners involved in aquatic exotic management; # of partners with modifications to existing procedures to address exotics	**2**
EMAC	T	95	(combined with above)		**2**
EMAC	T	96	develop and implement program to mitigate effect of aquatic exotics	# of mitigation projects established	**2**
EMAC	T	99	(repeat of above general invasives)		**2**
EMAC	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**2**
EMAC	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EMAC	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**2**
EMAC	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**2**
EMAC	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**2**
EMAC	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**2**
EMAC	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EMAC	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EMAC	T	137	Conduct road mitigations where required	# of mitigation projects established	**2**
EMAC	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**2**
EMAC	T	13	create GIS coverage of field habitats	# of GIS data sets	**1**
EMAC	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**1**
EMAC	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**1**
EMAC	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EMAC	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EMAC	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EMAC	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
35) Shrub bog unspecified					
SSB	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**3**
SSB	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**3**
SSB	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**3**
SSB	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**3**
SSB	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SSB	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**3**
SSB	S	26	*(combined with above)*		**3**
SSB	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**3**
SSB	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**3**
SSB	S	32	promote existing programs with private landowners	# of programs with increased participation	**3**
SSB	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**3**
SSB	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**3**
SSB	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**3**
SSB	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**3**
SSB	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**3**
SSB	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**3**
SSB	S	140	Develop process to facilitate research priorities		**3**
SSB	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
SSB	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**3**
SSB	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**3**
SSB	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				data bases	
SSB	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**2**
SSB	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**2**
SSB	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**2**
SSB	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**2**
SSB	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**2**
SSB	S	165	(combined with above)		**2**
SSB	S	162	Compile and publish research and planning results	# of research and plan results published	**1**
SSB	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**1**
SSB	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**3**
SSB	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**3**
SSB	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**3**
SSB	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
SSB	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**3**
SSB	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**3**
SSB	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SSB	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**2**
SSB	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**2**
SSB	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**2**
SSB	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**2**
SSB	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
SSB	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**2**
SSB	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**2**
SSB	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**2**
SSB	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**2**
SSB	T	99	(repeat of above general invasives)		**2**
SSB	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**2**
SSB	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**2**
SSB	T	105	develop and implement invasive species management program	# of invasive management plans established	**2**
SSB	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**2**
SSB	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SSB	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**1**
SSB	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**1**
SSB	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**1**
SSB	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**1**
SSB	T	90	(repeat of above general invasives)		**1**
SSB	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**1**
SSB	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SSB	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**1**
SSB	T	137	Conduct road mitigations where required	# of mitigation projects established	**1**
SSB	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SSB	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**1**
SSB	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
SSB	H	76	Control public access at priority sites	# of sites with restricted public access	**2**
SSB	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**2**
SSB	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**1**
SSB	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**1**
SSB	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SSB	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**1**
36) Shrub swamp alder					
SSAA	S	**2**	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**6**
SSAA	S	**3**	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**6**
SSAA	S	**6**	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**6**
SSAA	S	**7**	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**6**
SSAA	S	**10**	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**6**
SSAA	S	**14**	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**6**
SSAA	S	**25**	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**6**
SSAA	S	**26**	(combined with above)		**6**
SSAA	S	**42**	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**6**
SSAA	S	**45**	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**6**
SSAA	S	**46**	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**6**
SSAA	S	**47**	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**6**
SSAA	S	**149**	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SSAA	S	**150**	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**6**
SSAA	S	**151**	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**6**
SSAA	S	**162**	Compile and publish research and planning results	# of research and plan results published	**6**
SSAA	S	**163**	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**6**
SSAA	S	**164**	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**6**
SSAA	S	**165**	(combined with above)		**6**
SSAA	S	**22**	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**5**
SSAA	S	**30**	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**5**
SSAA	S	**31**	develop new partnerships with private landowners	# of new private landowners involved in planning process	**5**
SSAA	S	**32**	promote existing programs with private landowners	# of programs with increased participation	**5**
SSAA	S	**33**	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**5**
SSAA	S	**34**	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**5**
SSAA	S	**37**	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**5**
SSAA	S	**38**	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**5**
SSAA	S	**39**	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**5**
SSAA	S	**140**	Develop process to facilitate research priorities		**5**
SSAA	S	**127**	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SSAA	S	**144**	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
SSAA	T	**20**	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**5**
SSAA	T	**64**	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**5**
SSAA	T	**65**	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**5**
SSAA	T	**11**	create GIS coverage of forest age-class	# of GIS data sets	**4**
SSAA	T	**12**	create GIS coverage of shrublands	# of GIS data sets	**4**
SSAA	T	**13**	create GIS coverage of field habitats	# of GIS data sets	**4**
SSAA	T	**18**	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**4**
SSAA	T	**19**	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**4**
SSAA	T	**23**	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**4**
SSAA	T	**27**	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**4**
SSAA	T	**40**	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**4**
SSAA	T	**41**	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**4**
SSAA	T	**71**	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
SSAA	T	**125**	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SSAA	T	**128**	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**4**
SSAA	T	**159**	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**4**
SSAA	T	**61**	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**3**
SSAA	T	**85**	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**3**
SSAA	T	**86**	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**3**
SSAA	T	**87**	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**3**
SSAA	T	**90**	(repeat of above general invasives)		**3**
SSAA	T	**99**	(repeat of above general invasives)		**3**
SSAA	T	**103**	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**3**
SSAA	T	**104**	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**3**
SSAA	T	**105**	develop and implement invasive species management program	# of invasive management plans established	**3**
SSAA	T	**106**	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**3**
SSAA	T	**126**	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**3**
SSAA	T	**131**	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**3**
SSAA	T	**134**	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SSAA	T	**135**	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
SSAA	T	**136**	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**3**
SSAA	T	**137**	Conduct road mitigations where required	# of mitigation projects established	**3**
SSAA	T	**145**	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
SSAA	T	**17**	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**2**
SSAA	T	**24**	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**2**
SSAA	T	**56**	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**2**
SSAA	T	**57**	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**2**
SSAA	T	**141**	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
SSAA	T	**158**	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**2**
SSAA	T	**74**	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SSAA	T	**75**	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**1**
SSAA	T	**82**	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**1**
SSAA	T	**114**	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SSAA	T	**115**	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**1**
SSAA	T	**116**	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**1**
SSAA	T	**117**	(combined with above)		**1**
SSAA	T	**118**	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SSAA	T	**119**	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SSAA	T	**120**	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SSAA	T	**121**	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SSAA	T	**122**	*Assess effects of streambank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SSAA	T	**157**	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**1**
SSAA	H	**142**	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
SSAA	H	**154**	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**2**
SSAA	H	**55**	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**1**
SSAA	H	**58**	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**1**
SSAA	H	**59**	Implement burn management on priority parcels	# of parcels with fire plans implemented	**1**
SSAA	H	**60**	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**1**
SSAA	H	**76**	Control public access at priority sites	# of sites with restricted public access	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SSAA	H	**77**	Protect individual nests from predation	# of individual nests protected	**1**
SSAA	H	**102**	*Evaluate nutritional value of exotic fruit-bearing plants*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SSAA	H	**143**	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
37) Shrub swamp water willow					
SSAD	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**3**
SSAD	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**3**
SSAD	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**3**
SSAD	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**3**
SSAD	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**3**
SSAD	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**3**
SSAD	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**3**
SSAD	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**3**
SSAD	S	26	*(combined with above)*		**3**
SSAD	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**3**
SSAD	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**3**
SSAD	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SSAD	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**3**
SSAD	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**3**
SSAD	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**3**
SSAD	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**3**
SSAD	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**3**
SSAD	S	140	Develop process to facilitate research priorities		**3**
SSAD	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
SSAD	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**3**
SSAD	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**3**
SSAD	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**3**
SSAD	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**2**
SSAD	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**2**
SSAD	S	32	promote existing programs with private landowners	# of programs with increased participation	**2**
SSAD	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**2**
SSAD	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**2**
SSAD	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SSAD	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**3**
SSAD	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**
SSAD	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**3**
SSAD	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**3**
SSAD	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**3**
SSAD	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**3**
SSAD	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**3**
SSAD	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
SSAD	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**3**
SSAD	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**3**
SSAD	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**3**
SSAD	T	90	(repeat of above general invasives)		**3**
SSAD	T	99	(repeat of above general invasives)		**3**
SSAD	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**3**
SSAD	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**3**
SSAD	T	105	develop and implement invasive species management	# of invasive management plans established	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
			program		
SSAD	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**3**
SSAD	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
SSAD	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**3**
SSAD	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**3**
SSAD	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**2**
SSAD	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
SSAD	T	11	create GIS coverage of forest age-class	# of GIS data sets	**1**
SSAD	T	12	create GIS coverage of shrublands	# of GIS data sets	**1**
SSAD	T	13	create GIS coverage of field habitats	# of GIS data sets	**1**
SSAD	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**1**
SSAD	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**1**
SSAD	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**1**
SSAD	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**1**
SSAD	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**1**
SSAD	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SSAD	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SSAD	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**1**
SSAD	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**1**
SSAD	T	117	(combined with above)		**1**
SSAD	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SSAD	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SSAD	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SSAD	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SSAD	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SSAD	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**1**
SSAD	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SSAD	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**1**
SSAD	T	137	Conduct road mitigations where required	# of mitigation projects established	**1**
SSAD	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SSAD	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**1**
SSAD	H	102	*Evaluate nutritional value of exotic fruit-bearing plants*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SSAD	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SSAD	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SSAD	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
38) Forested coniferous wetland white cedar					
FOAC	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**12**
FOAC	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**12**
FOAC	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**12**
FOAC	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**12**
FOAC	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**12**
FOAC	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**12**
FOAC	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**12**
FOAC	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**12**
FOAC	S	26	*(combined with above)*		**12**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOAC	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**12**
FOAC	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**12**
FOAC	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**12**
FOAC	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**12**
FOAC	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**12**
FOAC	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**12**
FOAC	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**12**
FOAC	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**12**
FOAC	S	140	Develop process to facilitate research priorities		**12**
FOAC	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
FOAC	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**12**
FOAC	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**12**
FOAC	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**12**
FOAC	S	162	Compile and publish research and planning results	# of research and plan results published	**12**
FOAC	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**12**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOAC	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**12**
FOAC	S	165	(combined with above)		**12**
FOAC	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**8**
FOAC	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**8**
FOAC	S	32	promote existing programs with private landowners	# of programs with increased participation	**8**
FOAC	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**8**
FOAC	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**8**
FOAC	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**12**
FOAC	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**12**
FOAC	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**12**
FOAC	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**12**
FOAC	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**12**
FOAC	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**12**
FOAC	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**12**
FOAC	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**12**
FOAC	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOAC	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**12**
FOAC	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**12**
FOAC	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**12**
FOAC	T	90	(repeat of above general invasives)		**12**
FOAC	T	99	(repeat of above general invasives)		**12**
FOAC	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**12**
FOAC	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**12**
FOAC	T	105	develop and implement invasive species management program	# of invasive management plans established	**12**
FOAC	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**12**
FOAC	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
FOAC	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**12**
FOAC	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**12**
FOAC	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**12**
FOAC	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**8**
FOAC	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOAC	T	11	create GIS coverage of forest age-class	# of GIS data sets	**4**
FOAC	T	12	create GIS coverage of shrublands	# of GIS data sets	**4**
FOAC	T	13	create GIS coverage of field habitats	# of GIS data sets	**4**
FOAC	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**4**
FOAC	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**4**
FOAC	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**4**
FOAC	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**4**
FOAC	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**4**
FOAC	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**4**
FOAC	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
FOAC	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**4**
FOAC	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**4**
FOAC	T	117	(combined with above)		**4**
FOAC	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
FOAC	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
FOAC	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOAC	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
FOAC	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
FOAC	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**4**
FOAC	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
FOAC	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**4**
FOAC	T	137	Conduct road mitigations where required	# of mitigation projects established	**4**
FOAC	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
FOAC	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**4**
FOAC	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**8**
FOAC	H	102	*Evaluate nutritional value of exotic fruit-bearing plants*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
FOAC	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
FOAC	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
FOAC	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**4**
39) Forested coniferous wetland unspecified					

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOA	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**6**
FOA	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**6**
FOA	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**6**
FOA	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**6**
FOA	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**6**
FOA	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**6**
FOA	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**6**
FOA	S	26	(combined with above)		**6**
FOA	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**6**
FOA	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**6**
FOA	S	32	promote existing programs with private landowners	# of programs with increased participation	**6**
FOA	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**6**
FOA	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**6**
FOA	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**6**
FOA	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**6**
FOA	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOA	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**6**
FOA	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**6**
FOA	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**6**
FOA	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**6**
FOA	S	162	Compile and publish research and planning results	# of research and plan results published	**6**
FOA	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**6**
FOA	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**6**
FOA	S	165	(combined with above)		**6**
FOA	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**4**
FOA	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**4**
FOA	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**4**
FOA	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**4**
FOA	S	140	Develop process to facilitate research priorities		**4**
FOA	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**2**
FOA	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
FOA	T	11	create GIS coverage of forest age-class	# of GIS data sets	**6**
FOA	T	12	create GIS coverage of shrublands	# of GIS data sets	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOA	T	13	create GIS coverage of field habitats	# of GIS data sets	**6**
FOA	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**6**
FOA	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**6**
FOA	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**4**
FOA	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**4**
FOA	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**4**
FOA	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
FOA	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**4**
FOA	T	137	Conduct road mitigations where required	# of mitigation projects established	**4**
FOA	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
FOA	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**4**
FOA	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**
FOA	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**2**
FOA	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**2**
FOA	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOA	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**2**
FOA	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**2**
FOA	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**2**
FOA	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**2**
FOA	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
FOA	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
FOA	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**2**
FOA	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
FOA	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**2**
FOA	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**2**
FOA	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
FOA	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**1**
FOA	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**1**
FOA	T	117	(combined with above)		**1**
FOA	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOA	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
FOA	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
FOA	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
FOA	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
FOA	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**6**
FOA	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
FOA	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**4**
FOA	H	76	Control public access at priority sites	# of sites with restricted public access	**2**
FOA	H	77	Protect individual nests from predation	# of individual nests protected	**2**
40) Forested deciduous red maple swamp					
FOBMA	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**3**
FOBMA	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**3**
FOBMA	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**3**
FOBMA	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**3**
FOBMA	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**3**
FOBMA	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOBMA	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**3**
FOBMA	S	26	*(combined with above)*		**3**
FOBMA	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**3**
FOBMA	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**3**
FOBMA	S	32	promote existing programs with private landowners	# of programs with increased participation	**3**
FOBMA	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**3**
FOBMA	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**3**
FOBMA	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**3**
FOBMA	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**3**
FOBMA	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**3**
FOBMA	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**3**
FOBMA	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**3**
FOBMA	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**3**
FOBMA	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**3**
FOBMA	S	162	Compile and publish research and planning results	# of research and plan results published	**3**
FOBMA	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOBMA	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**3**
FOBMA	S	165	(combined with above)		**3**
FOBMA	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**2**
FOBMA	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**2**
FOBMA	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**2**
FOBMA	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**2**
FOBMA	S	140	Develop process to facilitate research priorities		**2**
FOBMA	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**1**
FOBMA	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
FOBMA	T	11	create GIS coverage of forest age-class	# of GIS data sets	**3**
FOBMA	T	12	create GIS coverage of shrublands	# of GIS data sets	**3**
FOBMA	T	13	create GIS coverage of field habitats	# of GIS data sets	**3**
FOBMA	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**
FOBMA	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**3**
FOBMA	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**3**
FOBMA	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOBMA	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**2**
FOBMA	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**2**
FOBMA	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
FOBMA	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**2**
FOBMA	T	137	Conduct road mitigations where required	# of mitigation projects established	**2**
FOBMA	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
FOBMA	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**2**
FOBMA	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**1**
FOBMA	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**1**
FOBMA	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**1**
FOBMA	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**1**
FOBMA	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**1**
FOBMA	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**1**
FOBMA	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**1**
FOBMA	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOBMA	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
FOBMA	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**1**
FOBMA	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
FOBMA	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**1**
FOBMA	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**1**
FOBMA	T	117	(combined with above)		**1**
FOBMA	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
FOBMA	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
FOBMA	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
FOBMA	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
FOBMA	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
FOBMA	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
FOBMA	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**1**
FOBMA	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOBMA	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	
FOBMA	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**3**
FOBMA	H	68	*evaluate need for nesting structures/boxes and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
FOBMA	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
FOBMA	H	76	Control public access at priority sites	# of sites with restricted public access	**1**
FOBMA	H	77	Protect individual nests from predation	# of individual nests protected	**1**
FOBMA	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
41) Forested deciduous wetland unspecified					
FOB	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**9**
FOB	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**9**
FOB	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**9**
FOB	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**9**
FOB	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**9**
FOB	S	26	*(combined with above)*		**9**
FOB	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**9**
FOB	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOB	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**9**
FOB	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**9**
FOB	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**9**
FOB	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**9**
FOB	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**9**
FOB	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**9**
FOB	S	140	Develop process to facilitate research priorities		**9**
FOB	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
FOB	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**9**
FOB	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**9**
FOB	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**9**
FOB	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**9**
FOB	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**8**
FOB	S	162	Compile and publish research and planning results	# of research and plan results published	**8**
FOB	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**8**
FOB	S	165	(combined with above)		**8**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOB	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**7**
FOB	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**7**
FOB	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**7**
FOB	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**7**
FOB	S	32	promote existing programs with private landowners	# of programs with increased participation	**7**
FOB	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**7**
FOB	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**7**
FOB	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**9**
FOB	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**9**
FOB	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**9**
FOB	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**9**
FOB	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**9**
FOB	T	90	(repeat of above general invasives)		**9**
FOB	T	99	(repeat of above general invasives)		**9**
FOB	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
FOB	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**9**
FOB	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOB	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**9**
FOB	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**8**
FOB	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**8**
FOB	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**8**
FOB	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**7**
FOB	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**7**
FOB	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**7**
FOB	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**7**
FOB	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**7**
FOB	T	105	develop and implement invasive species management program	# of invasive management plans established	**7**
FOB	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**7**
FOB	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
FOB	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**5**
FOB	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
FOB	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**5**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOB	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**5**
FOB	T	117	(combined with above)		**5**
FOB	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
FOB	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
FOB	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
FOB	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**5**
FOB	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
FOB	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**5**
FOB	T	137	Conduct road mitigations where required	# of mitigation projects established	**5**
FOB	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
FOB	T	13	create GIS coverage of field habitats	# of GIS data sets	**4**
FOB	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**4**
FOB	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**4**
FOB	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOB	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**4**
FOB	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**3**
FOB	T	91	*Identify potential damaging aquatic invasives and exotics*	completion of needed research by RI Dem or partners; # of new species added to management plans	**3**
FOB	T	92	develop and implement sampling protocol for aquatic exotics	# of sampling protocols developed; % incorporated into existing data bases	**3**
FOB	T	93	*Assess threat from fish*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
FOB	T	94	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel	# of partners involved in aquatic exotic management; # of partners with modifications to existing procedures to address exotics	**3**
FOB	T	95	(combined with above)		**3**
FOB	T	96	develop and implement program to mitigate effect of aquatic exotics	# of mitigation projects established	**3**
FOB	T	98	*Assess pathways of introduction from water gardens and mail order*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
FOB	T	110	enhance habitat connectivity for priority species with culverts	# of culverts established; # of sites with GCN species monitored over time	**3**
FOB	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**3**
FOB	T	11	create GIS coverage of forest age-class	# of GIS data sets	**2**
FOB	T	12	create GIS coverage of shrublands	# of GIS data sets	**2**
FOB	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**2**
FOB	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**2**
FOB	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				management plans	
FOB	T	80	Develop and provide educational program/materials to reduce incidental mortality and take from humans	# of educational programs developed and delivered concerning human take and incidental mortality to GCN species	**2**
FOB	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
FOB	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
FOB	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**5**
FOB	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
FOB	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
FOB	H	81	Expand public relations for snakes	# of educational programs developed and delivered concerning snakes	**2**
FOB	H	97	*investigate feasibility of altering hydrology of certain wetlands*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
FOB	H	102	*Evaluate nutritional value of exotic fruit-bearing plants*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
FOB	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**2**
FOB	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**1**
FOB	H	50	*evaluate feasibility and efficacy of making additional amphibian breeding habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
FOB	H	51	Construct and maintain new amphibian breeding habitat (seasonal pond project)	# of new ponds constructed and mapped; # of new ponds with GCN species monitored over time	**1**
FOB	H	52	Enhance regulations to protect amphibian breeding habitat	# of new regulations established or existing regulations modified to improve protection	**1**
FOB	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
42) Springs					
SS	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**9**
SS	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**9**
SS	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**9**
SS	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**9**
SS	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**9**
SS	S	32	promote existing programs with private landowners	# of programs with increased participation	**9**
SS	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**9**
SS	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**9**
SS	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**9**
SS	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**9**
SS	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SS	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**9**
SS	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
SS	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**9**
SS	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**9**
SS	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**9**
SS	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**8**
SS	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**8**
SS	S	26	*(combined with above)*		**8**
SS	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**8**
SS	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**8**
SS	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**8**
SS	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**8**
SS	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**8**
SS	S	140	Develop process to facilitate research priorities		**7**
SS	S	162	Compile and publish research and planning results	# of research and plan results published	**6**
SS	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SS	S	165	(combined with above)		**6**
SS	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**5**
SS	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**3**
SS	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**3**
SS	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**9**
SS	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**9**
SS	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**9**
SS	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
SS	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**9**
SS	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**9**
SS	T	117	(combined with above)		**9**
SS	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
SS	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**9**
SS	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**8**
SS	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**8**
SS	T	90	(repeat of above general invasives)		**8**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SS	T	91	*Identify potential damaging aquatic invasives and exotics*	completion of needed research by RI Dem or partners; # of new species added to management plans	**8**
SS	T	94	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel	# of partners involved in aquatic exotic management; # of partners with modifications to existing procedures to address exotics	**8**
SS	T	95	(combined with above)		**8**
SS	T	96	develop and implement program to mitigate effect of aquatic exotics	# of mitigation projects established	**8**
SS	T	99	(repeat of above general invasives)		**8**
SS	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
SS	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**8**
SS	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**8**
SS	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
SS	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**8**
SS	T	137	Conduct road mitigations where required	# of mitigation projects established	**8**
SS	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**8**
SS	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**7**
SS	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**7**
SS	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**6**
SS	T	98	*Assess pathways of introduction from water gardens and mail order*	completion of needed research by RI DEM or partners; # of research recommendations incorporated	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				into conservation actions	
SS	T	110	enhance habitat connectivity for priority species with culverts	# of culverts established; # of sites with GCN species monitored over time	**6**
SS	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
SS	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
SS	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**6**
SS	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
SS	T	13	create GIS coverage of field habitats	# of GIS data sets	**5**
SS	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**5**
SS	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**5**
SS	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**5**
SS	T	80	Develop and provide educational program/materials to reduce incidental mortality and take from humans	# of educational programs developed and delivered concerning human take and incidental mortality to GCN species	**4**
SS	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**4**
SS	T	92	develop and implement sampling protocol for aquatic exotics	# of sampling protocols developed; % incorporated into existing data bases	**4**
SS	T	93	*Assess threat from fish*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SS	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**4**
SS	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**4**
SS	T	105	develop and implement invasive species management program	# of invasive management plans established	**4**
SS	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**4**
SS	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
SS	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**4**
SS	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**3**
SS	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**2**
SS	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**2**
SS	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SS	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**7**
SS	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**7**
SS	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**6**
SS	H	81	Expand public relations for snakes	# of educational programs developed and delivered concerning snakes	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SS	H	97	*investigate feasibility of altering hydrology of certain wetlands*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
SS	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**2**
SS	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
SS	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
43) River blackwater creek					
RBC	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**6**
RBC	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**6**
RBC	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**6**
RBC	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**6**
RBC	S	32	promote existing programs with private landowners	# of programs with increased participation	**6**
RBC	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**6**
RBC	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**6**
RBC	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**6**
RBC	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**6**
RBC	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**6**
RBC	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				chemical management	
RBC	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
RBC	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**6**
RBC	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**6**
RBC	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**6**
RBC	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**5**
RBC	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**4**
RBC	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**4**
RBC	S	26	*(combined with above)*		**4**
RBC	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**4**
RBC	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**4**
RBC	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**4**
RBC	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**4**
RBC	S	162	Compile and publish research and planning results	# of research and plan results published	**4**
RBC	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
RBC	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**4**
RBC	S	165	(combined with above)		**4**
RBC	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**2**
RBC	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**2**
RBC	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**2**
RBC	S	140	Develop process to facilitate research priorities		**2**
RBC	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**6**
RBC	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**6**
RBC	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**6**
RBC	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**6**
RBC	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**5**
RBC	T	117	(combined with above)		**5**
RBC	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**4**
RBC	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**4**
RBC	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**4**
RBC	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**4**
RBC	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
RBC	T	90	(repeat of above general invasives)		**4**
RBC	T	91	*Identify potential damaging aquatic invasives and exotics*	completion of needed research by RI Dem or partners; # of new species added to management plans	**4**
RBC	T	92	develop and implement sampling protocol for aquatic exotics	# of sampling protocols developed; % incorporated into existing data bases	**4**
RBC	T	93	*Assess threat from fish*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
RBC	T	94	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel	# of partners involved in aquatic exotic management; # of partners with modifications to existing procedures to address exotics	**4**
RBC	T	95	(combined with above)		**4**
RBC	T	96	develop and implement program to mitigate effect of aquatic exotics	# of mitigation projects established	**4**
RBC	T	99	(repeat of above general invasives)		**4**
RBC	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**4**
RBC	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**4**
RBC	T	105	develop and implement invasive species management program	# of invasive management plans established	**4**
RBC	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**4**
RBC	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
RBC	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**4**
RBC	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**4**
RBC	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
RBC	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**4**
RBC	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**4**
RBC	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
RBC	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**4**
RBC	T	137	Conduct road mitigations where required	# of mitigation projects established	**4**
RBC	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**4**
RBC	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**3**
RBC	T	13	create GIS coverage of field habitats	# of GIS data sets	**2**
RBC	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**2**
RBC	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**2**
RBC	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
RBC	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
RBC	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
RBC	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**2**
44) River upper perennial					

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
RUP	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**60**
RUP	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**60**
RUP	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**60**
RUP	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**57**
RUP	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**56**
RUP	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**51**
RUP	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**51**
RUP	S	26	*(combined with above)*		**51**
RUP	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**51**
RUP	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**51**
RUP	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**51**
RUP	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**50**
RUP	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**50**
RUP	S	32	promote existing programs with private landowners	# of programs with increased participation	**50**
RUP	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**50**
RUP	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**50**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
RUP	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**50**
RUP	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**48**
RUP	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**48**
RUP	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**48**
RUP	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**42**
RUP	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**42**
RUP	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**42**
RUP	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**42**
RUP	S	140	Develop process to facilitate research priorities		**42**
RUP	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**38**
RUP	S	162	Compile and publish research and planning results	# of research and plan results published	**36**
RUP	S	165	(combined with above)		**36**
RUP	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**30**
RUP	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**21**
RUP	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**20**
RUP	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**58**
RUP	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**58**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
RUP	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**58**
RUP	T	117	(combined with above)		**57**
RUP	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**53**
RUP	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**53**
RUP	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**53**
RUP	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**51**
RUP	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**50**
RUP	T	90	(repeat of above general invasives)		**49**
RUP	T	99	(repeat of above general invasives)		**49**
RUP	T	91	*Identify potential damaging aquatic invasives and exotics*	completion of needed research by RI Dem or partners; # of new species added to management plans	**48**
RUP	T	92	develop and implement sampling protocol for aquatic exotics	# of sampling protocols developed; % incorporated into existing data bases	**48**
RUP	T	96	develop and implement program to mitigate effect of aquatic exotics	# of mitigation projects established	**46**
RUP	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**45**
RUP	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**45**
RUP	T	105	develop and implement invasive species management program	# of invasive management plans established	**45**
RUP	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**45**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
RUP	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**44**
RUP	T	93	*Assess threat from fish*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**43**
RUP	T	94	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel	# of partners involved in aquatic exotic management; # of partners with modifications to existing procedures to address exotics	**43**
RUP	T	95	(combined with above)		**43**
RUP	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**42**
RUP	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**42**
RUP	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**42**
RUP	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**41**
RUP	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**41**
RUP	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**41**
RUP	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**41**
RUP	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**41**
RUP	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**41**
RUP	T	137	Conduct road mitigations where required	# of mitigation projects established	**41**
RUP	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**40**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
RUP	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**39**
RUP	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**36**
RUP	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**33**
RUP	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**30**
RUP	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**30**
RUP	T	110	enhance habitat connectivity for priority species with culverts	# of culverts established; # of sites with GCN species monitored over time	**30**
RUP	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**30**
RUP	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**29**
RUP	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**29**
RUP	T	98	*Assess pathways of introduction from water gardens and mail order*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**27**
RUP	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**27**
RUP	T	111	Expand public awareness of fish passage issues	# of educational programs developed and delivered concerning fish passage issues	**26**
RUP	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**26**
RUP	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**24**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
RUP	T	13	create GIS coverage of field habitats	# of GIS data sets	**21**
RUP	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**21**
RUP	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**17**
RUP	T	109	enhance habitat connectivity for priority species with fish ladders	# of fish ladders established; # of sites with GCN species monitored over time	**16**
RUP	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**16**
RUP	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**15**
RUP	T	80	Develop and provide educational program/materials to reduce incidental mortality and take from humans	# of educational programs developed and delivered concerning human take and incidental mortality to GCN species	**12**
RUP	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
RUP	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**8**
RUP	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**8**
RUP	T	11	create GIS coverage of forest age-class	# of GIS data sets	**2**
RUP	T	12	create GIS coverage of shrublands	# of GIS data sets	**2**
RUP	T	156			**2**
RUP	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**1**
RUP	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**1**
RUP	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				management plans	
RUP	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
RUP	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**39**
RUP	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**29**
RUP	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**11**
RUP	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**8**
RUP	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**5**
RUP	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**4**
RUP	H	70	*Evaluate need for nesting substrate and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
RUP	H	69	*evaluate existing significant hibernacula*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
RUP	H	76	Control public access at priority sites	# of sites with restricted public access	**3**
RUP	H	97	*investigate feasibility of altering hydrology of certain wetlands*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
RUP	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
45) River lower perennial					

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
RLP	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**39**
RLP	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**39**
RLP	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**39**
RLP	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**38**
RLP	S	26	*(combined with above)*		**38**
RLP	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**36**
RLP	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**36**
RLP	S	140	Develop process to facilitate research priorities		**35**
RLP	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**35**
RLP	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**33**
RLP	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**33**
RLP	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**33**
RLP	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**33**
RLP	S	32	promote existing programs with private landowners	# of programs with increased participation	**33**
RLP	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**33**
RLP	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**33**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
RLP	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**33**
RLP	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**33**
RLP	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**33**
RLP	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**32**
RLP	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**30**
RLP	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**30**
RLP	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**30**
RLP	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**30**
RLP	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**29**
RLP	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**24**
RLP	S	162	Compile and publish research and planning results	# of research and plan results published	**22**
RLP	S	165	(combined with above)		**22**
RLP	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**21**
RLP	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**15**
RLP	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**15**
RLP	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**33**
RLP	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**33**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
RLP	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**33**
RLP	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**33**
RLP	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**33**
RLP	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**33**
RLP	T	90	(repeat of above general invasives)		**32**
RLP	T	91	*Identify potential damaging aquatic invasives and exotics*	completion of needed research by RI Dem or partners; # of new species added to management plans	**32**
RLP	T	92	develop and implement sampling protocol for aquatic exotics	# of sampling protocols developed; % incorporated into existing data bases	**32**
RLP	T	96	develop and implement program to mitigate effect of aquatic exotics	# of mitigation projects established	**32**
RLP	T	99	(repeat of above general invasives)		**32**
RLP	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**32**
RLP	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**32**
RLP	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**32**
RLP	T	117	(combined with above)		**32**
RLP	T	98	*Assess pathways of introduction from water gardens and mail order*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**30**
RLP	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**30**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
RLP	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**30**
RLP	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**30**
RLP	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**30**
RLP	T	137	Conduct road mitigations where required	# of mitigation projects established	**30**
RLP	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**28**
RLP	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**28**
RLP	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**28**
RLP	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**28**
RLP	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**28**
RLP	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**28**
RLP	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**28**
RLP	T	111	Expand public awareness of fish passage issues	# of educational programs developed and delivered concerning fish passage issues	**27**
RLP	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**27**
RLP	T	110	enhance habitat connectivity for priority species with culverts	# of culverts established; # of sites with GCN species monitored over time	**26**
RLP	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**25**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
RLP	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**25**
RLP	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**24**
RLP	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**24**
RLP	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**24**
RLP	T	105	develop and implement invasive species management program	# of invasive management plans established	**24**
RLP	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**24**
RLP	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**22**
RLP	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**21**
RLP	T	109	enhance habitat connectivity for priority species with fish ladders	# of fish ladders established; # of sites with GCN species monitored over time	**21**
RLP	T	93	*Assess threat from fish*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**20**
RLP	T	94	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel	# of partners involved in aquatic exotic management; # of partners with modifications to existing procedures to address exotics	**20**
RLP	T	95	(combined with above)		**20**
RLP	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**20**
RLP	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**19**
RLP	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**18**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
RLP	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**16**
RLP	T	13	create GIS coverage of field habitats	# of GIS data sets	**15**
RLP	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**15**
RLP	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**14**
RLP	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**14**
RLP	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**14**
RLP	T	80	Develop and provide educational program/materials to reduce incidental mortality and take from humans	# of educational programs developed and delivered concerning human take and incidental mortality to GCN species	**14**
RLP	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**12**
RLP	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**11**
RLP	T	156			**8**
RLP	T	11	create GIS coverage of forest age-class	# of GIS data sets	**6**
RLP	T	12	create GIS coverage of shrublands	# of GIS data sets	**6**
RLP	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**4**
RLP	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**3**
RLP	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**3**
RLP	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				into conservation actions	
RLP	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
RLP	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**23**
RLP	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**19**
RLP	H	76	Control public access at priority sites	# of sites with restricted public access	**6**
RLP	H	70	*Evaluate need for nesting substrate and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
RLP	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**
RLP	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**3**
RLP	H	77	Protect individual nests from predation	# of individual nests protected	**2**
RLP	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**1**
RLP	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**1**
RLP	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**1**
RLP	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
46) Lacustrine eutrophic lake/pond					
LE	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**3**
LE	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**3**
LE	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
LE	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**3**
LE	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**3**
LE	S	26	*(combined with above)*		**3**
LE	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**3**
LE	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**3**
LE	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**3**
LE	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**3**
LE	S	140	Develop process to facilitate research priorities		**3**
LE	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
LE	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**3**
LE	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**3**
LE	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**3**
LE	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**3**
LE	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**2**
LE	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
LE	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**2**
LE	S	32	promote existing programs with private landowners	# of programs with increased participation	**2**
LE	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**2**
LE	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**2**
LE	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**2**
LE	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**2**
LE	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**2**
LE	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**2**
LE	S	162	Compile and publish research and planning results	# of research and plan results published	**2**
LE	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**2**
LE	S	165	(combined with above)		**2**
LE	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**1**
LE	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**1**
LE	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
LE	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**3**
LE	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**3**
LE	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
LE	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**3**
LE	T	90	(repeat of above general invasives)		**3**
LE	T	91	*Identify potential damaging aquatic invasives and exotics*	completion of needed research by RI Dem or partners; # of new species added to management plans	**3**
LE	T	92	develop and implement sampling protocol for aquatic exotics	# of sampling protocols developed; % incorporated into existing data bases	**3**
LE	T	93	*Assess threat from fish*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
LE	T	94	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel	# of partners involved in aquatic exotic management; # of partners with modifications to existing procedures to address exotics	**3**
LE	T	95	(combined with above)		**3**
LE	T	96	develop and implement program to mitigate effect of aquatic exotics	# of mitigation projects established	**3**
LE	T	98	*Assess pathways of introduction from water gardens and mail order*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
LE	T	99	(repeat of above general invasives)		**3**
LE	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**3**
LE	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**3**
LE	T	105	develop and implement invasive species management program	# of invasive management plans established	**3**
LE	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**3**
LE	T	110	enhance habitat connectivity for priority species with culverts	# of culverts established; # of sites with GCN species monitored over time	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
LE	T	111	Expand public awareness of fish passage issues	# of educational programs developed and delivered concerning fish passage issues	**3**
LE	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
LE	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**3**
LE	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**3**
LE	T	117	(combined with above)		**3**
LE	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
LE	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
LE	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
LE	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
LE	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
LE	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**3**
LE	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**3**
LE	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**3**
LE	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
LE	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
LE	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**3**
LE	T	137	Conduct road mitigations where required	# of mitigation projects established	**3**
LE	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
LE	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**3**
LE	T	13	create GIS coverage of field habitats	# of GIS data sets	**2**
LE	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**2**
LE	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**2**
LE	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**2**
LE	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**2**
LE	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**2**
LE	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**2**
LE	T	80	Develop and provide educational program/materials to reduce incidental mortality and take from humans	# of educational programs developed and delivered concerning human take and incidental mortality to GCN species	**2**
LE	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**2**
LE	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
LE	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**1**
LE	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**1**
LE	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**1**
LE	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**1**
LE	T	109	enhance habitat connectivity for priority species with fish ladders	# of fish ladders established; # of sites with GCN species monitored over time	**1**
LE	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**1**
LE	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**1**
LE	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
LE	H	81	Expand public relations for snakes	# of educational programs developed and delivered concerning snakes	**2**
LE	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
47) Lacustrine oligotrophic lake/pond					
LO	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**18**
LO	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**18**
LO	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**18**
LO	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**18**
LO	S	32	promote existing programs with private landowners	# of programs with increased participation	**18**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
LO	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**18**
LO	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**18**
LO	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**18**
LO	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**18**
LO	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**18**
LO	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**18**
LO	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**18**
LO	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**18**
LO	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**17**
LO	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**17**
LO	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**17**
LO	S	26	*(combined with above)*		**17**
LO	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**17**
LO	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**15**
LO	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**15**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
LO	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**15**
LO	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**14**
LO	S	140	Develop process to facilitate research priorities		**14**
LO	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**14**
LO	S	162	Compile and publish research and planning results	# of research and plan results published	**11**
LO	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**11**
LO	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**11**
LO	S	165	(combined with above)		**11**
LO	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**10**
LO	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**10**
LO	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**8**
LO	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**18**
LO	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**15**
LO	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**15**
LO	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**15**
LO	T	117	(combined with above)		**15**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
LO	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**13**
LO	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**13**
LO	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**13**
LO	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**13**
LO	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**13**
LO	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**13**
LO	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**13**
LO	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**13**
LO	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**13**
LO	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**12**
LO	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**12**
LO	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**12**
LO	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**12**
LO	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
LO	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**12**
LO	T	137	Conduct road mitigations where required	# of mitigation projects established	**12**
LO	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**12**
LO	T	90	(repeat of above general invasives)		**11**
LO	T	91	*Identify potential damaging aquatic invasives and exotics*	completion of needed research by RI Dem or partners; # of new species added to management plans	**11**
LO	T	92	develop and implement sampling protocol for aquatic exotics	# of sampling protocols developed; % incorporated into existing data bases	**11**
LO	T	96	develop and implement program to mitigate effect of aquatic exotics	# of mitigation projects established	**11**
LO	T	99	(repeat of above general invasives)		**11**
LO	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**10**
LO	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**10**
LO	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**10**
LO	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**10**
LO	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**9**
LO	T	98	*Assess pathways of introduction from water gardens and mail order*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
LO	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**8**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
LO	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
LO	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**8**
LO	T	13	create GIS coverage of field habitats	# of GIS data sets	**7**
LO	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**7**
LO	T	11	create GIS coverage of forest age-class	# of GIS data sets	**6**
LO	T	12	create GIS coverage of shrublands	# of GIS data sets	**6**
LO	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**6**
LO	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**6**
LO	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**6**
LO	T	80	Develop and provide educational program/materials to reduce incidental mortality and take from humans	# of educational programs developed and delivered concerning human take and incidental mortality to GCN species	**6**
LO	T	109	enhance habitat connectivity for priority species with fish ladders	# of fish ladders established; # of sites with GCN species monitored over time	**6**
LO	T	110	enhance habitat connectivity for priority species with culverts	# of culverts established; # of sites with GCN species monitored over time	**6**
LO	T	111	Expand public awareness of fish passage issues	# of educational programs developed and delivered concerning fish passage issues	**6**
LO	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**6**
LO	T	156			**6**
LO	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**5**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
LO	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**5**
LO	T	105	develop and implement invasive species management program	# of invasive management plans established	**5**
LO	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**5**
LO	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**5**
LO	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**4**
LO	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**4**
LO	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
LO	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
LO	T	93	*Assess threat from fish*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
LO	T	94	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel	# of partners involved in aquatic exotic management; # of partners with modifications to existing procedures to address exotics	**2**
LO	T	95	(combined with above)		**2**
LO	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
LO	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**10**
LO	H	76	Control public access at priority sites	# of sites with restricted public access	**5**
LO	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
LO	H	68	*evaluate need for nesting structures/boxes and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
LO	H	70	*Evaluate need for nesting substrate and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
LO	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**2**
LO	H	77	Protect individual nests from predation	# of individual nests protected	**2**
LO	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**2**
LO	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
48) Permanent fishless pond					
PFP	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**9**
PFP	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**9**
PFP	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**9**
PFP	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**9**
PFP	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**9**
PFP	S	32	promote existing programs with private landowners	# of programs with increased participation	**9**
PFP	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**9**
PFP	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
PFP	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**9**
PFP	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**9**
PFP	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**9**
PFP	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**9**
PFP	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
PFP	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**9**
PFP	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**9**
PFP	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**9**
PFP	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**6**
PFP	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**6**
PFP	S	26	*(combined with above)*		**6**
PFP	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**6**
PFP	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**6**
PFP	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**6**
PFP	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
PFP	S	162	Compile and publish research and planning results	# of research and plan results published	**6**
PFP	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**6**
PFP	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**6**
PFP	S	165	(combined with above)		**6**
PFP	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**3**
PFP	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**3**
PFP	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**3**
PFP	S	140	Develop process to facilitate research priorities		**3**
PFP	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**9**
PFP	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**9**
PFP	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**9**
PFP	T	90	(repeat of above general invasives)		**9**
PFP	T	91	*Identify potential damaging aquatic invasives and exotics*	completion of needed research by RI Dem or partners; # of new species added to management plans	**9**
PFP	T	92	develop and implement sampling protocol for aquatic exotics	# of sampling protocols developed; % incorporated into existing data bases	**9**
PFP	T	93	*Assess threat from fish*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
PFP	T	94	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel	# of partners involved in aquatic exotic management; # of partners with modifications to existing procedures to address exotics	**9**
PFP	T	95	(combined with above)		**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
PFP	T	96	develop and implement program to mitigate effect of aquatic exotics	# of mitigation projects established	**9**
PFP	T	117	(combined with above)		**9**
PFP	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
PFP	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**9**
PFP	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**8**
PFP	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**8**
PFP	T	105	develop and implement invasive species management program	# of invasive management plans established	**8**
PFP	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**7**
PFP	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**7**
PFP	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**7**
PFP	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**6**
PFP	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**6**
PFP	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**6**
PFP	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**6**
PFP	T	99	(repeat of above general invasives)		**6**
PFP	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
PFP	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
PFP	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**6**
PFP	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**6**
PFP	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**6**
PFP	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**6**
PFP	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
PFP	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**6**
PFP	T	137	Conduct road mitigations where required	# of mitigation projects established	**6**
PFP	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**6**
PFP	T	13	create GIS coverage of field habitats	# of GIS data sets	**3**
PFP	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**3**
PFP	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**3**
PFP	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
PFP	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
PFP	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
PFP	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
PFP	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**3**
49) Seasonally flooded pond					
SFP	S	2	Assemb le all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**12**
SFP	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**12**
SFP	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**12**
SFP	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**12**
SFP	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**12**
SFP	S	26	*(combined with above)*		**12**
SFP	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**12**
SFP	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**12**
SFP	S	32	promote existing programs with private landowners	# of programs with increased participation	**12**
SFP	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**12**
SFP	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**12**
SFP	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**12**
SFP	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**12**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SFP	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**12**
SFP	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**12**
SFP	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**12**
SFP	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**12**
SFP	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**12**
SFP	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**12**
SFP	S	140	Develop process to facilitate research priorities		**12**
SFP	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
SFP	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**12**
SFP	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**12**
SFP	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**12**
SFP	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**12**
SFP	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**8**
SFP	S	162	Compile and publish research and planning results	# of research and plan results published	**8**
SFP	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**8**
SFP	S	165	(combined with above)		**8**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SFP	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**4**
SFP	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**4**
SFP	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**12**
SFP	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**12**
SFP	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**12**
SFP	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**12**
SFP	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**12**
SFP	T	90	(repeat of above general invasives)		**12**
SFP	T	91	*Identify potential damaging aquatic invasives and exotics*	completion of needed research by RI Dem or partners; # of new species added to management plans	**12**
SFP	T	92	develop and implement sampling protocol for aquatic exotics	# of sampling protocols developed; % incorporated into existing data bases	**12**
SFP	T	93	*Assess threat from fish*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
SFP	T	94	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel	# of partners involved in aquatic exotic management; # of partners with modifications to existing procedures to address exotics	**12**
SFP	T	95	(combined with above)		**12**
SFP	T	96	develop and implement program to mitigate effect of aquatic exotics	# of mitigation projects established	**12**
SFP	T	98	*Assess pathways of introduction from water gardens and mail order*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
SFP	T	99	(repeat of above general invasives)		**12**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SFP	T	110	enhance habitat connectivity for priority species with culverts	# of culverts established; # of sites with GCN species monitored over time	**12**
SFP	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
SFP	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**12**
SFP	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**12**
SFP	T	117	(combined with above)		**12**
SFP	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
SFP	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
SFP	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
SFP	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
SFP	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**12**
SFP	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**12**
SFP	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**12**
SFP	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**12**
SFP	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SFP	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**12**
SFP	T	137	Conduct road mitigations where required	# of mitigation projects established	**12**
SFP	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
SFP	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**12**
SFP	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**11**
SFP	T	13	create GIS coverage of field habitats	# of GIS data sets	**8**
SFP	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**8**
SFP	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**8**
SFP	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**8**
SFP	T	80	Develop and provide educational program/materials to reduce incidental mortality and take from humans	# of educational programs developed and delivered concerning human take and incidental mortality to GCN species	**8**
SFP	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**8**
SFP	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**8**
SFP	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**6**
SFP	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**6**
SFP	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**6**
SFP	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				existing data bases	
SFP	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**4**
SFP	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**4**
SFP	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**4**
SFP	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**4**
SFP	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**4**
SFP	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**4**
SFP	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**4**
SFP	T	105	develop and implement invasive species management program	# of invasive management plans established	**4**
SFP	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**4**
SFP	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
SFP	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
SFP	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**3**
SFP	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SFP	H	50	*evaluate feasibility and efficacy of making additional amphibian breeding habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
SFP	H	51	Construct and maintain new amphibian breeding habitat (seasonal pond project)	# of new ponds constructed and mapped; # of new ponds with GCN species monitored over time	**12**
SFP	H	52	Enhance regulations to protect amphibian breeding habitat	# of new regulations established or existing regulations modified to improve protection	**12**
SFP	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
SFP	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**12**
SFP	H	81	Expand public relations for snakes	# of educational programs developed and delivered concerning snakes	**8**
SFP	H	97	*investigate feasibility of altering hydrology of certain wetlands*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
SFP	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**7**
SFP	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**6**
SFP	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**6**
SFP	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**6**
SFP	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**6**
SFP	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**6**
SFP	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
SFP	H	69	*evaluate existing significant hibernacula*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
50) Semi-permanently flooded pond					
SPP	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**9**
SPP	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**9**
SPP	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**9**
SPP	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**9**
SPP	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**9**
SPP	S	32	promote existing programs with private landowners	# of programs with increased participation	**9**
SPP	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**9**
SPP	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**9**
SPP	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**9**
SPP	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**9**
SPP	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**9**
SPP	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**9**
SPP	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
SPP	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SPP	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**9**
SPP	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**9**
SPP	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**8**
SPP	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**8**
SPP	S	26	*(combined with above)*		**8**
SPP	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**8**
SPP	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**8**
SPP	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**8**
SPP	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**8**
SPP	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**8**
SPP	S	140	Develop process to facilitate research priorities		**7**
SPP	S	162	Compile and publish research and planning results	# of research and plan results published	**6**
SPP	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**6**
SPP	S	165	(combined with above)		**6**
SPP	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**5**
SPP	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**3**
SPP	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SPP	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**9**
SPP	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**9**
SPP	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**9**
SPP	T	117	(combined with above)		**9**
SPP	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**9**
SPP	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**8**
SPP	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**8**
SPP	T	90	(repeat of above general invasives)		**8**
SPP	T	91	*Identify potential damaging aquatic invasives and exotics*	completion of needed research by RI Dem or partners; # of new species added to management plans	**8**
SPP	T	92	develop and implement sampling protocol for aquatic exotics	# of sampling protocols developed; % incorporated into existing data bases	**8**
SPP	T	93	*Assess threat from fish*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
SPP	T	94	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel	# of partners involved in aquatic exotic management; # of partners with modifications to existing procedures to address exotics	**8**
SPP	T	95	(combined with above)		**8**
SPP	T	96	develop and implement program to mitigate effect of aquatic exotics	# of mitigation projects established	**8**
SPP	T	99	(repeat of above general invasives)		**8**
SPP	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SPP	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**8**
SPP	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**8**
SPP	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
SPP	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**8**
SPP	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**8**
SPP	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
SPP	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**8**
SPP	T	137	Conduct road mitigations where required	# of mitigation projects established	**8**
SPP	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**8**
SPP	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**7**
SPP	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**7**
SPP	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**6**
SPP	T	98	*Assess pathways of introduction from water gardens and mail order*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
SPP	T	110	enhance habitat connectivity for priority species with culverts	# of culverts established; # of sites with GCN species monitored over time	**6**
SPP	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SPP	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
SPP	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
SPP	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**6**
SPP	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
SPP	T	13	create GIS coverage of field habitats	# of GIS data sets	**5**
SPP	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**5**
SPP	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**5**
SPP	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**5**
SPP	T	80	Develop and provide educational program/materials to reduce incidental mortality and take from humans	# of educational programs developed and delivered concerning human take and incidental mortality to GCN species	**4**
SPP	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**4**
SPP	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**4**
SPP	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**4**
SPP	T	105	develop and implement invasive species management program	# of invasive management plans established	**4**
SPP	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
SPP	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
SPP	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**4**
SPP	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**3**
SPP	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**3**
SPP	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**3**
SPP	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**3**
SPP	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
SPP	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**3**
SPP	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**3**
SPP	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**2**
SPP	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**2**
SPP	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
SPP	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**7**
SPP	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated	**7**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				into conservation actions	
SPP	H	50	*evaluate feasibility and efficacy of making additional amphibian breeding habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
SPP	H	51	Construct and maintain new amphibian breeding habitat (seasonal pond project)	# of new ponds constructed and mapped; # of new ponds with GCN species monitored over time	**6**
SPP	H	52	Enhance regulations to protect amphibian breeding habitat	# of new regulations established or existing regulations modified to improve protection	**6**
SPP	H	81	Expand public relations for snakes	# of educational programs developed and delivered concerning snakes	**4**
SPP	H	97	*investigate feasibility of altering hydrology of certain wetlands*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
SPP	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**3**
SPP	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**3**
SPP	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**3**
SPP	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**3**
SPP	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**2**
SPP	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
SPP	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**2**
51) Estuarine intertidal emergent brackish marsh					
EEBM	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**42**
EEBM	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**42**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EEBM	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**42**
EEBM	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**42**
EEBM	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**42**
EEBM	S	26	*(combined with above)*		**42**
EEBM	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**42**
EEBM	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**42**
EEBM	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**42**
EEBM	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**42**
EEBM	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**42**
EEBM	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**42**
EEBM	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**42**
EEBM	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**42**
EEBM	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**41**
EEBM	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**41**
EEBM	S	32	promote existing programs with private landowners	# of programs with increased participation	**41**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EEBM	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**41**
EEBM	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**41**
EEBM	S	162	Compile and publish research and planning results	# of research and plan results published	**41**
EEBM	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**41**
EEBM	S	165	(combined with above)		**41**
EEBM	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**40**
EEBM	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**40**
EEBM	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**30**
EEBM	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**30**
EEBM	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**30**
EEBM	S	140	Develop process to facilitate research priorities		**30**
EEBM	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**29**
EEBM	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**18**
EEBM	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**16**
EEBM	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**40**
EEBM	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**40**
EEBM	T	13	create GIS coverage of field habitats	# of GIS data sets	**39**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EEBM	T	11	create GIS coverage of forest age-class	# of GIS data sets	**37**
EEBM	T	12	create GIS coverage of shrublands	# of GIS data sets	**37**
EEBM	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**37**
EEBM	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**27**
EEBM	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**26**
EEBM	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**26**
EEBM	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**23**
EEBM	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**18**
EEBM	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**18**
EEBM	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**18**
EEBM	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**18**
EEBM	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**17**
EEBM	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**17**
EEBM	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**17**
EEBM	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**16**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EEBM	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**15**
EEBM	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**15**
EEBM	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**15**
EEBM	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**15**
EEBM	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**14**
EEBM	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**11**
EEBM	T	156			**10**
EEBM	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**6**
EEBM	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**6**
EEBM	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**6**
EEBM	T	90	(repeat of above general invasives)		**6**
EEBM	T	99	(repeat of above general invasives)		**6**
EEBM	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
EEBM	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**6**
EEBM	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**6**
EEBM	T	117	(combined with above)		**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EEBM	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
EEBM	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
EEBM	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**6**
EEBM	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**4**
EEBM	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**4**
EEBM	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**4**
EEBM	T	105	develop and implement invasive species management program	# of invasive management plans established	**4**
EEBM	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**4**
EEBM	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
EEBM	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
EEBM	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**4**
EEBM	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
EEBM	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**4**
EEBM	T	137	Conduct road mitigations where required	# of mitigation projects established	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EEBM	T	80	Develop and provide educational program/materials to reduce incidental mortality and take from humans	# of educational programs developed and delivered concerning human take and incidental mortality to GCN species	**3**
EEBM	T	91	*Identify potential damaging aquatic invasives and exotics*	completion of needed research by RI Dem or partners; # of new species added to management plans	**3**
EEBM	T	92	develop and implement sampling protocol for aquatic exotics	# of sampling protocols developed; % incorporated into existing data bases	**3**
EEBM	T	110	enhance habitat connectivity for priority species with culverts	# of culverts established; # of sites with GCN species monitored over time	**3**
EEBM	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
EEBM	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**3**
EEBM	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**2**
EEBM	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**2**
EEBM	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EEBM	T	93	*Assess threat from fish*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EEBM	T	94	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel	# of partners involved in aquatic exotic management; # of partners with modifications to existing procedures to address exotics	**1**
EEBM	T	95	(combined with above)		**1**
EEBM	T	96	develop and implement program to mitigate effect of aquatic exotics	# of mitigation projects established	**1**
EEBM	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**28**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EEBM	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**27**
EEBM	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**24**
EEBM	H	76	Control public access at priority sites	# of sites with restricted public access	**15**
EEBM	H	77	Protect individual nests from predation	# of individual nests protected	**15**
EEBM	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**13**
EEBM	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**10**
EEBM	H	70	*Evaluate need for nesting substrate and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
EEBM	H	204	The diking and draining of tidal marshlands and estuaries should not be undertaken unless a satisfactory compensatory mitigation plan is in effect and monitored.	# of mitigation plans completed and monitored	**H1**
EEBM	H	70	Minimize the loss of riparian habitats as much as possible.	# of mitigation plans completed and monitored; # acres protected; # environmental reviews completed	**H1**
EEBM	H	134	Avoid locating roads near wetlands and fish bearing streams. Roads should be sited to avoid sensitive areas such as wetlands, streams, step slopes.	# of mitigation plans completed and monitored; # acres protected; # environmental reviews completed	**H1**
EEBM	H	277	Avoid placing pipelines and accessory equipment used in conjunction with construction or dredging operations to the maximum extent possible close to kelp beds, eelgrass beds, estuarine / salt marshes and any other high value habitat.	# of mitigation plans completed and monitored; # acres protected; # environmental reviews completed	**H1**
EEBM	H	345	Wherever possible, "soft" approaches (such as beach nourishment, vegetative plantings, and placement of large woody debris) to shoreline modifications should be used.	# of mitigation plans completed and monitored; # acres protected; # environmental reviews completed with effective soft approaches implemented	**H1**
EEBM	H	1	Use an adaptive management plan with ecological indicators to oversee monitoring and ensure mitigation objectives are met. Take corrective action as needed.	# of adaptive management plans completed	**H1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EEBM	H	205	Avoid new dredging to the maximum extent possible. Projects should be permitted only for water dependant purposes and only when no feasible alternatives are available.	# of mitigation plans completed and monitored; # acres protected; # environmental reviews completed avoiding dredging	**H2**
EEBM	H	71	Undertake Multi season, pre- and post- dredging biological surveys to assess impacts to animal and submerged aquatic vegetation communities.	# of pre and post dredging surveys completed and impacts assessed	**H2**
EEBM	H	135	Address cumulative impacts of past and current dredging operations on fishery resources by considering them as part of the permitting process.	permitting process established which addresses cumulative impacts	**H2**
EEBM	H	278	Identify and characterize fishery habitat functions and service in the project area.	# habitat functions and services identified in each project; # projects identifying habitat functions	**H2**
EEBM	H	346	Adequate compensatory mitigation should be provided for unavoidable impacts.	# of mitigation plans completed and monitored; # acres protected; # environmental reviews completed	**H2**
EEBM	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**2**
EEBM	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EEBM	H	97	*investigate feasibility of altering hydrology of certain wetlands*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EEBM	H	102	*Evaluate nutritional value of exotic fruit-bearing plants*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
52) Estuarine bluff clay					
EBC	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**3**
EBC	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**3**
EBC	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**3**
EBC	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				habitats with digital data	
EBC	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**3**
EBC	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**3**
EBC	S	26	*(combined with above)*		**3**
EBC	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**3**
EBC	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**3**
EBC	S	32	promote existing programs with private landowners	# of programs with increased participation	**3**
EBC	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**3**
EBC	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**3**
EBC	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**3**
EBC	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**3**
EBC	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**3**
EBC	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**3**
EBC	S	140	Develop process to facilitate research priorities		**3**
EBC	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EBC	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**3**
EBC	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**3**
EBC	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**3**
EBC	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**2**
EBC	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**2**
EBC	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**2**
EBC	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**2**
EBC	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**2**
EBC	S	165	(combined with above)		**2**
EBC	S	162	Compile and publish research and planning results	# of research and plan results published	**1**
EBC	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**1**
EBC	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**3**
EBC	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**3**
EBC	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**3**
EBC	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
EBC	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EBC	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**3**
EBC	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**2**
EBC	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**2**
EBC	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**2**
EBC	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**2**
EBC	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**2**
EBC	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**2**
EBC	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**2**
EBC	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**2**
EBC	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**2**
EBC	T	99	(repeat of above general invasives)		**2**
EBC	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**1**
EBC	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**1**
EBC	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**1**
EBC	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EBC	T	90	(repeat of above general invasives)		**1**
EBC	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**1**
EBC	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**1**
EBC	T	105	develop and implement invasive species management program	# of invasive management plans established	**1**
EBC	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**1**
EBC	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**1**
EBC	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EBC	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**1**
EBC	T	137	Conduct road mitigations where required	# of mitigation projects established	**1**
EBC	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EBC	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**1**
EBC	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
EBC	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**2**
EBC	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**1**
EBC	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**1**
EBC	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EBC	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**1**
53) Estuarine rocky shore bedrock					
ERSB	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**6**
ERSB	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**6**
ERSB	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**6**
ERSB	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**6**
ERSB	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**6**
ERSB	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**6**
ERSB	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**6**
ERSB	S	26	(combined with above)		**6**
ERSB	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**6**
ERSB	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**6**
ERSB	S	32	promote existing programs with private landowners	# of programs with increased participation	**6**
ERSB	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**6**
ERSB	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**6**
ERSB	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
ERSB	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**6**
ERSB	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**6**
ERSB	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**6**
ERSB	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**6**
ERSB	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**6**
ERSB	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**6**
ERSB	S	162	Compile and publish research and planning results	# of research and plan results published	**6**
ERSB	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**6**
ERSB	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**6**
ERSB	S	165	(combined with above)		**6**
ERSB	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**4**
ERSB	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**4**
ERSB	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**4**
ERSB	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**4**
ERSB	S	140	Develop process to facilitate research priorities		**4**
ERSB	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
ERSB	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
ERSB	T	11	create GIS coverage of forest age-class	# of GIS data sets	**6**
ERSB	T	12	create GIS coverage of shrublands	# of GIS data sets	**6**
ERSB	T	13	create GIS coverage of field habitats	# of GIS data sets	**6**
ERSB	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**6**
ERSB	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**4**
ERSB	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**4**
ERSB	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
ERSB	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**4**
ERSB	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**2**
ERSB	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**2**
ERSB	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**2**
ERSB	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**2**
ERSB	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**2**
ERSB	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
ERSB	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**2**
ERSB	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
ERSB	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
ERSB	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**2**
ERSB	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
ERSB	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**2**
ERSB	T	156			**2**
ERSB	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**2**
ERSB	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**6**
ERSB	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
ERSB	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**4**
ERSB	H	76	Control public access at priority sites	# of sites with restricted public access	**2**
ERSB	H	77	Protect individual nests from predation	# of individual nests protected	**2**
ERSB	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
54) Estuarine unconsolidated shore sand dune					
EUSG	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EUSG	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**6**
EUSG	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**6**
EUSG	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**6**
EUSG	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**6**
EUSG	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**6**
EUSG	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**6**
EUSG	S	26	*(combined with above)*		**6**
EUSG	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**6**
EUSG	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**6**
EUSG	S	32	promote existing programs with private landowners	# of programs with increased participation	**6**
EUSG	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**6**
EUSG	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**6**
EUSG	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**6**
EUSG	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**6**
EUSG	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**6**
EUSG	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EUSG	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**6**
EUSG	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**6**
EUSG	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**6**
EUSG	S	162	Compile and publish research and planning results	# of research and plan results published	**6**
EUSG	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**6**
EUSG	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**6**
EUSG	S	165	(combined with above)		**6**
EUSG	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**4**
EUSG	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**4**
EUSG	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**4**
EUSG	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**4**
EUSG	S	140	Develop process to facilitate research priorities		**4**
EUSG	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**2**
EUSG	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EUSG	T	11	create GIS coverage of forest age-class	# of GIS data sets	**6**
EUSG	T	12	create GIS coverage of shrublands	# of GIS data sets	**6**
EUSG	T	13	create GIS coverage of field habitats	# of GIS data sets	**6**
EUSG	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				implemented	
EUSG	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**5**
EUSG	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
EUSG	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**5**
EUSG	T	137	Conduct road mitigations where required	# of mitigation projects established	**5**
EUSG	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**4**
EUSG	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**4**
EUSG	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**4**
EUSG	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**4**
EUSG	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**4**
EUSG	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**4**
EUSG	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
EUSG	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**4**
EUSG	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EUSG	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**4**
EUSG	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**
EUSG	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**2**
EUSG	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**2**
EUSG	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**2**
EUSG	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**2**
EUSG	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**2**
EUSG	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**2**
EUSG	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**2**
EUSG	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EUSG	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
EUSG	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**2**
EUSG	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**2**
EUSG	T	156	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
EUSG	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**4**
EUSG	H	76	Control public access at priority sites	# of sites with restricted public access	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EUSG	H	77	Protect individual nests from predation	# of individual nests protected	**4**
EUSG	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
EUSG	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
EUSG	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**3**
EUSG	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**3**
55) Estuarine unconsolidated shore cobble/shell					
EUC	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**6**
EUC	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**6**
EUC	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**6**
EUC	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**6**
EUC	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**6**
EUC	S	26	*(combined with above)*		**6**
EUC	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**6**
EUC	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**6**
EUC	S	32	promote existing programs with private landowners	# of programs with increased participation	**6**
EUC	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EUC	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**6**
EUC	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**6**
EUC	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**6**
EUC	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**6**
EUC	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**6**
EUC	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**6**
EUC	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**6**
EUC	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**5**
EUC	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**5**
EUC	S	140	Develop process to facilitate research priorities		**5**
EUC	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**5**
EUC	S	165	(combined with above)		**5**
EUC	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**4**
EUC	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**4**
EUC	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**4**
EUC	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EUC	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
EUC	S	162	Compile and publish research and planning results	# of research and plan results published	**4**
EUC	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**4**
EUC	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**3**
EUC	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**3**
EUC	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**4**
EUC	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**4**
EUC	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**4**
EUC	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**4**
EUC	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
EUC	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**4**
EUC	T	11	create GIS coverage of forest age-class	# of GIS data sets	**3**
EUC	T	12	create GIS coverage of shrublands	# of GIS data sets	**3**
EUC	T	13	create GIS coverage of field habitats	# of GIS data sets	**3**
EUC	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**3**
EUC	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**3**
EUC	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EUC	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**3**
EUC	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**3**
EUC	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**3**
EUC	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
EUC	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**2**
EUC	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**2**
EUC	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**2**
EUC	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**2**
EUC	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**2**
EUC	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**2**
EUC	T	99	(repeat of above general invasives)		**2**
EUC	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**2**
EUC	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**2**
EUC	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**1**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EUC	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**1**
EUC	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**1**
EUC	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EUC	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EUC	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**1**
EUC	T	90	(repeat of above general invasives)		**1**
EUC	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**1**
EUC	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**1**
EUC	T	105	develop and implement invasive species management program	# of invasive management plans established	**1**
EUC	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**1**
EUC	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**1**
EUC	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
EUC	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**1**
EUC	T	137	Conduct road mitigations where required	# of mitigation projects established	**1**
EUC	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
EUC	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**
EUC	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
EUC	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**3**
EUC	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**1**
EUC	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**1**
EUC	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**1**
EUC	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**1**
EUC	H	76	Control public access at priority sites	# of sites with restricted public access	**1**
EUC	H	77	Protect individual nests from predation	# of individual nests protected	**1**
EUC	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
56) Estuarine beaches unspecified					
BE	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**9**
BE	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**9**
BE	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**9**
BE	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**9**
BE	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**9**
BE	S	26	*(combined with above)*		**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BE	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**9**
BE	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**9**
BE	S	32	promote existing programs with private landowners	# of programs with increased participation	**9**
BE	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**9**
BE	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**9**
BE	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**9**
BE	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**9**
BE	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**9**
BE	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**9**
BE	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**9**
BE	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**9**
BE	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**8**
BE	S	140	Develop process to facilitate research priorities		**8**
BE	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**7**
BE	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**7**
BE	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**7**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BE	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**7**
BE	S	165	(combined with above)		**7**
BE	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**6**
BE	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**6**
BE	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**6**
BE	S	162	Compile and publish research and planning results	# of research and plan results published	**5**
BE	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**5**
BE	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**3**
BE	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**3**
BE	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**7**
BE	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**7**
BE	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**7**
BE	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**7**
BE	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**7**
BE	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**6**
BE	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BE	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**5**
BE	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**5**
BE	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**5**
BE	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**5**
BE	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**5**
BE	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**5**
BE	T	135	Assess means to mitigate road effects	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
BE	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**5**
BE	T	137	Conduct road mitigations where required	# of mitigation projects established	**5**
BE	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**4**
BE	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**4**
BE	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**4**
BE	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**4**
BE	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**4**
BE	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**4**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BE	T	99	(repeat of above general invasives)		**4**
BE	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
BE	T	11	create GIS coverage of forest age-class	# of GIS data sets	**3**
BE	T	12	create GIS coverage of shrublands	# of GIS data sets	**3**
BE	T	13	create GIS coverage of field habitats	# of GIS data sets	**3**
BE	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**
BE	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**3**
BE	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
BE	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**3**
BE	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**3**
BE	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**3**
BE	T	90	(repeat of above general invasives)		**2**
BE	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**2**
BE	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**2**
BE	T	105	develop and implement invasive species management program	# of invasive management plans established	**2**
BE	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**2**
BE	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
BE	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
BE	H	76	Control public access at priority sites	# of sites with restricted public access	**9**
BE	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
BE	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**7**
BE	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**
BE	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
BE	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**2**
BE	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**2**
BE	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**2**
BE	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**2**
BE	H	77	Protect individual nests from predation	# of individual nests protected	**1**
BE	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
57) Estuarine subtidal aquatic bed rooted vascular					
ESARV	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**9**
ESARV	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**9**
ESARV	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
ESARV	S	26	*(combined with above)*		**9**
ESARV	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**9**
ESARV	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**9**
ESARV	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**8**
ESARV	S	162	Compile and publish research and planning results	# of research and plan results published	**8**
ESARV	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**8**
ESARV	S	165	(combined with above)		**8**
ESARV	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**7**
ESARV	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**7**
ESARV	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**7**
ESARV	S	140	Develop process to facilitate research priorities		**7**
ESARV	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**7**
ESARV	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**7**
ESARV	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**6**
ESARV	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**6**
ESARV	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**6**
ESARV	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
ESARV	S	32	promote existing programs with private landowners	# of programs with increased participation	**6**
ESARV	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**6**
ESARV	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**6**
ESARV	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**6**
ESARV	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**6**
ESARV	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**5**
ESARV	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**5**
ESARV	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**5**
ESARV	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**5**
ESARV	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**5**
ESARV	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
ESARV	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
ESARV	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**9**
ESARV	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**9**
ESARV	T	117	(combined with above)		**9**
ESARV	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
ESARV	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**9**
ESARV	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**9**
ESARV	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**7**
ESARV	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**6**
ESARV	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
ESARV	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
ESARV	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**6**
ESARV	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
ESARV	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**6**
ESARV	T	137	Conduct road mitigations where required	# of mitigation projects established	**6**
ESARV	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**5**
ESARV	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**5**
ESARV	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**5**
ESARV	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**5**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
ESARV	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**5**
ESARV	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**5**
ESARV	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
ESARV	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**5**
ESARV	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**5**
ESARV	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**5**
ESARV	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**5**
ESARV	T	90	(repeat of above general invasives)		**5**
ESARV	T	91	*Identify potential damaging aquatic invasives and exotics*	completion of needed research by RI Dem or partners; # of new species added to management plans	**5**
ESARV	T	92	develop and implement sampling protocol for aquatic exotics	# of sampling protocols developed; % incorporated into existing data bases	**5**
ESARV	T	96	develop and implement program to mitigate effect of aquatic exotics	# of mitigation projects established	**5**
ESARV	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**5**
ESARV	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**5**
ESARV	T	105	develop and implement invasive species management program	# of invasive management plans established	**5**
ESARV	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**5**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
ESARV	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
ESARV	T	156			**5**
ESARV	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**5**
ESARV	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**4**
ESARV	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**4**
ESARV	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**4**
ESARV	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
ESARV	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**4**
ESARV	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**3**
ESARV	T	93	*Assess threat from fish*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
ESARV	T	94	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel	# of partners involved in aquatic exotic management; # of partners with modifications to existing procedures to address exotics	**3**
ESARV	T	95	(combined with above)		**3**
ESARV	T	98	*Assess pathways of introduction from water gardens and mail order*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
ESARV	T	99	(repeat of above general invasives)		**3**
ESARV	T	110	enhance habitat connectivity for priority species with culverts	# of culverts established; # of sites with GCN species monitored over time	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
ESARV	T	111	Expand public awareness of fish passage issues	# of educational programs developed and delivered concerning fish passage issues	**3**
ESARV	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**3**
ESARV	T	13	create GIS coverage of field habitats	# of GIS data sets	**2**
ESARV	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
ESARV	T	80	Develop and provide educational program/materials to reduce incidental mortality and take from humans	# of educational programs developed and delivered concerning human take and incidental mortality to GCN species	**2**
ESARV	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**1**
ESARV	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**1**
ESARV	T	109	enhance habitat connectivity for priority species with fish ladders	# of fish ladders established; # of sites with GCN species monitored over time	**1**
ESARV	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
ESARV	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
ESARV	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**1**
ESARV	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**7**
ESARV	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**6**
ESARV	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
ESARV	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**6**
ESARV	H	102	*Evaluate nutritional value of exotic fruit-bearing plants*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**4**
ESARV	H	215	Avoid new dredging to the maximum extent possible. Projects should be permitted only for water dependant purposes and only when no feasible alternatives are available.	# of mitigation plans completed and monitored; # acres protected; # environmental reviews completed which avoid , minimize or mitigate dredging	**H1**
ESARV	H	81	Undertake Multi season, pre- and post- dredging biological surveys to assess impacts to animal and submerged aquatic vegetation communities.	# surveys completed to assess dredging impacts	**H1**
ESARV	H	145	Address cumulative impacts of past and current dredging operations on fishery resources by considering them as part of the permitting process.	Established permit process including cumulative impacts; # projects reviewed that include cumulative impacts	**H1**
ESARV	H	288	Identify and characterize fishery habitat functions and service in the project area.	# of mitigation plans completed and monitored; # acres protected; # environmental reviews completed which avoid , minimize or mitigate dredging	**H1**
ESARV	H	356	Adequate compensatory mitigation should be provided for unavoidable impacts.	# of mitigation plans completed and monitored; # acres protected; # environmental reviews completed which avoid , minimize or mitigate dredging	**H1**
ESARV	H	214	Minimize the loss of riparian habitats as much as possible.	# acres of riparian habitats protected; #project reviews incorporate riparian habitat protection	**H2**
ESARV	H	80	Avoid locating roads near wetlands and fish bearing streams. Roads should be sited to avoid sensitive areas such as wetlands, streams, step slopes.	# of mitigation plans completed and monitored; # acres protected; # environmental reviews completed which avoid , minimize or mitigate dredging	**H2**
ESARV	H	144	Avoid placing pipelines and accessory equipment used in conjunction with construction or dredging operations to the maximum extent possible close to kelp beds, eelgrass beds, estuarine / salt marshes and any other high value habitat.	# projects that avoid equipment/dredging and # acres protected	**H2**
ESARV	H	287	Wherever possible, "soft" approaches (such as beach nourishment, vegetative plantings, and placement of large woody debris) to shoreline modifications should be used.	# of projects including soft approaches; # acres protected	**H2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
ESARV	H	355	Use an adaptive management plan with ecological indicators to oversee monitoring and ensure mitigation objectives are met. Take corrective action as needed.	# of adaptive management plans completed	**H2**
ESARV	H	11	The diking and draining of tidal marshlands and estuaries should not be undertaken unless a satisfactory compensatory mitigation plan is in effect and monitored.	# of mitigation plans completed and monitored; # acres protected; # environmental reviews completed which avoid , minimize or mitigate dredging	**H2**
ESARV	H	76	Control public access at priority sites	# of sites with restricted public access	**2**
ESARV	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**1**
58) Hard/rocky bottom					
MRB/ERB	H	244	Avoid new dredging to the maximum extent possible. Projects should be permitted only for water dependant purposes and only when no feasible alternatives are available.	# of new projects with impacts avoided, minimized and mitigated	**H1**
MRB/ERB	H	110	Undertake Multi season, pre- and post- dredging biological surveys to assess impacts to animal and submerged aquatic vegetation communities.	Completion of needed research by RI DEM or partners and # of research recommendations incorporated into conservation actions	**H1**
MRB/ERB	H	174	Address cumulative impacts of past and current dredging operations on fishery resources by considering them as part of the permitting process.	Completion of needed research by RI DEM or partners and # of research recommendations incorporated into conservation actions	**H1**
MRB/ERB	H	317	Identify and characterize fishery habitat functions and service in the project area.	Completion of needed research by RI DEM or partners and # of research recommendations incorporated into conservation actions	**H1**
MRB/ERB	H	385	Adequate compensatory mitigation should be provided for unavoidable impacts.	# of mitigation projects established	**H1**
MRB/ERB	H	243	Identify excess sedimentation in the watershed that prompts excessive maintenance dredging activities and implement appropriate management techniques to ensure actions are taken to curtail those causes.	Completion of needed research by RI DEM or partners and # of research recommendations incorporated into conservation actions	**H2**
MRB/ERB	H	109	The diking and draining of tidal marshlands and estuaries should not be undertaken unless a satisfactory compensatory mitigation plan is in effect and monitored.	# of mitigation projects established and monitored	**H2**
MRB/ERB	H	173	Minimize the loss of riparian habitats as much as possible.	# of new projects with impacts avoided, minimized	**H2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				and mitigated	
MRB/ERB	H	316	Avoid locating roads near wetlands and fish bearing streams. Roads should be sited to avoid sensitive areas such as wetlands, streams, step slopes.	# of new projects with impacts avoided, minimized and mitigated	**H2**
MRB/ERB	H	384	Avoid placing pipelines and accessory equipment used in conjunction with construction or dredging operations to the maximum extent possible close to kelp beds, eelgrass beds, estuarine / salt marshes and any other high value habitat.	# of new projects with impacts avoided, minimized and mitigated	**H2**
MRB/ERB	H	40	Wherever possible, "soft" approaches (such as beach nourishment, vegetative plantings, and placement of large woody debris) to shoreline modifications should be used.	# of new projects with impacts avoided, minimized and mitigated	**H2**
MRB/ERB	H		Use an adaptive management plan with ecological indicators to oversee monitoring and ensure mitigation objectives are met. Take corrective action as needed.	# of sites with monitoring and % incorporated into existing databases; # of mitigation objectives met	**H2**
MRB/ERB	H	248	Incorporate best management practices to prevent or minimize contamination from ship bilge waters, antifouling paints, shipboard accidents, shipyard work, maintenance dredging and disposal, and non point source contaminants from upland facilities related it vessel operations and navigation.	# of best management practices established and implemented	**H3**
MRB/ERB	H	114	Discharges should be treated to the maximum extent practicable, including implementation of up-to-date methodologies for reducing discharges of biocides such as chlorine and other toxic substances.	# of discharges treated	**H3**
MRB/ERB	H	178	Improve land use efficiencies for key agricultural inputs including nitrogen phosphorus pesticides and irrigation water.	Completion of needed research by RI DEM or partners and # of research recommendations incorporated into conservation actions	**H3**
MRB/ERB	H	321	Locate discharge points in coastal waters well away from shellfish beds, seagrass beds, reefs and other similar fragile and productive habitats.	# of new projects with impacts avoided, minimized and mitigated	**H3**
59) Soft bottom/unconsolidated sediments					

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
MUB/EUB	H	253	Identify excess sedimentation in the watershed that prompts excessive maintenance dredging activities and implement appropriate management techniques to ensure actions are taken to curtail those causes.	Completion of needed research by RI DEM or partners and # of research recommendations incorporated into conservation actions	**H1**
MUB/EUB	H	119	The diking and draining of tidal marshlands and estuaries should not be undertaken unless a satisfactory compensatory mitigation plan is in effect and monitored.	# of mitigation projects established and monitored	**H1**
MUB/EUB	H	183	Minimize the loss of riparian habitats as much as possible.	# of new projects with impacts avoided, minimized and mitigated	**H1**
MUB/EUB	H	326	Avoid locating roads near wetlands and fish bearing streams. Roads should be sited to avoid sensitive areas such as wetlands, streams, step slopes.	# of new projects with impacts avoided, minimized and mitigated	**H1**
MUB/EUB	H	394	Avoid placing pipelines and accessory equipment used in conjunction with construction or dredging operations to the maximum extent possible close to kelp beds, eelgrass beds, estuarine / salt marshes and any other high value habitat.	# of new projects with impacts avoided, minimized and mitigated	**H1**
MUB/EUB	H	50	Wherever possible, "soft" approaches (such as beach nourishment, vegetative plantings, and placement of large woody debris) to shoreline modifications should be used.	# of new projects with impacts avoided, minimized and mitigated	**H1**
MUB/EUB	H		Use an adaptive management plan with ecological indicators to oversee monitoring and ensure mitigation objectives are met. Take corrective action as needed.	# of sites with monitoring and % incorporated into existing databases; # of mitigation objectives met	**H1**
MUB/EUB	H	254	Avoid new dredging to the maximum extent possible. Projects should be permitted only for water dependant purposes and only when no feasible alternatives are available.	# of new projects with impacts avoided, minimized and mitigated	**H2**
MUB/EUB	H	120	Undertake Multi season, pre- and post- dredging biological surveys to assess impacts to animal and submerged aquatic vegetation communities.	Completion of needed research by RI DEM or partners and # of research recommendations incorporated into conservation actions	**H2**
MUB/EUB	H	184	Address cumulative impacts of past and current dredging operations on fishery resources by considering them as part of the permitting process.	Completion of needed research by RI DEM or partners and # of research recommendations incorporated into conservation actions	**H2**
MUB/EUB	H	327	Identify and characterize fishery habitat functions and service in the project area.	Completion of needed research by RI DEM or partners and # of research recommendations	**H2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				incorporated into conservation actions	
MUB/EUB	H	395	Adequate compensatory mitigation should be provided for unavoidable impacts.	# of mitigation projects established	**H2**
60) Varied bottom/invertebrate beds					
MRF/ERF	H	234	Avoid new dredging to the maximum extent possible. Projects should be permitted only for water dependant purposes and only when no feasible alternatives are available.	# of new projects with impacts avoided, minimized and mitigated	H1
MRF/ERF	H	100	Undertake Multi season, pre- and post- dredging biological surveys to assess impacts to animal and submerged aquatic vegetation communities.	Completion of needed research by RI DEM or partners and # of research recommendations incorporated into conservation actions	H1
MRF/ERF	H	164	Address cumulative impacts of past and current dredging operations on fishery resources by considering them as part of the permitting process.	Completion of needed research by RI DEM or partners and # of research recommendations incorporated into conservation actions	H1
MRF/ERF	H	307	Identify and characterize fishery habitat functions and service in the project area.	Completion of needed research by RI DEM or partners and # of research recommendations incorporated into conservation actions	H1
MRF/ERF	H	375	Adequate compensatory mitigation should be provided for unavoidable impacts.	# of mitigation projects established	H1
MRF/ERF	H	31	Study all options for disposal of dredged materials, including disposal sites and methods used. Upland disposal sites should be considered as an alternative to offshore disposal sites.	Completion of needed research by RI DEM or partners and # of research recommendations incorporated into conservation actions	H1
MRF/ERF	H	242	Increase number and training of response teams in the event of an accident.	# of response teams and training programs offered	H2
MRF/ERF	H	108	increase data bank on species habitat preferences and use in oil spill response planning and mapping.	Completion of needed research by RI DEM or partners and # of research recommendations incorporated into conservation actions	H2
61) Estuarine/marine open water					
MOW/EOW	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**15**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
MOW/EOW	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**10**
MOW/EOW	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**10**
MOW/EOW	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**10**
MOW/EOW	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**10**
MOW/EOW	S	140	Develop process to facilitate research priorities		**10**
MOW/EOW	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**10**
MOW/EOW	S	26	*(combined with above)*		**5**
MOW/EOW	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**5**
MOW/EOW	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**5**
MOW/EOW	S	32	promote existing programs with private landowners	# of programs with increased participation	**5**
MOW/EOW	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**5**
MOW/EOW	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**5**
MOW/EOW	S	162	Compile and publish research and planning results	# of research and plan results published	**5**
MOW/EOW	S	165	(combined with above)		**5**
MOW/EOW	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**15**
MOW/EOW	T	80	Develop and provide educational program/materials to reduce incidental mortality and take from humans	# of educational programs developed and delivered concerning human take and incidental mortality to GCN species	**15**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
MOW/EOW	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**15**
MOW/EOW	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**10**
MOW/EOW	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**10**
MOW/EOW	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**10**
MOW/EOW	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**10**
MOW/EOW	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
62) Predator free islands					
PFI	**Group**		**Cons. Action OR Inventory/monitoring/research**	**Annual Assessment Measures**	**Priority Score**
PFI	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**54**
PFI	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**54**
PFI	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**54**
PFI	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**54**
PFI	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**54**
PFI	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**54**
PFI	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research	**54**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				projects identified to address threats	
PFI	S	26	*(combined with above)*		**54**
PFI	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**54**
PFI	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**54**
PFI	S	32	promote existing programs with private landowners	# of programs with increased participation	**54**
PFI	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**54**
PFI	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**54**
PFI	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**54**
PFI	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**54**
PFI	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**54**
PFI	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**54**
PFI	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**54**
PFI	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**54**
PFI	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**54**
PFI	S	162	*Compile and publish research and planning results*	# of research and plan results published	**54**
PFI	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**54**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
PFI	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**54**
PFI	S	165	(combined with above)		**54**
PFI	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**36**
PFI	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**36**
PFI	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**36**
PFI	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**36**
PFI	S	140	Develop process to facilitate research priorities		**36**
PFI	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**18**
PFI	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**18**
PFI	T	11	create GIS coverage of forest age-class	# of GIS data sets	**54**
PFI	T	12	create GIS coverage of shrublands	# of GIS data sets	**54**
PFI	T	13	create GIS coverage of field habitats	# of GIS data sets	**54**
PFI	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**54**
PFI	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**52**
PFI	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**44**
PFI	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**36**
PFI	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**36**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
PFI	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**36**
PFI	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**24**
PFI	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**21**
PFI	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**18**
PFI	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**18**
PFI	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**18**
PFI	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**18**
PFI	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**18**
PFI	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**18**
PFI	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**18**
PFI	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**18**
PFI	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**18**
PFI	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**18**
PFI	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**18**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
PFI	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**18**
PFI	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**15**
PFI	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**15**
PFI	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**13**
PFI	T	156			**10**
PFI	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
PFI	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**8**
PFI	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**8**
PFI	T	117	(combined with above)		**8**
PFI	T	118	*Assess effects of water releases at dams*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
PFI	T	119	*Assess effects of water withdrawals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
PFI	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
PFI	T	121	*Assess effects of sedimentation*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
PFI	T	122	*Assess effects of stream bank disturbance*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**8**
PFI	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**5**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
PFI	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**5**
PFI	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**5**
PFI	T	137	Conduct road mitigations where required	# of mitigation projects established	**5**
PFI	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**3**
PFI	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**3**
PFI	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**47**
PFI	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**36**
PFI	H	76	Control public access at priority sites	# of sites with restricted public access	**18**
PFI	H	77	Protect individual nests from predation	# of individual nests protected	**18**
PFI	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**15**
PFI	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**13**
PFI	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**9**
PFI	H	70	*Evaluate need for nesting substrate and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
PFI	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**4**
PFI	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**4**
PFI	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**4**
PFI	H	68	*evaluate need for nesting structures/boxes and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				into conservation actions	
63) Urban					
U	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**9**
U	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**9**
U	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**9**
U	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**9**
U	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets; # of new inventory, monitoring, or research projects identified	**9**
U	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**9**
U	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**9**
U	S	26	*(combined with above)*		**9**
U	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**9**
U	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**9**
U	S	32	promote existing programs with private landowners	# of programs with increased participation	**9**
U	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**9**
U	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**9**
U	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**9**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
U	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**9**
U	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**9**
U	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**9**
U	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**9**
U	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**9**
U	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**9**
U	S	162	Compile and publish research and planning results	# of research and plan results published	**9**
U	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**9**
U	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**9**
U	S	165	(combined with above)		**9**
U	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**6**
U	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**6**
U	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**6**
U	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**6**
U	S	140	Develop process to facilitate research priorities		**6**
U	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
U	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
U	T	11	create GIS coverage of forest age-class	# of GIS data sets	**9**
U	T	12	create GIS coverage of shrublands	# of GIS data sets	**9**
U	T	13	create GIS coverage of field habitats	# of GIS data sets	**9**
U	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**9**
U	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**7**
U	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**6**
U	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**6**
U	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
U	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**5**
U	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**3**
U	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**3**
U	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**3**
U	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**3**
U	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
U	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**3**
U	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**3**
U	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
U	T	74	*Evaluate need for predator control intervention for priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
U	T	75	Develop predator control program to conduct intervention where appropriate for priority species	# of sites with predator control plans developed; # of predator control plans implemented	**3**
U	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
U	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**3**
U	T	157	Continue established long-term monitoring protocols	# of sites with monitoring; % incorporated into existing data bases	**3**
U	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**2**
U	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**2**
U	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**7**
U	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**6**
U	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**3**
U	H	68	*evaluate need for nesting structures/boxes and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
U	H	70	*Evaluate need for nesting substrate and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
U	H	76	Control public access at priority sites	# of sites with restricted public access	**3**
U	H	77	Protect individual nests from predation	# of individual nests protected	**3**
U	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**2**
64) Unknown					
K	S	2	Assemble all parcel data for state in digital form	number of parcels converted to digital; % of parcels with digital data	**78**
K	S	3	get/create overlay of protected lands	number of overlays created; % of protected lands with overlay	**78**
K	S	6	assemble all life history information into digital form	% of GCN species with digital life history information; % of key habitats with digital data	**77**
K	S	7	assemble all known GCN species distribution/abundance information into digital form	% of GCN species with digital abundance/distribution information; % of key habitats with digital data	**77**
K	S	127	outreach to appropriate landowners concerning chemical management	# of landowners contacted; # of public relations materials developed and delivered concerning home chemical management	**71**
K	S	144	*Determine lethal and non-lethal effects of chemicals*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**71**
K	S	25	*on-going assessment of threats to GCN species and key habitats*	# of new threats identified or existing threats qualified to capture newly discovered or developing threats; # of new conservation actions/research projects identified to address threats	**70**
K	S	26	*(combined with above)*		**70**
K	S	22	*Identify other critical habitat*	# of new sites identified; # of conservation actions updated to include new habitats	**69**
K	S	140	Develop process to facilitate research priorities		**69**
K	S	30	identify appropriate partners for coordinated conservation planning	# of partners involved in coordinated planning; # of partner's own plans including elements of this CWCS	**64**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
K	S	31	develop new partnerships with private landowners	# of new private landowners involved in planning process	**64**
K	S	32	promote existing programs with private landowners	# of programs with increased participation	**64**
K	S	33	provide technical assistance in conservation planning where required	# of partners/landowners receiving technical assistance	**64**
K	S	34	develop liaison with towns and partners	# of towns and other partners with established liaison; # of town or partner meetings attended	**64**
K	S	45	*identify key unprotected parcels in focal areas*	# of unprotected parcels identified and mapped in focal area; % incorporated into existing digital data bases	**64**
K	S	46	Facilitate acquisition or easement of key parcels in focal areas	# of new acquisitions of or easements on key parcels in focal areas	**64**
K	S	47	Coordinate focal area projects with other state and regional programs	# of partners involved in acquisition and/or easements in focal areas; # of key parcels added to partners plans as priority	**64**
K	S	149	*Obtain remote sensing data at periodic intervals*	# of remote sensing data obtained; % incorporated into existing data bases	**64**
K	S	150	*determine variables suitable for measuring environmental/patch quality*	# of measures developed; % incorporated into existing data bases	**64**
K	S	151	*develop algorithm to measure fragmentation*	development of algorithm; incorporation into existing data bases	**64**
K	S	164	Organize workshops and technical training for staff in GIS, statistics, etc.	# of workshops; # of staff trained in GIS, statistics, etc.	**59**
K	S	37	*identify focal areas or defensible populations for focal species/area approach to conservation*	# of focal areas or defensible populations identified; % incorporated into existing digital data bases	**52**
K	S	38	initiate contact with private landowners identified within focal areas	% of landowners contacted within focal areas	**52**
K	S	39	*identify priority issues specific for all parcels in focal area*	# of priority issues identified; # of new conservation actions/research projects developed to address issues	**52**
K	S	42	outreach to appropriate state parks in focal area	# of state parks contacted in focal areas; # of parks implementing recommendations	**52**
K	S	165	(combined with above)		**52**
K	S	162	Compile and publish research and planning results	# of research and plan results published	**34**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
K	S	163	Disseminate results	# of research and plan results mailed to partners/stakeholders; # of web site hits to access PDF reports	**34**
K	S	10	create new GIS coverage with existing data to identify areas of needed inventory, monitoring and research	# of new GIS data sets ; # of new inventory, monitoring, or research projects identified	**22**
K	S	14	Geo-reference existing taxonomic data sets	# of taxonomic data sets with Geo-references	**22**
K	T	19	*survey GCN species at priority sites*	# of sites surveyed for GCN species; % incorporated into existing digital data bases	**78**
K	T	17	*research and develop sampling protocols, especially for mammals, freshwater fish, herps and beetles*	# of sampling protocols developed; % incorporated into existing data bases	**76**
K	T	126	Coordinate with mosquito abatement personnel for chemical management	# of partners involved in water quality protection; # of partners with modifications to existing procedures to address water quality	**71**
K	T	18	*identify priority sites for survey, especially for freshwater fish and invertebrates*	# of priority sites identified; % incorporated into existing digital data bases	**70**
K	T	125	*identify chemical sources and compounds of concern*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**70**
K	T	128	Coordinate chemical management with other state and regional programs	# of partners involved in chemical management; # of partners with chemical priorities added to their plans	**70**
K	T	40	outreach to golf courses in focal areas concerning impact of vegetation and chemical use	# of golf courses contacted within focal areas; # of golf courses implementing recommendations	**52**
K	T	41	outreach to nurseries in focal areas concerning chemical use	# of nurseries contacted in focal areas; # of nurseries implementing recommendations	**52**
K	T	27	coordinate processing of specimens and conversion and storage of electronic data	# of partners involved in coordinated research; # of partners providing data for and using RI DEM databases	**51**
K	T	61	Coordinate burn management with other state and regional programs	# of partners involved in burn management; # of partners incorporating priority parcels into their burn management plans	**39**
K	T	85	*research invasive species management and monitoring protocols*	completion of needed research by RI DEM or partners; # of monitoring protocols established	**39**
K	T	86	create and implement invasive species monitoring protocol	# of sites with invasive monitoring protocols implemented; % incorporated into existing data bases	**39**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
K	T	87	coordinate invasive species management with other state and regional programs	# of partners involved in invasive species programs; # of partners with invasive species management added to their plans	**39**
K	T	64	*identify suitable restoration projects for Lepidoptera and/or Mussel habitat*	# of restoration projects identified and mapped; % incorporated into existing digital data bases	**38**
K	T	65	implement priority restoration projects for Lepidoptera and/or Mussel habitat	# of restoration projects implemented; # of restoration sites with GCN species monitored over time	**38**
K	T	99	(repeat of above general invasives)		**38**
K	T	23	*determine geographic distribution of GCN species, especially invertebrates*	# of sites surveyed; # of GCN species mapped; % incorporated into existing digital data bases	**34**
K	T	145	*Facilitate research to identify and mitigate disease potential*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**32**
K	T	24	*determine relative abundance of GCN species, especially freshwater fish and invertebrates*	# of sites surveyed; # of GCN species inventoried; % incorporated into existing digital data bases	**28**
K	T	159	monitor spatial qualities of habitat	# of sites with monitoring; % incorporated into existing data bases	**27**
K	T	56	*Identify priority parcels needing stage-stage management, especially for Lepidoptera habitat*	# of parcels identified and mapped; % incorporated into existing digital data bases	**25**
K	T	57	Manage important habitats as required, especially for Lepidoptera habitat	# of sites managed; # of sites with GCN species monitored over time	**25**
K	T	90	(repeat of above general invasives)		**20**
K	T	103	*identify potential damaging exotic plants*	completion of needed research by RI Dem or partners; # of new species added to management plans	**20**
K	T	104	*identify priority areas for invasive plant management*	# of priority sites identified and mapped; % incorporated into existing digital data bases	**20**
K	T	105	develop and implement invasive species management program	# of invasive management plans established	**20**
K	T	106	develop and provide educational information about invasive species	# of educational programs developed and delivered concerning invasive species	**20**
K	T	134	*Identify areas of significant road effects in focal areas*	# of sites identified and mapped; % incorporated into existing digital data bases	**20**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
K	T	135	*Assess means to mitigate road effects*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**20**
K	T	136	Establish discussions with state and local D.O.T	# of partners involved in on-going discussions to limit habitat fragmentation from road construction; # of road plans impacted	**20**
K	T	137	Conduct road mitigations where required	# of mitigation projects established	**20**
K	T	13	create GIS coverage of field habitats	# of GIS data sets	**15**
K	T	11	create GIS coverage of forest age-class	# of GIS data sets	**14**
K	T	12	create GIS coverage of shrublands	# of GIS data sets	**14**
K	T	131	Facilitate detection and diagnosis of diseases outbreaks	# of strategies developed to facilitate disease detection and diagnosis; # of new procedures implemented	**14**
K	T	158	Coordinate monitoring with other state and regional monitoring programs	# of partners involved in monitoring; # of partners providing data for and using RI DEM databases	**14**
K	T	20	*identify breeding locations and geographic distribution, especially for invertebrates*	# of sites identified and mapped; % incorporated into existing digital data bases	**10**
K	T	71	*evaluate need for specialty cover types, especially for Lepidoptera, and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**7**
K	T	80	Develop and provide educational program/materials to reduce incidental mortality and take from humans	# of educational programs developed and delivered concerning human take and incidental mortality to GCN species	**3**
K	T	82	Coordinate incidental take programs with regional or national initiatives	# of partners involved in incidental take programs; # of partners with incidental take actions incorporated into their plans	**3**
K	T	117	(combined with above)		**3**
K	T	120	*Assess effects of prolonged drawdowns*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**3**
K	T	91	*Identify potential damaging aquatic invasives and exotics*	completion of needed research by RI Dem or partners; # of new species added to management plans	**2**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
K	T	92	develop and implement sampling protocol for aquatic exotics	# of sampling protocols developed; % incorporated into existing data bases	**2**
K	T	93	*Assess threat from fish*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
K	T	94	coordinate aquatic exotic management with stocking agencies and mosquito abatement personnel	# of partners involved in aquatic exotic management; # of partners with modifications to existing procedures to address exotics	**2**
K	T	95	(combined with above)		**2**
K	T	96	develop and implement program to mitigate effect of aquatic exotics	# of mitigation projects established	**2**
K	T	114	*Evaluate water quality effects on priority species*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**2**
K	T	115	develop strategies to mitigate aquatic degradation	# of mitigation projects established	**2**
K	T	116	coordinate water quality protection with appropriate DOT, regional and federal programs	# of partners involved in water quality protection; # of partners with water quality priorities added to their plans	**2**
K	T	141	*Assess taxonomy/population relationships*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**
K	H	142	*research additional habitat use issues*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**69**
K	H	154	initiate monitoring of species at breeding sites	# of sites with monitoring; % incorporated into existing data bases	**44**
K	H	55	*Identify priority parcels to retain as core forest areas with minimal management*	# of parcels identified and mapped; % incorporated into existing digital data bases	**24**
K	H	21	*Identify concentration areas for non-breeding populations*	# of sites identified and mapped; % incorporated into existing digital data bases	**21**
K	H	68	*evaluate need for nesting structures/boxes and identify priority sites for management*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**21**
K	H	69	*evaluate existing significant hibernacula*	completion of needed research by RI DEM or partners; # of research recommendations incorporated	**21**

Habitat	Category	#	Conservation or *I/R/M* Action	Annual Assessment Measures	Priority Score
				into conservation actions	
K	H	58	Develop fire prescriptions for priority parcels	# of parcels with fire plans developed	**18**
K	H	59	Implement burn management on priority parcels	# of parcels with fire plans implemented	**18**
K	H	60	Expand public relations for fire management	# of public relations materials developed and distributed concerning fire management	**18**
K	H	155	initiate monitoring of species at non-breeding sites	# of sites with monitoring; % incorporated into existing data bases	**8**
K	H	147	*Evaluate use of migratory stopover/winter habitat*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**7**
K	H	143	*determine metapopulation structure*	completion of needed research by RI DEM or partners; # of research recommendations incorporated into conservation actions	**1**

Appendix 5. Compilation of Existing Monitoring Plans

This appendix lists the key, relevant monitoring plans in Rhode Island which monitor key species, habitat or action parameters that will be part of Rhode Island's broad monitoring framework (reprinted here from RIEMC (2005), Appendix A). This list represents many partner programs and an important implementation and coordination part of this CWCS effort to adaptively manage, incorporate and communicate goals and data as each plan is revised and updated. Since monitoring will occur at the state, local, regional, national and international levels, it will require the establishment of this broad framework for monitoring at all of these levels. This will also allow partners to incorporate the SWG targets into their plans. This directly addresses Element 5 as well as Elements 6 and 7.

Monitoring Programs by Institution

INSTITUTION: Barrington Land Conservation Trust
PROGRAM: Diamondback Terrapin Population Study
PURPOSE: Establish population information for the Barrington area, and to preserve breeding habitat for the diamondback terrapin
SYSTEM: Fauna
INTERVAL: spring breeding season
DATES: 1990 to present
DATA : Digital Spreadsheet
ACCESS: Contact Charlotte Sornborger
PARAMETERS MEASURED: diamondback terrapin (mark and recapture)
LOCATION: Barrington

CONTACT
Charlotte Sornborger
Barrington Land
1 Wildacre Lane
Barrington, RI 02806
Phone: (401) 245-8467
c_sornborger@hotmail.com

INSTITUTION: Brown University
PROGRAM: Barrington and Palmer Rivers Monitoring
PURPOSE: Monitor physical parameters on a continuous basis
SYSTEM: Water
INTERVAL: Every 15 min.
DATES: 1996 to present
QUALITY : automated sampling; std calibration
ACCESS: Available upon request
PARAMETERS MEASURED: salinity, depth, temperature Seabird SeaCat 19s
LOCATION: Barr River: North of Rte 114 bridge Palmer River: South of 114 bridge
NOTES: Data still being processed as of spring 2001

CONTACT
Dr. Warren Prell
Brown University
Department Of Geosciences
P.O. Box 1846
Providence, RI 02912
Phone: (401) 863-3221
warren_prell@brown.edu

INSTITUTION: Committee for the Great Salt Pond
PROGRAM: Summer on the Water Program
PURPOSE: Primarily education, with some identification of "hot spots"
SYSTEM: Water, Fauna
INTERVAL: 3 times weekly during summer months
DATES: 1991 to present
DATA : Analog Report
URL: http:://blockisland.com/saltpond
ACCESS: Contact Henry duPont
PARAMETERS MEASURED: Water clarity (Secchi), DO (La Motte kit), bird counts observational), chemical parameters (kits), benthic fauna (observational from lobster trap catches)
LOCATION: Sites within the Great Salt Pond, Block Island
NOTES: Data tends to sporadic in nature; the parameters monitored tend to vary according to the professional background of the individuals running the program from summer to summer.

CONTACT
Henry duPont
Committee for the Great Salt
283 Ocean Avenue
New Shoreham, RI 02888
Phone: (401) 466-5061

INSTITUTION: Department of Natural Resources Science, URI AES
PROGRAM: Water-table Activity in forested wetlands in southern Rhode Island
PURPOSE: Elucidate the influence of water regime on vegetation structure and floristic composition, tree growth, and microrelief in red maple *(Acer rubrum*) swamps and Atlantic white cedar *(C. thyoides)* swamps.
SYSTEM: Flora
INTERVAL: Every 3 weeks between mid-April and mid-December
DATES: Apr 1976-Dec 1982
DATA : Analog Data Sheet
PARAMETERS MEASURED: Position of groundwater table or surface water level w/ respect to ground surface (graduated measuring rod inserted into shallow [1.5 m] wells).

LOCATION: 12 swamps in Washington City; towns included Charlestown, Hopkinton, N. Kingstown, Richmond, and S. Kingstown

CONTACT
Dr. Frank Golet
Department of Natural Resources Science,
108 Coastal Institute
1 Greenhouse Rd
Kingston, RI 02881
Phone: (401) 874-2916
Fax: (401) 874-4561
fgswamps@uri.edu

INSTITUTION: Department of Defense, U.S. Navy
PROGRAM: Superfund
PURPOSE: Hazardous waste site clean-up and remediation
SYSTEM: Land
INTERVAL: quarterly sampling
DATES: on going
DATA : Analog Report
QUALITY : SF QA/QC protocols
ACCESS: quarterly reports available to public
PARAMETERS MEASURED: groundwater (contaminants), landfill gases.
LOCATION: McAlister Point Landfill, Newport, RI; Davisville -
NOTES: Superfund monitoring at McAlister Point Landfill and Davisville Landfill. There is also some superfund activity taking place along sections of the Woonasquatucket River.

CONTACT
Kymberlee Keckler
US EPA, Region 1
1 Congress Street
Boston, MA 02114
Phone: (617) 918-1385
keckler.kymberlee@epa.gov

INSTITUTION: EPA-AED
PROGRAM: Aircraft remote sensing for chlorophyll-a
PURPOSE: Develop indicators for nutrient loading for northeast coastal systems.
SYSTEM: Water, Flora
INTERVAL: Bi-weekly
DATES: 2000-2005
DATA : Digital Database
QUALITY : yes
ACCESS: data will be accessible to public

PARAMETERS MEASURED: solar radiance, and irradiance, chlorophyll-a, suspended solids, temperature, salinity
LOCATION: Narragansett Bay and coastal waters
NOTES: New AED research program - anticipated start-up: Fall 2001.

CONTACT
Darryl Keith
EPA-AED
27 Tarzwell Drive
Narragansett, RI 02882
Phone: (401) 782-3135
Fax: (401) 782-3030
keith.darryl@epa.gov

INSTITUTION: EPA-AED
PROGRAM: Amphipod Population Study
PURPOSE: Determine field demographics for the estuarine amphipod *Ampelisca abdita*
SYSTEM: Fauna
INTERVAL: bi-weekly
DATES: 1996-2000
DATA : Analog Report
QUALITY : yes
ACCESS: Contact PI (Ann Kuhn-Hines)
PARAMETERS MEASURED: abundance, length frequency, sex ratio, biomass, and reproductive state.
LOCATION: Narrow River
NOTES: AED research project.

CONTACT
Ann Kuhn-Hines
EPA-AED
27 Tarzwell Drive
Narragansett, RI 02882
Phone: (401) 782-3199
Fax: (401) 782-3030
kuhn.anne@epa.gov

INSTITUTION: Jamestown Land Trust
PROGRAM: Jamestown Bird Survey
PURPOSE: Inventory the avian species that breed on and migrate through Jamestown, Rhode Island.
SYSTEM: Fauna
INTERVAL: varies
DATES: ~ 1985
ACCESS: Contact Candy Powell
PARAMETERS MEASURED: avian species (observation)

LOCATION: Jamestown
NOTES: This entry is incomplete, and may contain errors. It will be updated as direct contact is made with the program coordinator.

CONTACT
Candy Powell
Jamestown Land Trust
Jamestown, RI 02832
Phone: (401) 423-1492

INSTITUTION: Jamestown Land Trust
PROGRAM: Jamestown Land Trust
PURPOSE: Inventorying the birds of Jamestown
SYSTEM: Fauna
INTERVAL: Varies
DATES: 1985
ACCESS: Contact Candy Powell
PARAMETERS MEASURED: Avian inventory (observation)
LOCATION: Jamestown
NOTES: This entry is incomplete, and may contain errors. More complete information to follow.

CONTACT
Candy Powell
Jamestown Land Trust
Jamestown, RI 02835
Phone: (401) 423-1492

INSTITUTION: Massachusetts Audubon Society
PROGRAM: Smithfield HS/Blackstone River Watershed Education Project
PURPOSE: To conduct biological tests on the Blackstone and Woonasquatucket Rivers.
SYSTEM: Water
INTERVAL: At least 3 times during the academic year
DATES: 1992 to present
DATA : Digital Spreadsheet
ACCESS: Contact Donna Williams
PARAMETERS MEASURED: Water temperature (thermometer), DO (Hach Kit) pH (Hach Kits), BOD (Hach kit), turbidity, Nitrogen Phosphorus
LOCATION: Blackstone and Woonasquatucket Rivers
NOTES: This Mass Audubon program coordinates monitoring conducted by high school students at Smithfield High School (Contact Holly Martin, phone 401-949-2050) and Tolman High School in Pawtucket (Contact Julie Goulet, phone 401-729-6400).

CONTACT
Donna Williams

Massachusetts Audubon
314 Massasoit Rd.
Worcester, MA 01604
Phone: (508) 753-6087
dwilliams@massaudubon.org

INSTITUTION: Moses Brown and Wheeler Schools
PROGRAM: Moshassuck River Monitors
PURPOSE: Educational primarily
SYSTEM: Water
INTERVAL: Four times a year
DATES: 1997 to present
ACCESS: Contact Rob Brown
PARAMETERS MEASURED: Temperature, pH, dissolved Oxygen, BOD, Nitrogen, Phosphorus
LOCATION: Mosshasuck River

CONTACT
Rob Brown
Wheeler School
216 Hope Street
Providence, RI 02906
Phone: (401) 831-7350
Fax: (401) 751-7674
RBrownCHOP@aol.com

INSTITUTION: Multi Agency/Institution Effort coordinated by
PROGRAM: Volunteer DO Night Survey
PURPOSE: To measure overnight decreases in DO across upper half of Narragansett Bay during neap tides
SYSTEM: Water
INTERVAL: 2 X yr.
DATES: 1999 to present
DATA : Digital Database
QUALITY : YSI recommended QA/QC data is reviewed by 3 people
ACCESS: not currently available
PARAMETERS MEASURED: DO, depth, temperature, salinity by meter and location by GPS
LOCATION: 110 sites first sampling event in 1999, 95 sites second sampling event in 1999 and 80 sites in 2000
NOTES: Data is still being analyzed. Half of it is in digital format and the other half is hard copy.

CONTACT
Christopher Deacutis
RIDEM
RI Narragansett Bay Estuary Program

235 Promenade Street
Providence, RI 02908
Phone: (401) 222-4700
Fax: (401) 222-3564
deacutis@etal.uri.edu

INSTITUTION: National Audubon Society and Cornell Lab of Ornithology
PROGRAM: Bird Source
PURPOSE: To promote conservation and environmental science, and to develop a long-term record of bird populations in North America
SYSTEM: Fauna
INTERVAL: varies
DATA : Other (describe in Notes)
URL: http://birdsource.cornell.edu/index.html
ACCESS: http://birdsource.cornell.edu/index
PARAMETERS MEASURED: avian species (observation)
LOCATION: nationwide
NOTES: This information was generated from the Bird Source website, developed and managed by the National Audubon Society and Cornell Lab of Ornithology.

CONTACT
BirdSource (Audubon)

INSTITUTION: National Park Service
PROGRAM: Blackstone Valley National Heritage Corridor
PURPOSE: Primarily educational, operated through Woonsocket High School
SYSTEM: Water
INTERVAL: 3 days weekly during school year
DATES: ~1998
URL: http://www.nps.gov/blac/home.htm
ACCESS: Contact Dan Meharg
PARAMETERS MEASURED: water quality
LOCATION: 3 Blackstone River Valley sites

CONTACT
Dan Meharg
Blackstone Valley National
One Depot Square
Woonsocket, RI 02895
Phone: (401) 762-0250
Dan_Meharg@nps.gov

INSTITUTION: National Park Service
PROGRAM: Blackstone Valley National Heritage Corridor
PURPOSE: Educational
SYSTEM: Misc

INTERVAL: varies
URL: http://www.nps.gov/blac/home.htm
ACCESS: Contact program coordinator
PARAMETERS MEASURED: Vary according to project
LOCATION: Blackstone River Valley sites

CONTACT
Dan Meharg
Blackstone Valley National
One Depot Square
Woonsocket, RI 02895
Phone: (401) 762-0250
Dan_Meharg@nps.gov

INSTITUTION: Narragansett Bay Commission (NBC)
PROGRAM: Providence River Sampling
PURPOSE: to assess the water quality of the Providence River
SYSTEM: Water
INTERVAL: weekly
DATES: 2000 to present
DATA : Digital Database
URL: narrabay.com
QUALITY : QA/QC protocol and standard methods
ACCESS: available upon request
PARAMETERS MEASURED: fecal coliform, total/dissolved metals, TSS, TKN, TP, NH3, pH, temperature, DO,
LOCATION: 11 sites on river
NOTES: Data will be available on web site end of summer 2001

CONTACT
Sharon Pavignano
NBC
Bucklin Point Facility
102 Campbell Avenue
Rumford, RI 02916
Phone: (401) 222-4068
Fax: (401) 222-2807
spavignano@narrabay.com

INSTITUTION: NBC
PROGRAM: Regional River Fecal Monitoring
PURPOSE: To assess status of rivers affected by the NBC's wastewater systems in relation to bacterial contamination
SYSTEM: Water
INTERVAL: weekly
DATES: 1998 to present

DATA : Digital Database
URL: narrabay.com
QUALITY : QA/QC protocol and standard methods
ACCESS: available upon request
PARAMETERS MEASURED: fecal coliform
LOCATION: 21 stations on the Moshassuck, Blackstone, Woonasquatucket, West and Providence
NOTES: NBC has been conducting sampling and monitoring since 1998. For ten years prior to 1998, ESS was responsible for sampling and analysis. Data will be available on web site by end of summer 2001.

CONTACT
Sharon Pavignano
NBC
Bucklin Point Faciltiy
102 Campbell Avenue
Rumford, RI 02916
Phone: (401) 222-4068
Fax: (401) 222-2807
spavignano@narrabay.com

INSTITUTION: NBC
PROGRAM: Seekonk River Monitoring
PURPOSE: To assess water quality of the Seekonk River
SYSTEM: Water
INTERVAL: weekly
DATES: 2000 to present
DATA : Digital Database
URL: narabay.com
QUALITY : QA/QC protocol and standard methods
ACCESS: available upon request
PARAMETERS MEASURED: fecal coliform, total/dissolved metals, TSS, TKN, TP, NH3, pH, temperature
LOCATION: 9 sites on river
NOTES: data will be available on web site by end of summer 2001

CONTACT
Sharon Pavignano
NBC
Bucklin Point Facility
102 Campbell Avenue
Rumford, RI 01916
Phone: (401) 222-4068
Fax: (401) 222-2807
spavignano@narrabay.com

INSTITUTION: NBC
PROGRAM: Ten Mile River Sampling
PURPOSE: To asses the water quality status of the Ten Mile River
SYSTEM: Water
INTERVAL: monthly
DATES: 2000 to present
DATA : Digital Database
URL: narrabay.com
QUALITY : QA/QC protocol and standard methods
ACCESS: available upon request
PARAMETERS MEASURED: Fecal coliform, total/ dissolved metals, TSS, TKN, TP, NH3, pH, temperature
LOCATION: 8 stations on the river
NOTES: All station are downstream of NBC facilities. Data will be on website by end of summer 2001.

CONTACT
Sharon Pavignano
NBC
Bucklin Point Facility
102 Campbell Avenue
Rumford, RI 02916
Phone: (401) 222-4068
Fax: (401) 222-2807
spavignano@narrabay.com

INSTITUTION: NMFS S/K; CMER; RI Sea Grant
PROGRAM: Lobster Tagging Program
PURPOSE: Acquire information on growth, egg extrusion, shell disease, migration and survival for American lobster.
SYSTEM: Fauna
INTERVAL: Daily, as encountered
DATES: 1994-2003
DATA : Digital GIS Coverage
URL: None
QUALITY : Training workshops,
ACCESS: Available
PARAMETERS MEASURED: Tag/recapture using number floy anchor tags. Condition and carapace size recorded.
LOCATION: Narragansett Bay, RI Sound, BL Sound, Offshore Canyon
NOTES: Merges several programs: N Cape Lobster Restoration monitoring (2001-2003), RI Lobstermens' Association Tagging Program. (1999-2001); URI Tagging Program (1994-1999). Data also avian in Excel spreadsheets. Commercial lobstermen responsible for sampling

CONTACT

Kathleen Castro
Fisheries Center, URI
East Farm
Kingston, RI 02874
Phone: (401) 874-5063
Fax: (401) 789-8930
kcastro@uri.edu

INSTITUTION: NOAA
PROGRAM: The National Status and Trends Program
PURPOSE: Determine the status and trends in environmental quality of the Nations estuarine and coastal waters.
SYSTEM: Water, Fauna
INTERVAL: bi-annual
DATES: 1984- on-going
DATA : Digital Database
URL: http://ccmaserver.nos.noaa.gov/NSandT
QUALITY : QA/QC protocols in place
ACCESS: public access- world wide web
PARAMETERS MEASURED: Sediment chemistry: PAHs, PCBs, pesticides, toxic elements, clostridum perfringens spores, TOC, grain size Fish: liver-pcbs, pesticides, trace elements, bile-florescent aromatic compounds, stomach-pcbs, pesticides, toxic elements, PAHs, Fish- biology age, length, gross pathology, liver and kidney lesions, stomach content taxonomy.
LOCATION: Mt. Hope Bay, Prudence Island, Dyer Island, Dutch island, Patience Island, Conanicut Island
NOTES: The National Status and Trends program is comprised of 7 components: Mussel Watch, Benthic Surveillance, Bioeffects Survey, Historical Trends, Coastal Contamination Assessment, Quality Assurance, and Specimen Banking.

CONTACT
Tom O'Connor
NOAA
1305 East West Hwy
Silver Springs,, MD 20910
Phone: (301) 713-3028
Fax: (301) 713-4388
Tom.Occonor@Noaa.gov

INSTITUTION: NOAA/NMFS
PROGRAM: NOAA Restoration Center Programs
PURPOSE: Provides damage assessment and restoration projects for ecosystems impacted by oil spills and contaminant releases (e.g. North Cape oil spill, lobster and shell fish restoration)
SYSTEM: Fauna
INTERVAL: variable

DATES: 2000-2004
DATA : Analog Report
URL: www.nmfs.noaa.gov/habitat/restoration
QUALITY : unknown
ACCESS: limited
PARAMETERS MEASURED: Population dynamics for commercial marine resources (lobsters, bay scallops, oysters, finfish)
LOCATION: RI coastal waters (offshore and salt ponds)
NOTES: Currently three restoration projects on-going in RI lobster restoration (North Cape Oil Spill), bay scallop and oyster restoration (Salt Ponds), anadromous fish tagging. (alewife, blueback)

CONTACT
Jim Turek
NOAA/NMFS
Tarzwell Drive
Narragansett, RI 02881
Phone: (401) 782-3338
james.g.turek.noaa.gov

INSTITUTION: NOAA/NMFS , EPA, RI DEM, URI
PROGRAM: Narragansett Bay Window
PURPOSE: Monitoring in support of coastal resource management- enhance fish stock assessment, recreational use of Bay, improve commercial fish catch.
SYSTEM: Water, Fauna, Flora
INTERVAL: Monthly - Trawled array; Continuous-fixed array
DATES: 1998- on-going
DATA : Digital Database
QUALITY : QA/QC protocols in place
ACCESS: Public Access-World Wide Web
PARAMETERS MEASURED: CTD, Fluorometer, DO, PAR, optical plankton counter, continuous plankton recorder (Nu Shuttle), Sediment chemistry, primary productivity, benthic community structure and function.
LOCATION: Fixed stations in the Bay and Bay transects-70 mile Bay circuit.
NOTES: This program is a true collaboration between Federal Agencies (NOAA/NMFS, EPA), RIDEM, URI, Sea Grant, Narragansett Bay Estuaries Program, National Estuarine Research Reserve, Roger Williams College, and Brown University.

CONTACT
Mark Berman
Tarzwell Drive
Narragansett, RI 02882
Phone: (401) 782-3100
mberman@mola.na.nmfs.gov

INSTITUTION: NOAA/RIDEM
PROGRAM: National Estuarine Reserve System: Narragansett Bay, RI
PURPOSE: Long term monitoring of estuarine water quality and related bio-indicators. 26 estuaries throughout the nation participate in this program
SYSTEM: Water
INTERVAL: continuous at 30 minute intervals.
DATES: 1980- on-going
DATA : Digital Database
URL: www.ocrm.nos.noaa.gov/nerr/reserves/nernarraganset
QUALITY : QA/QC protocols in place
ACCESS: public access -world wide web
PARAMETERS MEASURED: Water quality measurements include: temperature, salinity, dissolved oxygen, depth, turbidity, and chlorophyll.
LOCATION: Potters Cove, T-Warf (Prudence Island)
NOTES: DO surveys for Narragansett Bay are also conducted under this program.

CONTACT
Roger Greene
RIDEM
55 South Reserve Drive
Prudence Island, RI 02872
Phone: (401) 683-6780
Fax: (401) 682-1936

INSTITUTION: Norman Bird Sanctuary
PROGRAM: Norman Bird Sanctuary
PURPOSE: Educational - amphibian monitoring; for management purposes - grassland avian nesting species; for marshland restoration - marshland survey,
SYSTEM: Fauna
INTERVAL: Varies with program
DATES: 1995 to present for grassland study
DATA : Digital Spreadsheet
URL: http://www.normanbirdsanctuary.org/home.shtml
QUALITY : Varies with program
ACCESS: Contact sanctuary
PARAMETERS MEASURED: Vary with types of monitoring efforts
LOCATION: Various sites on Middletown sanctuary
NOTES: One of two sites for Bioblitz 2001 Fall, marshland monitoring starting fall of 2001, grassland avian study has been going on since 1995.

CONTACT
Veronica Hinds
Norman Bird Sanctuary
583 Third Beach Rd
Middletown, RI 02842
Phone: (401) 846-2577

Fax: (401) 846-2772
vhinds@normanbirdsanctuary

INSTITUTION: Pawtuxet River Authority
PROGRAM: Pawtuxet River Authority
PURPOSE: Environmental education, and to measure water quality for watershed management
SYSTEM: Water
INTERVAL: Monthly-year round
DATES: 1994 to present
DATA : Digital Spreadsheet
URL: www.pawtuxet.org
ACCESS: Contact Guy Lafebvre
PARAMETERS MEASURED: Temperature, pH, DO, flow/water level, hardness.
LOCATION: 12 Stations along the Pawtuxet River

CONTACT
Robert J. Nero
Pawtuxet River Authority & Watershed Council
Historic Harris Mill, 618 Main Street
Coventry, RI 02816
Phone: (401) 615-7039
pra@pawtuxet.org

INSTITUTION: Pine Point School
PROGRAM: Pine Point School, Oceanology Program
PURPOSE: 1) To involve students in monitoring local estuaries, 2) To engage students in real-world science, 3) To have the students' efforts contribute to the overall body of data that is available to other organizations and agencies, and 4) To give students an understanding of field experiences and the follow-up lab work with analysis of the data
SYSTEM: Water, Flora, Fauna
INTERVAL: annual
DATES: Fall 1988 - on-going
DATA : Digital Spreadsheet
ACCESS: yes
PARAMETERS MEASURED: Salinity and temperature are measured at each meter; dissolved Oxygen is measured at the surface and bottom; current speed and direction; water visibility; water color; sediment type; nutrients = phosphates and nitrates; coliform colonies; benthic life = plant and animal; planktonic Life
LOCATION: Pawcatuck Estuary; Little Narragansett Bay; Mystic Estuary

CONTACT
Alan Banister
Pine Point School
89 Barnes Road

Stonington, CT 06378
Phone: (860) 535-0881
Fax: (869) 535-8033
pbanister@snet.net

INSTITUTION: Pokanoket Watershed Alliance
PROGRAM: Runnins River Monitoring
PURPOSE: To assess conditions in the lower Runnins River and Hundred Acre Cove
SYSTEM: Water
INTERVAL: monthly
DATES: 1991 - ongoing
DATA : Digital Spreadsheet
ACCESS: DEM TMDL program has this data - Heidi Travers
PARAMETERS MEASURED: Bacteria; pH (lab analysis), clarity (Secchi disk); temperature
LOCATION: Six stations in the lower Runnins River (MA/RI) and Hundred Acre

CONTACT
Bruce Tanner
Phone: (401) 433-2908

INSTITUTION: Pokanoket Watershed Alliance
PROGRAM: Runnins River Task Force
PURPOSE: To identify and mitigate sources of bacterial contamination to the Runnins River
SYSTEM: Water
DATES: ~1994
PARAMETERS MEASURED: Fecal coliform
LOCATION: Multiple sites on the Runnins River

CONTACT
Carolyn Faulhaber
Pokanoket Watershed
1 Craig Drive
Barrington, RI 02806
Phone: (401) 245-3036

INSTITUTION: Providence Plan
PROGRAM: Woonasquatucket River Greenway
PURPOSE: Environmental education
SYSTEM: Water, Fauna
DATES: anticipated start was 1998
PARAMETERS MEASURED: DO, Salinity, habitat assessments
LOCATION: Woonasquatucket River

CONTACT
Jane Sherman
Providence Plan

56 Pine Street
Providence, RI 02903
Phone: (401) 455-8880
Fax: (401) 331-6840
jsherman@providenceplan.or

INSTITUTION: Prudence Island Conservancy and NBNERR
PROGRAM: Prudence Island Conservancy Citizens Monitoring Program
PURPOSE: Develop baseline data and water quality trends on Prudence Island.
SYSTEM: Water
INTERVAL: Weekly, Year round
DATES: 1989 to present
DATA : Digital Spreadsheet
URL: not available
QUALITY : Standard Methods
ACCESS: Contact Dr. Kenny Rapoza
PARAMETERS MEASURED: Air Temperature (weather station), wind (weather station), water temperature (Hyrdolab meter), rainfall (chart recorder), pH (benchtop meters), dissolved Oxygen (Hyrdolab meter and La Motte Kits), water clarity (Secchi), and salinity (Hydrolab meter).
LOCATION: Potter Cove and South Prudence T-Warf
NOTES: Sea-truthing monitoring program associated with The National Estuary Research Reserve Program (NERR).

CONTACT
Dr. Kenny Rapoza
NBNERR
Prudence Conservancy
0113 Mount Pleasant Ave.
Prudence Island, RI 02872
Phone: (401) 683-6780
Fax: (401) 682-1936
Kenny@gsosun1.gso.uri.edu

INSTITUTION: Ray Vincent
PROGRAM: Rhode Island Bristol County Observer Network (RIBCON)
PURPOSE: Measure and record weather data of local weather patterns in Rhode Island and Bristol County, Massachusetts
SYSTEM: Climate
INTERVAL: Daily, year round
DATES: 1992 to present
DATA : Analog Report
QUALITY : Standard
ACCESS: Membership in network ($12 fee)
PARAMETERS MEASURED: Air temperature (thermometer), wind speed/direction (wind vane and anemometer), precipitation (rain gauge, ruler for snow?)

LOCATION: Throughout RI and Bristol County, MA
NOTES: This weather monitoring network produces monthly reports sent to all members of the network (whether you collect data or not). An annual fee of $12 covers postage and coping costs.

CONTACT
Ray Vincent
RIBCON
13 Kenyon Street
Providence, RI 02930
Phone: (401) 421-8382

INSTITUTION: Ray Vincent
PROGRAM: RIBCON - Rhode Island Bristol County Network
PURPOSE: Develop baseline data of local weather patterns in Rhode Island and Bristol County, Massachusetts
SYSTEM: Climate
INTERVAL: daily
DATES: ~1990
DATA : Analog Report
QUALITY : Standard
ACCESS: Membership in network ($11 fee)
PARAMETERS MEASURED: Air temperature (thermometer), wind speed/direction, precipitation (rain gauge, ruler for snow?)
LOCATION: Throughout RI and Bristol County, MA
NOTES: This weather monitoring network produces monthly reports sent to all members of the network (whether you collect data or not). An annual fee of $11 covers postage and coping costs.

CONTACT
Ray Vincent
RIBCON
Providence, RI 00000
Phone: (401) 421-8382

INSTITUTION: Raytheon Corporation
PROGRAM: Raytheon Employees Wildlife Habitat Committee
PURPOSE: To develop a comprehensive habitat management plan for Raytheon's Portsmouth campus, with special emphasis on increasing biodiversity and enhancing and maintaining native
SYSTEM: Fauna
INTERVAL: Year round
DATES: October 1999 to present
DATA : Other (Describe in Notes)
URL: http://rewhc.org/home.shtml
QUALITY : In consultation with a variety of professional

ACCESS: Available on the website
PARAMETERS MEASURED: Fauna and flora inventories (surveys)
LOCATION: Multiple sites throughout the Portsmouth campus
NOTES: This project is in coordination with Wildlife Habitat Council (Silver Spring, Maryland), which assists corporations with developing comprehensive wildlife management plans for their corporate campuses. Data is available in multiple formats on the web

CONTACT
Elizabeth Ripa
Raytheon Employees Wildlife
Rte 138
Portsmouth, RI 02871
Phone: (401) 842-2350
director@rewhc.org.

INSTITUTION: Rhode Island Surfrider Foundation
PROGRAM: Blue Water Task Force Beachscape
PURPOSE: To assess water quality along Rhode Island's coastal beaches and surfing sites
SYSTEM: Water
INTERVAL: monthly in summer
DATES: 2000 to present
DATA : Digital Spreadsheet
URL: http://www.edc.uri.edu/surfrider/
QUALITY : Standard methods, published protocols
ACCESS: Website, or from URI Watershed Watch
PARAMETERS MEASURED: Beachscape (observation), fecal coliform and E. coli (direct enumeration, mTEC), enterococci (direct enumeration, mE)
LOCATION: up to 12 sites from Westerly to Newport
NOTES: Fecal coliform and entercocci monitoring conducted in conjunction with the URI Watershed Watch Program (uriww@etal.uri.edu)

CONTACT
Jill Bodnar
Rhode Island Surfrider
Kingston, RI 02881
Phone: (401) 874-5054
jill@edc.uri.edu

INSTITUTION: RI Ag. Exp. Station
PROGRAM: RI statewide land cover change: 1972-2002; Forest loss
PURPOSE: Quantify land cover changes and impact of disturbance on forest ecosystems and natural resources. Multiple models validated and employed to reveal sprawl patterns. Produce land cover maps for 1972, 1985, and 2002 from landsat data. Identify change patterns and maps of land use and
SYSTEM: Land

INTERVAL: 10-15 yrs; 30 m spatial resolution;
DATES: 2000-2003
DATA : Digital GIS Coverage
URL: forthcoming
QUALITY : Groundtruthing and thematic accuracy assessment
PARAMETERS MEASURED: Land cover types following USGS classification system; visible light to thermal portion of electromag spectrum
LOCATION: Statewide

CONTACT
Dr. Y. Q. Wang
Department of Natural Resources; URI
1 Greenhouse Rd
Kingston, RI 02881
Phone: (401) 874-4345
Fax: (401) 874-4561
yqwang@uri.edu

INSTITUTION: RI DEM, Fish and Wildlife
PROGRAM: Shellfish disease survey, state of RI
PURPOSE: Survey presence of diseases in wild and cultured oysters and quohogs in RI waters.
SYSTEM: Fauna
INTERVAL: twice yearly: Aug/Nov. Temp: every 10 mins
DATES: May 1998-Nov 2001 (at least)
DATA : Digital Spreadsheet
QUALITY : histology slides read by 2 diff individuals
PARAMETERS MEASURED: dermo p. marinus (RFTM culture mthd/PCR); MSX h. nelsoni (histology/PCR); SSO h. coastal (histology/PCR); other disease conditions like bacteria, inflammation, neoplasia (histology); water temp. (data loggers)
LOCATION: Barrington River; Kickemuit River; Spectacle Cove; Prudence Island; Greene's River; Greenwich Bay; Wickford Cove; Pt Judith Pond (wild/farmed); Charlestown Pond; Winnapaug Pond (frmd); Pawcatuck River; Block Island (wild/farmed).

CONTACT
Dr. Marta Gomez-Chiarri
Department of fisheries, animal, and vet
127 Woodward Hall
Kingston, RI 02881
Phone: (401) 874-2917
Fax: (401) 874-4017
gomezchi@uri.edu

INSTITUTION: RI Sea Grant
PROGRAM: Impacts of *Ctenophore M leidyi* on icthyoplankton

PURPOSE: Determine abundance and seasonal distribution of the *Ctenophore M. leidyi* in Narragansett Bay in relation to bay water temperature and the abundance and distribution of larval fish and other zooplankton.
SYSTEM: Fauna
INTERVAL: once per week GSO dock, monthly six other Bay stands
DATES: June 1999 to Sept 2002
DATA : Digital Spreadsheet
QUALITY : standard protocols for abundance; calibrated temperature/salinity
PARAMETERS MEASURED: Abundance (#/m**3), volume (mls/m**3) of *m leidyi*; abundance (#m**3) of other zooplankton categories (copepods, etc.), water temp, salinity
LOCATION: GSO Dock; Providence River; Ohio ledge; Greenwich Bay; west side of Prudence Island; Wickford Cove; south side of Jamestown bridge

CONTACT
Barbara Sullivan
GSO, URI
S. Ferry Rd
Narragansett, RI 02882
Phone: (401) 874-6659
Fax: (401) 874-6160
bsull@gso.uri.edu

INSTITUTION: RI Sea Grant, Brown Univ.
PROGRAM: Assessing Status of Narragansett Bay Saltmarsh Plant Communities
PURPOSE: Develop a baseline assessment of RI saltmarshes and how eutrophication impacts them. Initiate a long-term monitoring program to enable detection of impacts of exotic spp. Invasions and sea-level change.
SYSTEM: Flora
INTERVAL: Contact Dr. Bertness for details
DATES: 1997-2002
DATA : Digital Spreadsheet
PARAMETERS MEASURED: Tidal heights of plant zonal borders w/ study survey equip. Primary production of all zonal dominant marsh plants at each site using end of season biomass. Secondary production estimates using fiddler crab, killifish, and marsh snail densities. Contact Dr. Bertness for additional details
LOCATION: 20-30 Narragansett Bay Marshes
NOTES: Bertness hopes to take seven years of monitoring data produced by this project and apply for NSF funding of a permanent monitoring program.

CONTACT
Dr. Mark Bertness
Brown University
Department of Evolutionary Biology
Providence, RI 02912
Phone: (401) 863-2280

Fax: (401) 863-2166
mark_bertness@brown.edu

INSTITUTION: RI Sea Grant, RI DEM
PROGRAM: Lobster Larval Settlement Index
PURPOSE: Determine whether a larval settlement index will be useful as a predictor of population trends in the American lobster fishery
SYSTEM: Fauna
INTERVAL: Each site sampled annually end of settlement season
DATES: 1990-present
DATA : Digital Spreadsheet
ACCESS: Available
PARAMETERS MEASURED: At each site, 12 half-meter squared quadrats suctioned sampled destructively removing interstitial fauna; suction samples collected in 1.5 mm mesh bags. Organisms too large for suction sampler caught by hand and are misread in situ.
LOCATION: Harbor-of-Refuge, Black Pt, Southwest Pt, Castle Hill, Lands End, Sachuest Pt.
NOTES: The intent of Dr. Wahle is to establish long-term funding support from the state of RI to continue the settlement index annually for the indefinite future, given that its predictive utility is adequately confirmed.

CONTACT
Dr. Richard Wahle
Bigelow Lab
Bigelow Laboratory for Ocean : West Boothbay Harbor, ME
Phone: (206) 633-9659
Fax: (206) 633-9641
rwhale@bigelow.org

INSTITUTION: RI Sea Grant/CMER
PROGRAM: Lobster shell disease program
PURPOSE: Monitor shell condition of lobsters in Dutch Harbor, Narragansett Bay as part of ongoing artificial reef project.
SYSTEM: Fauna
INTERVAL: Weekly from May to Oct
DATES: Mar 1997-Oct 2001
DATA : Digital Spreadsheet
QUALITY : Training and methodology
ACCESS: Available
PARAMETERS MEASURED: Traps to capture lobsters. Shell disease index used to evaluate shell condition. Tag and recapture to further assess shell condition
LOCATION: Dutch Harbor, Narragansett Bay
NOTES: Project coordinated w/ RI DEM and similar data compiled at other sites thro sea sampling. Joint publication available.

CONTACT

Kathleen Castro
Fisheries Center, URI
East Farm
Kingtson, RI 02881
Phone: (401) 874-5063
Fax: (401) 789-8930
kcastro@uri.edu

INSTITUTION: RI Sea Grant; RI CRMC; RI DEM; RI Nat
PROGRAM: Narragansett Bay Rapid Assess. Survey for Marine bioinvasive species
PURPOSE: Catalogue marine bioinvasive species in RI coastal waters
SYSTEM: Fauna
INTERVAL: every five years; first yr: Aug 2000
DATES: 2000-present
DATA : Digital Spreadsheet
QUALITY : Best Prof Judgments of team of taxonomic experts
PARAMETERS MEASURED: invertebrate organisms and algae sampling of encrusting and epiphytic communities on floating docks. Field and lap verification of sampled organisms. Some sampling of adjacent shoreline habitats
LOCATION: Station 1: Narragansett Boat Club, Seekon River; Station 2 Bootleggers Marina, Providence River; Station 3 Edgewd Yacht Club, Providence River; Station 4 Cove Haven Marina, Barrington; Station 5 Coasters Harbor Island; Station 6 R. Williams University dock; Station 7 Colt Ste Park dock; Station 8 Wickford Marina; Station 9 N Kingston Marina Allens Harbor; Station 10 Warwick Cove Marina; Station 11 Ft Getty Pier; Station 12 Prudence Island T-wharf; Station 13 Prudence Island Potters Cove
NOTES: Conducted in conjunction with similar study sponsored by MIT Sea Grant same year in Massachusetts. Taxonomic experts team assembled and supervised by Dr. James Carlton of Mystic Seaport/Williams College Marine Studies Program.

CONTACT
Kevin R. Cute
RI CRMC
4808 Tower Hill Rd: Wakefield, RI 02879
Phone: (401) 783-3370
Fax: (401) 874-3767
k_cute@crmc.state.ri.us

INSTITUTION: RIDEM
PROGRAM: Adult American Shad and River Herring Monitoring
PURPOSE: to assess the abundance of adult shad and herring in RI
SYSTEM: Fauna
INTERVAL: daily Mar.-July
DATA : Analog Report
ACCESS: available upon request
PARAMETERS MEASURED: frequency by manual fish counts at ladders or by counters

LOCATION: Pawcatuck River, Gilbert Stuart, Nonquit, Annaquatucket, Potowomut
NOTES: Shad are trapped and counted on Pawcatuck River daily end of Mar. - July 4. Herring counted by direct count of fish over fish ladders or by electronic fish counters on Pawcatuck River (difficult to do because of depth of water), Gilbert Stuart, Nonquit, Annaquatucket, Potowomut

CONTACT
Phil Edwards
RIDEM
Great Swamp Field Hq
P.O. Box 218
W. Kingston, RI 02892
Phone: (401) 789-0281
Fax: (401) 783-7490
pedwardsdem@mindspring.c

INSTITUTION: RIDEM
PROGRAM: Air Quality Monitoring
PURPOSE: to monitor air quality to assure standards are met, to be able to predict concentration of air pollutants and to evaluate trends and progress from improvements
SYSTEM: Air
INTERVAL: variable; continuous to 24 hr comp.
DATES: 70's to present
DATA : Digital Database
URL: www.epa.gov/aqspubl1/annual_summary.html
ACCESS: available upon request
PARAMETERS MEASURED: fine particulates (PM2.5 and PM 10), ozone, nitrogen oxide, sulfur dioxide, carbon monoxide, VOCs, carbonyls, metals
LOCATION: approx. 15 sites throughout RI
NOTES: not all sites are monitored for all pollutants

CONTACT
Barbara Morin
RIDEM
Office of Air Resources
235 Promenade Street
Providence, RI 02908
Phone: (401) 222-4700
Fax: (401) 222-2017
bmorin@dem.state.ri.us

INSTITUTION: RIDEM
PROGRAM: Aquatic Furbearer Survey
PURPOSE: to assess the population of aquatic furbearers
SYSTEM: Fauna
INTERVAL: dn

LOCATION: throughout RI

CONTACT
Lori Suprock
RIDEM
Great Swamp Field Hq
P.O. Box 218
W. Kingston, RI 02892
Phone: (401) 789-0281
Fax: (401) 783-7490
Lsuprock@mindspring.com

INSTITUTION: RIDEM
PROGRAM: Artificial Substrate Monitoring
PURPOSE: Biological data used to supplement physical and chemical WQ data to identify long term trends in water quality which reflect water pollution abatement and/or needs
SYSTEM: Fauna
INTERVAL: 1X year in summer
DATES: 1974 to present
DATA : Analog Data Sheet
QUALITY : standard methods
ACCESS: available upon request
PARAMETERS MEASURED: biological diversity using the Fullner multiple plate artificial substrate
LOCATION: 7 stations on RI rivers corresponding to USGS chemical sampling

CONTACT
Robert Richardson
RIDEM
Office of Water Resources
235 Promenade St.
Providence, RI 02908
Phone: (401) 222-4700
Fax: (401) 222-3564
rrichard@dem.ri.state.us

INSTITUTION: RIDEM
PROGRAM: Biotoxin Shellfish Poisoning Sampling
PURPOSE: To assure shellfish in shellfish growing areas are free of biotoxins
SYSTEM: Water
INTERVAL: 1X week
DATES: 2001
DATA : Analog Data Sheet
ACCESS: available upon request
PARAMETERS MEASURED: phytoplankton seine pull
LOCATION: random 2 samples during shellfish growing area monitoring

NOTES: In past this program was handled by the Department of Health. Starting this year DEM has taken over the program.

CONTACT
Joe Migliore
RIDEM
Office of Water Resources
235 Promenade St.
Providence, RI 02908
Phone: (401) 222-4700
Fax: (401) 222-3564
jmiglior@dem.state.ri.us

INSTITUTION: RIDEM
PROGRAM: Bird Species Breeding Monitoring
PURPOSE: to determine breeding status of colony, nesting, shore and wading birds
SYSTEM: Fauna
INTERVAL: don't know
DATA : Analog Report
ACCESS: available upon request
PARAMETERS MEASURED: breeding status
LOCATION: throughout RI
NOTES: data is found in year end reports.

CONTACT
Lori Suprock
RIDEM
Great Swamp Field Hq
P.O. Box 218
W. Kingston, RI 02892
Phone: (401) 789-0281
Fax: (401) 783-7490
Lsuprock@mindspring.com

INSTITUTION: RIDEM
PROGRAM: Chemical Baseline Monitoring
PURPOSE: To develop a baseline profile of water quality in the state
SYSTEM: Water
INTERVAL: 1X quarter
DATES: 1991 to present
DATA : Digital Database
QUALITY : QA/QC plan approved by EPA
ACCESS: available upon request
PARAMETERS MEASURED: DO, pH, total hardness, specific conductance, temperature, instantaneous flow, total and fecal coliform, fecal streptococci, BOD5, dissolved NO2 and NO3, NH4, dissolved ortho P, total P, dissolved Na, dissolved Cl,

volatile suspended solids, total Cu, Cd, Pb, and Fe (all sampling and analysis by standard methods)
LOCATION: 25 stations on RI rivers and streams

CONTACT
Connie Carey
RIDEM
Office of Water Resources
235 Promenade St.
Providence, RI 02908
Phone: (401) 222-4700
Fax: (401) 222-3564
ccarey@dem.state.ri.us

INSTITUTION: RIDEM
PROGRAM: Fin Fish Monitoring Coastal Ponds
PURPOSE: to assess finfish fishery in coastal ponds
SYSTEM: Fauna
INTERVAL: 2 X mo. May - Oct.
DATES: 1993 to present
DATA : Digital Database
ACCESS: Available upon request
PARAMETERS MEASURED: length, weight, frequency
LOCATION: 16 sites in five coastal ponds and Narrow River

CONTACT
Jennifer Temple
RIDEM
Coastal Fisheries Lab
1231 Succotash Road
Wakefield, RI 02879
Phone: (401) 783-2304
Fax: (401) 783-2760
jtemple@dem.state.ri.us

INSTITUTION: RIDEM
PROGRAM: Gill Net Monitoring Program
PURPOSE: To assess pelagic gamefish for fisheries management
SYSTEM: Fauna
INTERVAL: monthly May - Oct.
DATES: 2000 to present
DATA : Digital Database
ACCESS: available upon request
PARAMETERS MEASURED: length, frequency, weight, otolith and scales
LOCATION: eight stations in Narragansett Bay

CONTACT
Dick Satchwill
RIDEM
Coastal Fisheries Lab
1231 Succotash Road
Wakefiels, RI 02879
Phone: (401) 783-2304
Fax: (401) 783-2760
rsatchwi@dem.state.ri.us

INSTITUTION: RIDEM
PROGRAM: Juvenile American Shad and River Herring Monitoring
PURPOSE: to assess the juvenile herring and shad population migrating downstream
SYSTEM: Fauna
INTERVAL: weekly or bi weekly June - November
DATES: 1986 to present
DATA : Analog Report
ACCESS: available upon request
PARAMETERS MEASURED: frequency, length and weight (seine, cast net, trap net, weir devices)
LOCATION: Pawcatuck R., Gilbert Stuart, Nonquit, Annaquatucket, Potowomut
NOTES: Use seine on Pawcatuck weekly mid Aug. - Nov 1. Other sites are weekly or biweekly June - November

CONTACT
Phil Edwards
RIDEM
Great Swamp Field Hq
P.O. Box 218
W. Kingston, RI 02892
Phone: (401) 789-0281
Fax: (401) 789-7490
pedwardsdem@mindspring.c

INSTITUTION: RIDEM
PROGRAM: Juvenile Fin Fish Survey
PURPOSE: to assess population of recreationally and commercially important fin fish
SYSTEM: Fauna
INTERVAL: 1 X mo. June - Oct.
DATES: 1986 to present
DATA : Digital Database
ACCESS: available upon request
PARAMETERS MEASURED: temp, salinity, DO, length, frequency (on target species only)
LOCATION: 18 stations in Narragansett Bay

CONTACT

Chris Powell
RIDEM
DEM Fish and Wildlife
150 Fowler Street
Wickford, RI 02852
Phone: (401) 294-4524
Fax: (401) 294-9640
cpowell@dem.state.ri.us

INSTITUTION: RIDEM
PROGRAM: Largemouth Bass Monitoring
PURPOSE: to determine frequency and growth rates of large mouth bass in RI ponds
SYSTEM: Fauna
INTERVAL: weekly Aug - Oct. (sometimes in spring)
DATA : Analog Report
ACCESS: available upon request
PARAMETERS MEASURED: frequency, catch rates, length, weight, scales
LOCATION: Tuckers P, Watchoag P, Pascoag Res, Wilson P. and Tiogue L
NOTES: Two methods of obtaining data. Bass Fish Tournaments are monitored for catch. Usually one to two per weekend August-October. Nighttime electroshocking is conducted once per year

CONTACT
Phil Edwards
RIDEM
Great Swamp Field Hq.
P.O. Box 218
W. Kingston, RI 02892
Phone: (401) 789-0281
Fax: (401) 783-7490
pedwardsdem@mindspring.c

INSTITUTION: RIDEM
PROGRAM: Lobster Fishery Monitoring
PURPOSE: to assess the lobster fishery in Narragansett Bay
SYSTEM: Fauna
INTERVAL: 2 inshore trips per mo.
DATES: 1991 to present
DATA : Digital Database
ACCESS: annual report summary upon request
PARAMETERS MEASURED: sex, size, cull status, mortality, pathology, shell disease, maturity
LOCATION: Narragansett Bay and RI Sound

CONTACT
Tom Angell/ Scott Olszewski
RIDEM

Marine Fisheries
1231 Succotash Road
Wakefield, RI 02879
Phone: (401) 783-2304
Fax: (401) 783-2760
solszews@dem.state.ri.us

INSTITUTION: RIDEM
PROGRAM: Rapid Bioassessment Protocol Monitoring
PURPOSE: To compare habitat (physical structure and flow regime) and biological measures with reference site conditions to determine support or non support of water quality aquatic life
SYSTEM: Fauna
INTERVAL: 1X yr in spring/summer season
DATES: 1992 to present
DATA : Digital Spreadsheet
QUALITY : standard methods
ACCESS: available upon request
PARAMETERS MEASURED: macroinvertebrates using RBP
LOCATION: 45 stream riffle areas in RI

CONTACT
Robert Richardson
RIDEM
Office of Water Resources
235 Promenade St.
Providence, RI 02908
Phone: (401) 222-4700
Fax: (401) 222-3564
rrichard@dem.ri.state.us

INSTITUTION: RIDEM
PROGRAM: RI Pollution Discharge Elimination System Monitoring
PURPOSE: to monitor point sources of wastewater into RI surface waters
SYSTEM: Water
INTERVAL: dependent on nature of discharge
DATES: 1983 to present
DATA : Digital Database
QUALITY : standard methods
ACCESS: available upon request
PARAMETERS MEASURED: dependent on nature of discharge
LOCATION: 25 major, 110 minor and >200 stormwater discharges throughout RI
NOTES: prior to 1983 program was run by EPA

CONTACT
Eric Beck

RIDEM
Office of Water Resources
235 Promenade Street
Providence, RI 02908
Phone: (401) 222-4700
Fax: (401) 222-3564
ebeck@dem.state.ri.us

INSTITUTION: RIDEM
PROGRAM: Shellfish Growing Area Monitoring
PURPOSE: To allow RI to participate in the harvesting, sales, transportation and processing of shellfish in accordance with NSSP requirements to protect human health
SYSTEM: Water, Fauna
INTERVAL: approved areas 6X yr; conditionally approved areas 1X mo.
DATES: 1946 to present
DATA : Digital Spreadsheet
URL: dem.state.ri.us
QUALITY : Standard Methods and NSSP requirements
ACCESS: available upon request
PARAMETERS MEASURED: fecal coliform (MPN method), temperature (twice per run)
LOCATION: 305 stations in shellfish growing areas in salt ponds, bay and open ocean
NOTES: data is not available on web site but the shellfish closure maps are available and they are based on the data.

CONTACT
Joe Migliore
RIDEM
Office of Water Resources
235 Promenade St.
Providence, RI 02908
Phone: (401) 222-4700
Fax: (401) 222-3564
jmiglior@dem.state.ri.us

INSTITUTION: RIDEM
PROGRAM: Shellfish Monitoring Program Shoreline Surveys
PURPOSE: To locate actual and potential bacterial sources to shellfish growing areas
SYSTEM: Fauna
INTERVAL: once/3 years with spot checking every year
DATES: 1979 to present
DATA : Analog Report
QUALITY : standard methods and NSSP requirements
ACCESS: available upon request
PARAMETERS MEASURED: sources and bacteria using MPN method, estimated flow rates in pipes
LOCATION: 410 miles of RI coastline

NOTES: surveys are incorporated into annual reports to FDA

CONTACT
Joe Migliore
RIDEM
Office of Water Resources
235 Promenade St.
Providence, RI 02908
Phone: (401) 222-4700
Fax: (401) 222-3564
jmiglior@dem.state.ri.us

INSTITUTION: RIDEM
PROGRAM: Summer Inland Breeding Survey of Canadian Geese
PURPOSE: to assess population of breeding Canadian geese
SYSTEM: Fauna
INTERVAL: dn
PARAMETERS MEASURED: number of breeding Canadian geese
LOCATION: throughout RI

CONTACT
Lori Suprock
RIDEM
Great Swamp Field Hq
P.O. Box 218
W. Kingston, RI 02892
Phone: (401) 789-0281
Fax: (401) 783-7490
Lsuprock@mindspring.com

INSTITUTION: RIDEM
PROGRAM: Upland Game Species Monitoring
PURPOSE: to assess population of upland game species
SYSTEM: Fauna
INTERVAL: dn
PARAMETERS MEASURED: deer ?????
LOCATION: throughout RI

CONTACT
Lori Suprock
RIDEM
Great Swamp Field Hq
P.O. Box 218
W. Kingston, RI 02892
Phone: (401) 789-0281
Fax: (401) 783-7490

Lsuprock@mindspring.com

INSTITUTION: RIDEM
PROGRAM: Waterfowl Survey
PURPOSE: to count waterfowl
SYSTEM: Fauna
INTERVAL: don't know
PARAMETERS MEASURED: numbers of ducks, geese and swans
LOCATION: throughout RI

CONTACT
Lori Suprock
RIDEM
Great Swamp Field Hq
P.O. Box 218
W. Kingston, RI 02892
Phone: (401) 789-0281
Fax: (401) 783-7490
Lsuprock@mindspring.com

INSTITUTION: RIDOH
PROGRAM: Beach Monitoring Program
PURPOSE: To monitor beach water quality for the protection of human health
SYSTEM: Water
INTERVAL: dependent on location and past history
DATES: 1994 to present
DATA : Digital Database
URL: www.health.state.ri.us
QUALITY : QA/QC protocol and standard methods
ACCESS: online and raw data available upon request
PARAMETERS MEASURED: fecal coliform and enterococci(A1 method)
LOCATION: 115 fresh and saltwater beaches in RI
NOTES: informal testing began in the late 60's

CONTACT
David Burnett
RIDOH
Office of Food Protection
3 Capitol Hill
Providence, RI 02908
Phone: (401) 222-2749
Fax: (401) 222-4775
ribeaches@doh.state.ri.us

INSTITUTION: RIDOH
PROGRAM: Drinking Water Monitoring

PURPOSE: To assess quality of drinking water for protection of human health
SYSTEM: Water
INTERVAL: dependent of requirements from EPA
DATES: early 80's to present
DATA : Digital Database
ACCESS: available upon request
PARAMETERS MEASURED: as required by Safe Drinking Water Act - SOCs, VOCs, radionuclides, inorganics, microbes
LOCATION: all drinking water supplies, variety of finished and raw water
NOTES: Larger drinking water systems conduct own monitoring. They send result to DOH only for EPA required parameters. DOH monitors small systems for EPA required parameters and other constituents.

CONTACT
Clay Commons
RIDOH
Room 209 Drinking Water
3 Capitol Hill
Providence, RI 02908
Phone: (401) 222-6867
Fax: (401) 222-6953
safewater@doh.state.ri.us

INSTITUTION: Salt Ponds Coalition
PROGRAM: Salt Pond Watchers
PURPOSE: Develop a data base of surface water quality in the seven coastal lagoons in the Salt Ponds Watershed.
SYSTEM: Water
INTERVAL: Biweekly for the summer months
DATES: 1985 to present
DATA : Digital Spreadsheet
URL: www.saltpondscoalition.org
QUALITY : Standard methods
ACCESS: Contact Executive Director Vic Dvorak 401-322-1105
PARAMETERS MEASURED: Fecal coliform bacteria (MPN)
LOCATION: Thirty stations on seven southwestern Rhode Island salt ponds.
NOTES: Data is used by state and local agencies to help determine permitted use of the salt ponds by the public.

CONTACT
Ralph Minopoli
Salt Ponds Coalition
P.O. Box 875
Charlestown, RI 02813
Phone: (401) 364-7771
Fax: (401) 322-8384

Saltpondcoalition@hotmail.co

INSTITUTION: Save The Bay
PROGRAM: Bay Watchers
PURPOSE: Assessing the health of salt marshes, evaluating restoration potential, ground-truthing aerial habitat surveys, and monitoring herring runs. Also to conduct surveys of how people are using the urban rivers and waterfront to advocate for better management of urban waters.
SYSTEM: Water, Fauna
INTERVAL: monthly
DATES: 1993 to present
URL: http://www.savebay.org/
QUALITY : Standard methods
ACCESS: Contact Wenley Ferguson
PARAMETERS MEASURED: Dissolved Oxygen (LaMotte kits), water clarity (Secchi disk), and temperature (thermometers), seal counts (observation), horseshoe crab counts (observation)
LOCATION: Seekonk River, Providence River, and Wickford Harbor
NOTES: Bay Watchers are specifically working with troubled waters that may have hypoxic areas. The seal and horse shoe crab counts have been in conjunction with the Narragansett Bay National Estuary Research Reserve program volunteer monitoring efforts.

CONTACT
Wenley Ferguson
Save The Bay
434 Smith Street
Providence, RI 02908
Phone: (401) 273-3540
Fax: (401) 273-7153

INSTITUTION: Save The Bay
PROGRAM: Save The Bay's Monitoring
PURPOSE: Assessing the health of salt marshes, pre/post restoration monitoring, ground-truthing aerial habitat surveys, eel grass restoration monitoring.
SYSTEM: Water
INTERVAL: monthly for WQ, seasonal for fauna
DATES: 1993 to present
DATA : Digital Spreadsheet
URL: http://www.savebay.org/
QUALITY : Standard method
ACCESS: Contact Wenley Ferguson
PARAMETERS MEASURED: Dissolved Oxygen (LaMotte kits), water clarity (Secchi disk), and Temperature (thermometers), seal counts (observation), horseshoe crab spawning counts (observation), eel grass (observation).

LOCATION: Seekonk River, Providence River, and Wickford Harbor for water quality; statewide for Horseshoe crabs; baywide for seals
NOTES: Water quality sites are in potential hypoxic areas. The seal and horseshoe crab counts have been in conjunction with the Narragansett Bay Nat'l Estuary Research Reserve program efforts. Eelgrass monitoring is post restoration.

CONTACT
Wenley Ferguson
Save The Bay
434 Smith Street
Providence, RI 02908
Phone: (401) 273-3540
Fax: (401) 273-7153
wfurguson@savebay.org

INSTITUTION: The Audubon Society of Rhode Island
PROGRAM: RI Audubon Bird a Thon
PURPOSE: To inventory the avian species breeding in, and migrating through RI, to promote conservation of habitat
SYSTEM: Fauna
INTERVAL: varies
PARAMETERS MEASURED: avian species (observation), conditions at refuges (observation)
LOCATION: statewide
NOTES: This entry is incomplete, and may contain errors. It will be updated as direct contact is made with the program coordinator.

CONTACT
Dot Mathurin
Audubon Society of Rhode
12 Sanderstown Rd.
Smithfield, RI 02917
Phone: (401) 949-5454
dmathurin@asri.org

INSTITUTION: The Nature Conservancy - RI Chapter
PROGRAM: Rhode Island Odonata Atlas
PURPOSE: To identify and record the Odonata species found in Rhode Island
SYSTEM: Fauna
INTERVAL: Spring until fall
DATES: 1998 to 2003
DATA : Digital Database
URL: http://nature.org/states/rhodeisland/
QUALITY : Standard methods
ACCESS: Contact Ginger Carpenter
PARAMETERS MEASURED: Odonata species collected
LOCATION: wetland complexes statewide

CONTACT
Ginger Carpenter
The Nature Conservancy -
159 Waterman Street
Providence, RI 02906
Phone: (401) 331-7110
Fax: (401) 273-4902

INSTITUTION: U.S. EPA in partnership with the coastal
PROGRAM: Coastal 2000/EMAP
PURPOSE: To assess the ecological condition of coastal resources using a probability based monitoring design. Conducted in partnership with the 24 coastal states.
SYSTEM: Water, Fauna
INTERVAL: annual- summer index period
DATES: 2000-2003
DATA : Digital Database
URL: www.epa.gov/emap/
QUALITY : EMAP QA/QC protocols
ACCESS: Public Access - World Wide Web
PARAMETERS MEASURED: DO, salinity, temperature, water depth, water clarity (CTD), sediment toxicity, sediment chemistry, TOC, pH, TSS, %slit/clay, light extinction, benthic condition index (infaunal community analysis), fish community composition, fish pathology
LOCATION: Narragansett Bay and coastal waters
NOTES: Coastal 2000 is the coastal assessment component of the Environmental Monitoring and Assessment Program (EMAP). There are approximately 56 sampling stations located in Narragansett Bay and an additional 20 stations along the southern coast.

CONTACT
Jerry Pesch
USEPPA, Atlantic Ecology
27 Tarzwell Drive
Narragansett, RI 02882
Phone: (401) 782-3007
Fax: (401) 782-3030
pesch.gerald@epa.gov

INSTITUTION: URI
PROGRAM: Bird monitoring @ Galilee Bird Sanctuary
PURPOSE: Monitor changes in avian community composition following restoration of a saltmarsh.
SYSTEM: Fauna
INTERVAL: Biweekly all year 1991-1996; point counts 92-99
DATES: 1991-1999

DATA : Digital Spreadsheet
ACCESS: Available
PARAMETERS MEASURED: Species composition, relative abundance, habitat associations, censused with point counts and spot mapping.
LOCATION: Galilee Bird Sanctuary
NOTES: Golet, Eddleman initiated monitoring. Surveys stopped in 99. Data from 91-97 prior to installation of tide gates. Post-restoration data available.

CONTACT
Frank Golet, Peter Paton
Department of Natural Resources
Kingston, RI 02881
Phone: (401) 874-2986
Fax: (401) 874-4561
ppaton@uri.edu

INSTITUTION: URI
PROGRAM: Monitoring pond breeding amphibians in RI
PURPOSE: Monitor species composition and population dynamics of pond-breeding amphibian at a single site; focused on 2 species.
SYSTEM: Fauna
INTERVAL: 70s: Mar-Nov; 90s: daily Mar-May, Aug-Nov
DATES: 1970-1978, 1990-2000
DATA : Analog Data Sheet
ACCESS: Available
PARAMETERS MEASURED: Age/Sex ratios, species composition, morphological characteristics; drift fence arrays w/ pitfall traps
LOCATION: Alton Jones Campus
NOTES: Shoop (URI) and Doty (R Williams U.) ran drift fence array at 1 pond during 1970s and 1990s. Capture data not fully entered. Paton seeking funding to continue array. 2nd longest running monitoring site of this type in N. America.

CONTACT
Dr. Peter Paton
Department of Natural Resources, URI
Kingston, RI 02881
Phone: (401) 874-2986
Fax: (401) 874-4561
ppaton@uri.edu

INSTITUTION: URI and RI Audubon Society
PROGRAM: Kingston Wildlife Research Station
PURPOSE: Monitor fall migration of migratory birds
SYSTEM: Fauna
INTERVAL: Once every fall (7 Aug - 1 Nov)
DATES: 1958-1994; 1998-present
DATA : Digital Spreadsheet
ACCESS: Available
PARAMETERS MEASURED: Age/Sex ratios, species composition, morphological characteristics, 4-10 mist nets annually
LOCATION: Kingston Wildlife Research Station near junction of Rt 138 and Rt 108
NOTES: Banding program first run by Doug Kraus from 1958 to 1994. Passed on research/monitoring program to P. Paton. Kraus originally used 4 mist nets. Paton expanded program to 10 mist nets annually. Capture data still expressed as birds/100 net hours.

CONTACT
Dr. Peter Paton
Department of Natural Resources
Kingston, RI 02881
Phone: (401) 874-2986
Fax: (401) 874-4561
ppaton@uri.edu

INSTITUTION: URI Cooperative Extension
PROGRAM: University Of Rhode Island Watershed Watch
PURPOSE: To educate the public, promote active citizenship participation, obtain multi-year surface water quality data, and encourage information-based water quality programs.
SYSTEM: Water
INTERVAL: Weekly, biweekly, and monthly in the spring/summer
DATES: 1988 to present
DATA : Digital Spreadsheet
URL: www.edc.uri.edu/uriww
QUALITY : Standard Methods, approved QAPP
ACCESS: Report published biannually
PARAMETERS MEASURED: Water temperature (thermometers), DO (La Motte Kits), pH (benchtop meter), alkalinity (titration, meter), water clarity (Secchi), nitrogen (colorimeteric), phosphorus (colorimeteric), conductivity (meter), chloride (colorimeteric), salinity (La Motte kits), flow/water level (gauges, pygmy flow meter), fecal coliform and E. coli bacteria (direct enumeration,
LOCATION: About 110 sites through Rhode Island
NOTES: This program works with a number of local organizations including the Wood Pawcatuck Watershed Association, the Narrow River Preservation Association., RI Surfrider Foundation, Narragansett Chapter Trout Unlimited, RI Audubon, RI TNC, RI DEM, Salt Ponds Coalition, etc.

CONTACT
Linda Green and Elizabeth
URI Cooperative Extension
University of Rhode Island
105 Coastal Institute Building
Kingston, RI 02881
Phone: (401) 874-2095
Fax: (401) 874-4561
uriww@etal.uri.edu

INSTITUTION: URI Department of Geosciences, RI Sea Grant, RI
PROGRAM: Long-term beach profile monitoring
PURPOSE: Create a record that has the temporal resolution to identify erosional and depositional patterns that occur on monthly, seasonal, and multiyear cycles.
SYSTEM: Land
INTERVAL: Weekly and before and after major storms
DATES: 1977 to present
DATA : Digital Spreadsheet
QUALITY : Extensive: Contact J. Boothroyd
PARAMETERS MEASURED: Bch profiles measured perpendicular to shoreline and show cross-sectional view of beach. Profiles obtained via modified Emery technique.
LOCATION: Charlestown beach CHA-EZ and CHA-05; Andrea Hotel Misquamicut MSQ-AN; Fire District Beach Misquamicut MSQ-FD; S. Kingstown Town Beach SK-TB

CONTACT
Dr. Jon C. Boothroyd
URI Department of Geosciences
314 Woodward Hall
Kingston, RI 02881
Phone: (401) 874-2191
Fax: (401) 874-2190
jon_boothroyd@uri.edu

INSTITUTION: URI Department of Natural Resource Science, RI DEM
PROGRAM: Salt marsh restoration monitoring at Galilee Bird Sanctuary
PURPOSE: Assess the effect of re-establishment of full tidal flow on biotic and abiotic components of the GBS coastal ecosystem and to gauge restoration success.
SYSTEM: Fauna, Flora
INTERVAL: Contact F. Golet for details
DATES: 1992-1997
DATA : Digital Spreadsheet
QUALITY : Pilot studies to insure min nece sample size
PARAMETERS MEASURED: tide levels, groundwater levels, soil-water salinity, emergent and woody vegetation, percentage cover of submerged aquatic vegetation, fish,

saltmarsh snail, breeding songbirds, waterbirds, saltmarsh sharp-tailed sparrow (Contact F. Golet for additional details)
LOCATION: Galilee Bird Sanctuary and Bluff Hill Cove

CONTACT
Dr. Frank Golet
URI Department of Natural Resources
108 Coastal Institute
1 Greenhouse Rd
Kingston, RI 02881
Phone: (401) 874-2916
Fax: (401) 874-4561
fgswamps@uri.edu

INSTITUTION: URI Grad School of Oceanography, NOAA, Narragansett
PROGRAM: Monitoring Network for Narragansett Bay Waters
PURPOSE: Provide water quality time series for research and management
SYSTEM: Water
INTERVAL: every 15 minutes.
DATES: 1999present
DATA : Digital Spreadsheet
URL: www.gso.uri.edu/~dkester/nbay/index.htm
QUALITY : periodic sensor calibrations
PARAMETERS MEASURED: oxygen, chlorophyll, temp, pH, salinity, water level
LOCATION: Seekonk River, Pomham Rock Providence River, Bullock Beach lower Providence River, North of Prudence Isle, South of Prudence, GSO Dock

CONTACT
Dr. Dana Kester
URI Grad School
S. Ferry Rd
Kingston, RI 02882
Phone: (401) 874-6527
Fax: (401) 874-6818
dkester@gso.uri.edu

INSTITUTION: URI Grad School of Oceanography
PROGRAM: Benthic Infauna in Narragansett Bay
PURPOSE: Observe long-term changes in the depositional benthic community of Narragansett Bay
SYSTEM: Fauna
INTERVAL: every June
DATES: 1999-present
DATA : Digital Spreadsheet
QUALITY : See MERL Manual

PARAMETERS MEASURED: 15 cores collected, 0-2 cm and 2-10 cm horizons on 300 micron and 500 micron mesh; nematodes measured on 0-2 cm horizon w/ 38 micron mesh; see MERL manual
LOCATION: MERL Station 1 north of Jamestown
NOTES: Program to be continued for indefinite future with state support.

CONTACT
Dr. Candace Oviatt
URI Grad School
South Ferry Rd
Narragansett, RI 02882
Phone: (401) 874-6132
coviatt@gso.uri.edu

INSTITUTION: URI Grad School of Oceanography
PROGRAM: Quonochontaug Pond Fellowship/Salt Pond Research Fellowship
PURPOSE: Conduct baseline and monitoring studies of pollution in Ninigret, Quonochontaug, and Winnapaug Ponds
SYSTEM: Water
INTERVAL: Shellfish annually; Sediments every 5 to 10 yrs if possible
DATES: 1999-2003 definitely
DATA : Digital Spreadsheet
URL: http://espo.gso.uri.edu/~kford/sp
QUALITY : Duplicates, spikes, blanks, low RPDs
ACCESS: Available on Web
PARAMETERS MEASURED: Annually: Shellfish tissue loads of metals (GFAA); organics (GC-MS); Cr, Zn, Cu, Pb, As, Ag, Cd, PCBs, PAHs, OCPs. Sediments measured periodically (grain size/TOC)
LOCATION: Quonochontaug mainly; expand to Winnapaug/Ninigret if funding available
NOTES: Sediment cores are being examined for changes associated w/ major storm events

CONTACT
Kathryn Ford
Grad School
S Ferry Rd
Narragansett, RI 02882
Phone: (401) 874-6182
Fax: (401) 874-6811
khford@gso.uri.edu

INSTITUTION: URI Grad School of Oceanography
PROGRAM: Quonochontaug Pond Fellowship/Salt Pond Research Fellowship
PURPOSE: Conduct baseline and monitoring studies of circulation in Ninigret, Quonochontaug, and Winnapaug Ponds
SYSTEM: Water
INTERVAL: Twice per year; more often if dredging occurs

DATES: 1999-2003 definitely
DATA : Digital Spreadsheet
URL: http://espo.gso.uri.edu/~kford/sp
ACCESS: Available on Web
PARAMETERS MEASURED: Salinity changes; possibly bathymetric surveys
LOCATION: Quonochontaug mainly; expand to Winnapaug/Ninigret if funding available
NOTES: Sediment cores are being examined for changes associated w/ major storm events

CONTACT
Kathryn Ford
Grad School
S Ferry Rd
Narragansett, RI 02882
Phone: (401) 874-6182
Fax: (401) 874-6811
khford@gso.uri.edu

INSTITUTION: URI Grad School of Oceanography
PROGRAM: Quonochontaug Pond Fllwshp/Salt Pond Rsch Fllwshp
PURPOSE: Conduct baseline and monitoring studies of habitat in Ninigret, Quonochontaug, and Winnapaug Ponds
SYSTEM: Fauna
INTERVAL: Oxygen in summer. Shellfish every 1-2 years, winter flounder every year
DATES: 1999-2003 definitely
DATA : Digital Spreadsheet
URL: http://espo.gso.uri.edu/~kford/sp
ACCESS: Available on Web
PARAMETERS MEASURED: oxygen; shellfish (quadrats); winter flounder
LOCATION: Quonochontaug mainly; expand to Winnapaug/Ninigret if funding available
NOTES: Sediment cores are being examined for changes associated w/ major storm events

CONTACT
Kathryn Ford
Grad School of
S Ferry Rd
Narragansett, RI 02882
Phone: (401) 874-6182
Fax: (401) 874-6811
khford@gso.uri.edu

INSTITUTION: URI Grad School of Oceanography
PROGRAM: Water Column Nutrients
PURPOSE: Observe long-term changes in chlorophyll, ammonia, nitrite, nitrate, phosphate, and silicate.
SYSTEM: Water
INTERVAL: Weekly

DATES: Fall 1976 to present
DATA : Digital Database
QUALITY : see MERL Manual 3rd edition, 1994
ACCESS: Available
PARAMETERS MEASURED: All methods, precision, accuracy, and quality control summarized in MERL manual, 3rd edition, 1994
LOCATION: GSO dock

CONTACT
Dr. Candace Oviatt
URI Grad School
South Ferry Rd
Narragansett, RI 02882
Phone: (401) 874-6132
coviatt@gso.uri.edu

INSTITUTION: URI-GSO
PROGRAM: Narragansett Bay Phytoplankton
PURPOSE: Weekly monitoring of phytoplankton diversity in Narragansett Bay at 1 station near Fox Island
SYSTEM: Water, Flora
INTERVAL: Weekly
DATES: 1950s; few gaps; continuous
DATA : Digital Spreadsheet
URL: www.gso.uri.edu/phytoplankton
QUALITY : faculty supervision of Graduate Research Assistant
ACCESS: prior to 1999 not yet freely available
PARAMETERS MEASURED: >20 micrometer phytoplankton species; size-fractionated chlorophyll
LOCATION: Coastal Institute, URI-GSO
NOTES: data prior to 1999 partially available in publications by T.J. Smayda and students or P.E. Hargraves and students. Supported by state assistantship to URI/GSO

CONTACT
Dr. Paul E. Hargraves
GSO/URI
South Ferry Rd
Narragansett, RI 02882
Phone: (401) 874-6240
pharg@gso.uri.edu

INSTITUTION: US EPA
PROGRAM: EMAP Estuaries Virginian Province
PURPOSE: Monitor the status and trends of nations ecological resources on a regional basis. Seek associations among selected indicators of stress and indicators of ecological condition. Provide periodical assessments of Nation's ecological resources.

SYSTEM: Water
INTERVAL: Annual- Summer index period
DATES: 1990-1993
DATA : Digital Database
URL: www.epa.gov/emap
QUALITY : EMAP QA/QC Protocols
ACCESS: Public access via www
PARAMETERS MEASURED: Benthic condition, DO, sediment toxicity, sediment contamination, water quality
LOCATION: Narragansett Bay

CONTACT
John Paul
US EPA, AED
27 Tarzwell Drive
Narragansett, RI 02882
Phone: (401) 782-3000
Fax: (401) 782-3030
paul.john@epa.gov

INSTITUTION: US Fish and Wildlife, URI
PROGRAM: Monitoring avian productivity and survivorship
PURPOSE: Monitor species composition and population dynamics of breeding birds
SYSTEM: Fauna
INTERVAL: 7 banding sessions/yr during (June-August)
DATES: 1991-2000
DATA : Digital Spreadsheet
ACCESS: Available
PARAMETERS MEASURED: Age/Sex ratios, species composition, morphological characteristics; used mist
LOCATION: Trustom Pond NWR, Ninigret NWR
NOTES: Eddleman started program. Paton took over. 2000 lst year of data. Probably not to be restarted.

CONTACT
Dr. Peter Paton
Department of Natural Resources
Kingston, RI 02881
Phone: (401) 874-2986
Fax: (401) 874-4561
ppaton@uri.edu

INSTITUTION: USACE, New England District
PROGRAM: DAMOS

PURPOSE: Disposal Area Monitoring System - monitors the environmental condition of open water dredged material disposal sites and adjacent areas from Long Island Sound to Maine.
SYSTEM: Water, Fauna
INTERVAL: site specific
DATES: 1977-on-going
DATA : Analog Report
URL: www.nae.usace.army.mil/environm/damos.html
QUALITY : QA/QC Protocols in place
ACCESS: Reports available from COE, NED
PARAMETERS MEASURED: variables measured are site specific but typically include sediment chemistry, sediment toxicity, benthic community structure and function, and tissue analysis for bioaccumulative chemicals of concern.
LOCATION: Coastal sites from Maine to LI Sound
NOTES: Damos sites are located at Rockland, Portland, and Cape Arundel Maine; Massachusetts Bay, Cape Cod Bay, Buzzards Bay Mass. New London, Central and Western Long Island Sound. A new proposed site is located off the RI coast east of Block Island.

CONTACT
Tom Fredette
U.S. COE, NED
696 Virginia Road
Concord, MA 01742
Phone: (978) 318-8291
thomas.j.fredette@usace.arm

INSTITUTION: USDA/APHIS
PROGRAM: Cooperative Agricultural Pest Survey (CAPS)
PURPOSE: Detect introduced or exotic invasive species-plants, insects, inverts, pathogens, etc.
SYSTEM: Fauna
INTERVAL: Monitoring frequency depends on species of concern
DATES: 1982-on-going
DATA : Digital Spreadsheet
URL: www.ceris.purdue.edu/napis/
QUALITY : no
ACCESS: NAPIS database, public access
PARAMETERS MEASURED: Exotic species identified via trapping and visual surveys
LOCATION: Statewide, County basis
NOTES: This monitoring program is designed to detect invasive, non-indigenous species throughout the state. Sample design is dependant on specific species of concern and is linked to the national PPQ program that determines which surveys should be conducted.

CONTACT
Lisa Tewksbury

URI-Plant Sciences
6 Greenhouse Road
Kingston, RI 02881
Phone: (401) 874-2750
Fax: (401) 874-2494
lisat@uri.edu

INSTITUTION: USGS
PROGRAM: National Water Quality Assessment Program (NAWQA)
PURPOSE: Assess status and trends in quality of Nations ground and surface water resources and understand natural and human factors that affect the quality of these resources.
SYSTEM: Water, Fauna
INTERVAL: periodic
DATES: 1998-2000
DATA : Digital Database
URL: www.water.usgs.gov/nawqa/
QUALITY : QA/QC protocols in place
ACCESS: Public Access- WWW
PARAMETERS MEASURED: Surface Water: bed sediment and fish tissue contaminants (metals, organics) Ground water: nutrients, metals, major ions, pesticides, VOC.
LOCATION: Blackstone River at Manville, Moshassuck at Providence, Woonasquatucket at Centerdale, Big Roundtop Pond. Ground water sites at Scituate, South Kingston
NOTES: No current monitoring activities in RI.

CONTACT
Keith Robinson
USGS
361 Commerce Way
Pembroke, NH 03275
Phone: (603) 226-7809
kwrobins@usgs.gov

INSTITUTION: WHOI Sea Grant
PROGRAM: Intertidal Crabs on Rocky Shores
PURPOSE: To follow temporal trends in abundance (densities) of the Asian shore crab *H. sanguineus* and other crab spp, primarily mud crabs in family *Xanthidae* and green crabs *(C. maenas)*
SYSTEM: Fauna
INTERVAL: Spring (May-June) Fall (Sept-Oct)
DATES: Oct 1998 - fall 2001
DATA : Digital Spreadsheet
QUALITY : No formal techniques; on-site training
PARAMETERS MEASURED: # of crabs/2 m2 quadrat, 3-5 replicate quadrats sample at each sampling interval

LOCATION: Bristol RI by Mt. Hope Bridge
NOTES: Data will be assembled in a final project report to be submitted to WHOI Sea Grant after the funding ends in 2002. Article manuscript will also be prepared.

CONTACT
Nancy J. O'Connor
Department of Biology, U Mass
285 Old Westport Rd
North Dartmouth, MA 02747
Phone: (508) 999-8217
Fax: (508) 999-8196
noconnor@umassd.edu

INSTITUTION: Wood Pawcatuck Watershed Association
PROGRAM: Pawcatuck Watershed Monitoring
PURPOSE: To track water quality changes and educate the public.
SYSTEM: Water
INTERVAL: Weekly, biweekly, and monthly in spring and summer
DATES: Began in 1998, still underway
DATA : Digital Spreadsheet
URL: www.watershed.envstudies@Brown.edu
QUALITY : Standard procedures
ACCESS: Report is published annually
PARAMETERS MEASURED: Dissolved Oxygen (LaMotte Kit), temperature (thermometer), stream flow (pygmy flow meter), nutrients (colorimetric), pH (electrometric), and bacteria (direct enumeration mTEC).
LOCATION: 3 sites Meadow Brook, 5 sites Beaver River, 3 sites Green Falls River, 5 sites Queen
NOTES: The Wood Pawcatuck Watershed Association has also been monitoring the lakes and streams in the Wood Pawcatuck Watershed since 1988 as part of the URI Watershed Watch program (uriww@etal.uri.edu).

CONTACT
Denise Burgess
Wood Pawcatuck Watershed
203B Arcadia Road
Hope Valley, RI 02832
Phone: (401) 539-9017
Fax: (401) 539-7450
WPWA@mindspring.com

Appendix 7a. RI DEM Administrative Framework

This appendix describes Rhode Island's overall wildlife conservation delivery system. The mission of the RI DEM is to preserve environmental quality, maintain the health and safety of the state's residents, and protect the natural systems of Rhode Island (http://www.dem.ri.gov/pubs/index.htm). RI DEM works with many partners to enforce environmental laws, conduct research and develop solutions, and provide assistance (technical and financial) to individuals, businesses and municipalities. The RI DEM administers natural resource conservation through a series of Bureaus and Divisions, each tasked with a separate focus area. The three bureaus are the Bureau of Policy and Administration, the Bureau of Environmental Protection, and the Bureau of Natural Resources.

The Bureau of Policy and Administration contains the Division of Planning and Development, the Division of Strategic Planning and Policy, the Sustainable Watersheds Office, and other divisions (http://www.dem.ri.gov/programs/bpoladm/index.htm). The Division of Planning and Development administers land acquisition programs for the state, awards open space and recreation development grants, plans and supervises capital improvements on state lands, coordinates bikeway and trail development, manages environmental data with a Geographic Information System (GIS), and houses the Natural Heritage Preservation Program (http://www.dem.ri.gov/programs/bpoladm/plandev/index.htm). The Division of Strategic Planning and Policy develops departmental policies and programs in support of sustainable ecosystems and economies, often coordinating with partner organizations and the public to develop appropriate environmental indicators and performance measures (http://www.dem.ri.gov/programs/bpoladm/stratpp/index.htm). The Natural Heritage Preservation Program and the Sustainable Watersheds Office are highlighted in a subsequent section below.

The Bureau of Environmental Protection consists of the Office of Air Resources, Office of Water Resources and Office of Waste Management (http://www.dem.ri.gov/programs/benviron/index.htm). The Office of Air Resources oversees the state's air quality and manages greenhouse gases and other emissions (http://www.dem.ri.gov/programs/benviron/air/index.htm). The Office of Water Resources (OWR) protects the quality of Rhode Island's surface waters, groundwater and freshwater wetlands (http://www.dem.ri.gov/programs/benviron/water/index.htm). The OWR issues discharge permits, monitors the condition of the state's waters and shellfish populations, and manages the Watershed Partnership, a coalition of over 25 partners that coordinates watershed-based protection (http://www.dem.ri.gov/programs/bpoladm/stratpp/partnership/index.htm). The Office of Waste Management oversees hazardous waste management and contamination issues in Rhode Island, including natural resource damage assessments and other investigations (http://www.dem.ri.gov/programs/benviron/waste/index.htm). The Bureau of Environmental Protection also houses the Compliance and Inspection Office, which inspects dams and enforces environmental regulations amongst other duties, and the Technical and Customer Assistance, which provides assistance to the public and partners on pollution prevention and environmental permits.

Finally, the Bureau of Natural Resources contains the Divisions of Agriculture, Coastal Resources, Fish and Wildlife, Forest Environment, and Parks and Recreation (http://www.dem.ri.gov/programs/bnatres/index.htm). The Bureau also has a Law Enforcement division that ensures compliance with the state's conservation laws, educates hunters, administers boating and fishing licenses, and maintains public safety on state lands (http://www.dem.ri.gov/programs/bnatres/enforce/index.htm). The Division of Fish and Wildlife is the lead agency for the development of this CWCS. The Bureau of Natural Resource's programs are essential to implementing the strategy's conservation actions and provide opportunities to continue and expand partner involvement.

Bureau of Natural Resources, Division of Fish and Wildlife Programs

The Division of Fish and Wildlife contains three sections that each focus on different faunal groups – Freshwater Fisheries, Marine Fisheries, and Wildlife Management (http://www.dem.ri.gov/programs/bnatres/fishwild/index.htm). Staff administer the state's hunting programs, setting seasons and associated limits on the harvest of wildlife, commercial and recreational fisheries in the state. The Division operates 24 Wildlife Management Areas that cover over 46,000 acres of terrestrial and aquatic habitats (Fig. 7.1, Appendix 7c). In addition, the Division of Fish and Wildlife owns and maintains more than 200 boat launching ramps and shore fishing areas plus four freshwater fish hatcheries throughout the state.

The RI DEM has created an online, interactive Environmental Resource Map that shows the location and distribution of state-owned areas considered Open Space at http://www.dem.ri.gov/maps/index.htm#GV, almost all of which are administered within the Bureau of Natural Resources. The interactive map also illustrates the distribution of areas delineated as Scenic Areas, Industrial Development Potential, Historic Districts, Enterprise Zones, and rare species habitat.

Freshwater Fisheries Section

The Freshwater Fisheries Section of the Division of Fish and Wildlife is responsible for managing the state's freshwater fisheries through public outreach, a trout-stocking program, and maintaining license and capture regulations for freshwater and anadromous fish in the state's fresh waters (http://www.dem.ri.gov/topics/fwtopics.htm). Staff biologists regularly monitor the freshwater fish populations (e.g., juvenile shad, herring) in numerous streams, rivers, lakes and ponds. Over 85 lakes, ponds, river and stream segments are stocked with trout every year from the state's freshwater fish hatcheries. A trout conservation stamp program generates revenue for the conservation of trout, salmon and charr in the state. Freshwater Fisheries staff collaborate with the USFWS and other fisheries partners to restore anadromous fish runs to Rhode Island rivers and streams.

Marine Fisheries Section

The Marine Fisheries Section of the Division of Fish and Wildlife manages the state's marine resources, including recreational and commercial fisheries

(http://www.dem.ri.gov/topics/mftopics.htm). The program has developed management plans for the Finfish, Shellfish and Crustacean Fisheries (RI DEM 2003j, 2003k, 2003l) and coordinates with the Atlantic States Marine Fisheries Commission (ASMFC), the National Marine Fisheries Service (NMFS) and the New England Fisheries Management Council (NEFMC) on the protection and management of numerous marine species. Marine Fisheries staff monitor marine fish stocks (e.g., Valliere and Murphy 2001; RI DEM 2004k), respond to fish kills and marine mammal strandings, and collaborate with Freshwater Fisheries and others on the restoration of anadromous fish runs. The Section also administers the state's commercial fishing license program and coordinates shellfish closure areas with the Office of Water Resources and the Department of Health.

Wildlife Management Section

The Wildlife Management and Hunter Education Section of the Division of Fish and Wildlife manages the state's wildlife hunting programs, educates hunters on safety issues, monitors harvested species populations, and educates the public on wildlife issues. The Section recently celebrated the 15 year anniversary of the Rhode Island Waterfowl Conservation Stamp Program, which has raised over $1.2 million in support of waterfowl research, restoration and management in the state. Section staff were the lead agency in the compilation of this CWCS and coordinated with partners on its development through direct involvement of stakeholders on the CWCS coordination team, public workshops, written correspondence, and a website (http://www.dem.ri.gov/programs/bnatres/fishwild/swgindex.htm).

Bureau of Natural Resources, Division of Agriculture Programs

The Bureau's Division of Agriculture manages an Animal Health Unit, operates a Mosquito Abatement Coordination Unit, markets and promotes the state's agricultural products, oversees plant nurseries, enforces the proper use of pesticides and runs a Farmland Ecology Unit (http://www.dem.ri.gov/programs/bnatres/agricult/index.htm). The Farmland Ecology Unit is the most relevant Division of Agriculture program to the CWCS, as it works with farmers to protect the state's wetland and groundwater resources. The Division also partners with the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) to implement agricultural preservation, restoration and enhancement programs (see the USDA section below, Table 7.3). The state has acquired the development rights to almost 4,000 acres of farmland through the Agricultural Land Preservation Program (RI DEM 2003n).

Bureau of Natural Resources, Division of Coastal Resources Programs

The Division of Coastal Resources oversees the operation of Rhode Island's port at Galilee, several State Piers and waterfront property in Providence; altogether the Division manages 33 piers and docking facilities in the state (http://www.dem.ri.gov/programs/bnatres/coastal/index.htm). The Rhode Island Pilotage Commission, which licenses marine pilots in state waters, receives staff support from the

Division of Coastal Resources. Regulatory oversight of the state's coastal resources is conducted by the Coastal Resources Management Council (CRMC), a separate agency that is discussed in a subsequent section.

Bureau of Natural Resources, Division of Forest Environment Programs

The Division of Forest Environment is responsible for managing the state's forest resources, including more than 40,000 acres of state-owned forest areas (Appendix 7c). The Division maintains a statewide forest fire protection plan, provides assistance to rural volunteer fire departments, and conducts forest fire protection activities on state lands (http://www.dem.ri.gov/programs/bnatres/forest/index.htm). The Rhode Island Forest Asset Management Plan was prepared by the Division of Forest Environment to comprehensively manage the state's forestry assets (RI DEM 2001a). The Forest Environment Program also develops forest and wildlife management plans for private landowners seeking to protect fish and wildlife resources and forest habitats on their properties. The program also assists federal agencies in landowner assistance programs related to forest habitats and in monitoring the status of forestland in Rhode Island. Through the federal Forest Legacy Program, the Division partners with the U.S. Forest Service to acquire land or forestry interests (e.g., easements) for preservation, preventing forest fragmentation and conversion to non-forest uses (http://www.dem.ri.gov/programs/bnatres/forest/flpinfo.htm). The Forest Legacy Program provides an opportunity to address the threats of forest fragmentation and urbanization/suburbanization in Rhode Island as a potential funding source for implementing CWCS conservation actions in forest habitats.

Bureau of Natural Resources, Division of Parks and Recreation Programs

The Division of Parks and Recreation manages approximately 15,000 acres of state parks, beaches, trails and bike paths throughout the state (RI DEM 2003n). Park and Recreation's managed lands protect important natural resources in the state while allowing for the public's recreational use and enjoyment of those resources (http://www.riparks.com/). The Rhode Island Parks and Beach System Study and Asset Management Plan outlines the multi-purpose management of these lands (RI DEM 2001b). Expanded coordination between the Division of Fish and Wildlife and the Division of Parks and Recreation will allow for implementation of a variety of CWCS conservation actions through enhanced management of state lands for GCN species and key habitats.

Other RI DEM Programs

Several other conservation programs are within the RI Department of Environmental Management and provide opportunities for enhanced coordination at the state level to implement the CWCS. The Rhode Island Natural Heritage Program, the Sustainable Watersheds Office, and the Narragansett Bay Estuary Program in particular are existing partners with the Division of Fish and Wildlife in conserving the state's fish and wildlife resources and their habitats.

Rhode Island Natural Heritage Program

The Rhode Island Natural Heritage Program is housed in the Division of Planning and Development within the RI DEM (www.dem.ri.gov/programs/bpoladm/plandev/heritage/index.htm). Established in 1978 as a collaboration between RI DEM and The Nature Conservancy (TNC), the Natural Heritage Program maintains an inventory of the state's rare plants and animals. The Program also manages documentation of the state's rarest and most vulnerable natural features, management and stewardship needs, and threats to critical areas for fish and wildlife resources. Staff biologists conduct annual monitoring of these resources and are working with the Rhode Island Wild Plant Society, Rhode Island Natural History Survey, and the New England Plant Conservation Program to develop a longterm database of the state's biological resources. Through the Association of Biodiversity Information, the Rhode Island Natural Heritage Program coordinates with other state natural heritage programs on regional and national issues and trends. The Natural Heritage Program manages the state's threatened and endangered species, assessing proposed development projects for potential impacts to these protected species and their habitats. Development of the CWCS was closely coordinated with the Rhode Island Natural Heritage Program, whose resource databases were crucial to assessing the abundance and condition of GCN species and key habitats.

Sustainable Watersheds Office

The Sustainable Watersheds Office, housed under Bureau of Policy and Administration in the RI DEM, assists in the preparation and implementation of Watershed Action Plans, supports the Governor's Growth Planning Council and local communities on sustainable development that is economically and environmentally sound, and provides several natural resource and recreational programs to municipalities and organizations (http://www.dem.ri.gov/programs/bpoladm/suswshed/index.htm). The Sustainable Watersheds Office undertakes habitat restoration projects, collaborating with partners to restore riparian buffers, eliminate invasive species, reduce impervious surfaces, and enhance environmental stewardship with businesses and local organizations. Working with the Rural Lands Coalition, U.S. Forest Service (USFS), and nine municipalities, the Office developed the South County Greenspace Protection Strategy to identify natural, cultural and recreational resources that are local priorities for protection (RI DEM 2003b); the Strategy formulated many conservation actions and has been incorporated into this CWCS where appropriate (http://www.dem.ri.gov/programs/bpoladm/suswshed/scgreen.htm). The Woonasquatucket River Riparian Buffer Project is a collaboration between the Sustainable Watersheds Office, the USFS and the Woonasquatucket River Watershed Council to restore the riparian buffer along the Woonasquatucket River (http://www.dem.ri.gov/programs/bpoladm/suswshed/RBDP.htm), providing an opportunity for implementing CWCS conservation actions in key habitats in this river corridor.

Narragansett Bay Estuary Program

The Narragansett Bay Estuary Program (NBEP), another component of the RI DEM, coordinates with the Coastal Resources Management Council (CRMC), non-profit organizations, and municipalities to identify coastal wetland restoration opportunities, prioritize those wetlands for restoration, and obtain funding to implement restoration (http://www.nbep.org/). The mission of the NBEP is to preserve and protect Narragansett Bay by using partnerships to enhance water quality, conserve and restore the watershed's natural resources, and promote community involvement in both. The Program was established in 1985 by the federal government as one of four pilot projects to improve management of the nations' estuaries and bays; the program's success has led to the expansion of the federal program throughout the country. The NBEP collaborates with other agencies and states to implement the Narragansett Bay Comprehensive Conservation and Management Plan. The program has worked with partners to map and identify critical coastal resource areas, reduce the impacts of hazardous waste and non-point source pollution in the watershed, minimize nutrient pollution to the bay's waters, survey shellfish and dissolved oxygen in the bay, and establish a monitoring network throughout the bay. NBEP partners include the NASA, EPA, NRCS, USFWS, U.S. Army Corps of Engineers, Save the Bay, Brown University, the University of Rhode Island, Roger Williams University, the state of Massachusetts and numerous municipalities. Conservation actions for GCN species and key habitats within the Narragansett Bay watershed may be implemented through the NBEP and its existing partnerships.

Appendix 7b. CWCS Process Development Plan and Schedule

This appendix depicts the CWCS process and the project flow chart of major steps identified in the process. It lays out the tasks and stages of Rhode Island's CWCS process and lists the timeframe for completion and the key parties leading and/or involved with each stage. Timeframes are presented in quarterly intervals of the calendar year and represent actual completion times in the development process as well as anticipated completion targets for the implementation and revision processes.

RI DEM DFW took the lead in spearheading and coordinating the overall SWG CWCS. A consultant, Terwilliger Consulting Inc., assisted RI DEM DFW staff in the development of the process and product. The overall approach was to be as inclusive and comprehensive as possible. This SWG CWCS was viewed as a long overdue opportunity to inventory, poll, and coordinate with the wide array of existing public and private conservation programs and to further provide a common goal and direction for not only RI DEM DFW efforts, but for other public and private conservation efforts in Rhode Island.

The **goal** of this effort was to chart a course for comprehensive wildlife conservation in Rhode Island for the next decade. Notable objectives were to:

- Complete and approve the CWCS by October 1, 2005, so implementation could begin;
- Develop a broader, more comprehensive and effective conservation strategy for wildlife species and habitats in Rhode Island using the SWG CWCS process;
- Develop broader and more effective public/stakeholder support and collaboration for wildlife conservation in Rhode Island;
- Provide for a coordinated, effective wildlife conservation delivery system in the state by charting a scientifically sound strategy supported by the conservation community and beyond; and
- To see implementation and integration of this plan by RI DEM and the conservation community at large.

CWCS Planning Process

The following table summarizes the planning process utilized throughout the development of Rhode Island's CWCS and outlines the anticipated review and revision schedule for the next revision in 10 years.

TIMELINE	**2004**				**2005**			**2006**
TASKS	**1st Qtr**	**2nd Qtr**	**3rd Qtr**	**4th Qtr**	**1st Qtr**	**2nd Qtr**	**3rd Qtr**	**2006 thru 2015**
Planning - development/ research	X							X
Project planning and scoping	X							X

Planning Meetings- organization Tech team (TT) Planning Committee (PC)	X							X
Develop communication/outreach materials and plan	X							X
Research and inventory programs, plans, data, maps	X	X	X					X
Contact/communication staff, stakeholders, public	X	X	X	X	X	X	X	X
Plan Development (8 key elements)								X
ID species / habitats of Greatest Conservation Need								annual
Research and Compile data GCN list- TCI provide IAFWA, other lists, guidance, Tech team draft list, send to staff for review- " draft habitat/ecoregion spp association assign habitat associations, refine sp GCN list- , Staff Refine stakeholder workshop	X	X	X					"
Engage DEM staff, other public agencies and stakeholders, experts, workshops/meetings		X	X	X	X	X	X	"
Review and refine lists (DFW and Teams)		X	X	X	X			"
Engage broader public		X	X	X	X			"
ID Conservation Actions								annual
Research and Compile existing data	X	X	X					"
Engage agency staff and stakeholders- workshops, meetings		begin	X	X	X	X	X	"
Review and refine lists		begin	X	X	X			"
Engage broader public		begin	X	X	X	X	X	"
Develop monitoring strategy		X	X	X				annual
Develop maps and materials				X				annual
Write Plan								2013
Outline and Format		X	X					2013
Draft Plan Draft revision Review and revise sections every 2-5 years				X	X	X		2014
Final Plan submitted								2015
Implementation, review, revision							X	Annual

Appendix 7c. State-owned Lands in Rhode Island

This appendix itemizes the existing significant state-owned lands that contribute to the protection of fish and wildlife and their habitats in Rhode Island. The names and sizes of each tract are provided, along with the watershed in which the tract is located and the lead management agency. This list does not include state-administered easements for agricultural development rights, recreation, forestry or conservation, nor the over 65 fishing and boating access sites that total over 4,300 additional acres. Acreage totals were calculated from the RIGIS coverage "RI DEM Open Space Lands" as well as from Butler and Wharton (2002), RI DEM (2001a), RI DEM (2001b), RI DEM (2003z), and URI (2004b). The list may not include numerous small parcels of land distributed throughout the state.

Name	Size (ac)	Watershed	Management
Arcadia Management Area	14,147	Pawcatuck	RI DEM, Forest Environment
Beavertail State Park	170	Narragansett Bay	RI DEM, Parks and Recreation
Big River Management Area	8,319	Pawtuxet	RI DEM, Forest Environment
Black Farm Management Area	245	Pawcatuck	RI DEM, Fish and Wildlife
Black Hut Management Area	1,548	Blackstone	RI DEM, Fish and Wildlife
Blackstone River Bikeway State Park (under development)	17.1 mi x 12 ft wide (~25 ac)	Blackstone	RI DEM and RI DOT
Block Island	140†	Southwest Coastal Waters	RI DEM, Parks and Recreation
Brenton Point State Park	80†	Narragansett Bay	RI DEM, Parks and Recreation
Buck Hill Management Area	2,049	Blackstone	RI DEM, Fish and Wildlife
Burlingame Management Area	1,390	Pawcatuck	RI DEM, Fish and Wildlife
Burlingame State Park and Forest	3,100	Pawcatuck	RI DEM, Parks and Recreation
Carolina Management Area	2,359	Pawcatuck	RI DEM, Fish and Wildlife
Charlestown Breachway and Campground	62	Southwest Coastal Waters	RI DEM, Parks and Recreation
Cocumcussoc Management Area	392†	Narragansett Bay	RI DEM, Fish and Wildlife
Colt State Park	464	Narragansett Bay	RI DEM, Parks and Recreation
Dean Parkway	13†	Pawtuxet	RI DEM, Parks and

			Recreation
Diamond Hill State Park	271†	Blackstone	RI DEM, Parks and Recreation
Durfee Hill Management Area	1,258	Five Mile (Quinebaug)	RI DEM, Fish and Wildlife
Dutch Island Management Area	94	Narragansett Bay	RI DEM, Fish and Wildlife
East Bay Bike Path State Park	14.5 mi x 10 ft wide (~18 ac)	Narragansett Bay	RI DEM and RI DOT
East Beach	174	Southwest Coastal Waters	RI DEM, Parks and Recreation
East Matunuck State Beach	149	Southwest Coastal Waters	RI DEM, Parks and Recreation
Eight Rod Farm Management Area	419†	Narragansett Bay	RI DEM, Fish and Wildlife
Fishermen's Memorial State Park	91	Southwest Coastal Waters	RI DEM, Parks and Recreation
Fort Adams State Park	105	Narragansett Bay	RI DEM, Parks and Recreation
Fort Wetherill State Park	61	Narragansett Bay	RI DEM, Parks and Recreation
Galilee Bird Sanctuary	197†	Southwest Coastal Waters	RI DEM, Fish and Wildlife
George Washington Management Area	3,489	Five Mile (Quinebaug)	RI DEM, Forest Environment
George Washington Picnic Grove	110†	Woonasquatucket	RI DEM, Parks and Recreation
Goddard Memorial State Park	489	Narragansett Bay	RI DEM, Parks and Recreation
Governor Island	46†	Southwest Coastal Waters	RI DEM, Parks and Recreation
Great Swamp Area Management Area	3,350	Pawcatuck	RI DEM, Fish and Wildlife
Haines Memorial State Park	101	Narragansett Bay	RI DEM, Parks and Recreation
High Rocks Gorge	68†	Blackstone	RI DEM, Parks and Recreation
Hodgkiss Farm	90†	Narragansett Bay	RI DEM, Forest Environment
Hope Island	75†	Narragansett Bay	RI DEM, Fish and Wildlife
Hundred Acre Cove	58†	Narragansett Bay	RI DEM, Fish and Wildlife
John H. Chafee Nature Preserve	236†	Narragansett Bay	RI DEM, Parks and Recreation

John L. Curran Management Area	300†	Pawtuxet	RI DEM, Fish and Wildlife
Killingly Management Area	396	Five Mile (Quinebaug)	RI DEM, Fish and Wildlife
Lincoln Woods State Park	627	Blackstone	RI DEM, Parks and Recreation
Lonsdale Drive-In	38†	Blackstone	RI DEM, Fish and Wildlife
Meshanticut Park	31†	Pawtuxet	RI DEM, Parks and Recreation
Misquamicut State Beach	152	Southwest Coastal Waters	RI DEM, Parks and Recreation
Narragansett Parkway	4†	Narragansett Bay	RI DEM, Parks and Recreation
Newton Swamp Management Area	111	Pawcatuck	RI DEM, Fish and Wildlife
Nicholas Farm Management Area	1,549	Moosup (Quinebaug)	RI DEM, Fish and Wildlife
Ninigret Conservation Area	160†	Southwest Coastal Waters	RI DEM, Parks and Recreation
Patience Island Management Area	213	Narragansett Bay	RI DEM, Fish and Wildlife
Ponagansett River Corridor (Sawmill Pond)	131†	Pawtuxet	RI DEM, Parks and Recreation
Prudence Island North Management Area	980	Narragansett Bay	RI DEM, Fish and Wildlife
Prudence Island South Management Area	831	Narragansett Bay	RI DEM, Fish and Wildlife
Queens Forth Historic Site	58†	Pawcatuck and Narragansett Bay	RI DEM, Parks and Recreation
Rockville Management Area	1002	Pawcatuck	RI DEM, Fish and Wildlife
Roger W. Wheeler State Beach	27	Southwest Coastal Waters	RI DEM, Parks and Recreation
Round Top Management Area	135†	Blackstone	RI DEM, Fish and Wildlife
Rumstick Point	46†	Narragansett Bay	RI DEM, Parks and Recreation
Salty Brine State Beach	1.33	Southwest Coastal Waters	RI DEM, Parks and Recreation
Sapowet Management Area	192	Narragansett Bay	RI DEM, Fish and Wildlife
Scarborough State Beach Complex	42	Southwest Coastal Waters	RI DEM, Parks and Recreation
Simmons Mill Pond Management Area	400	Rhode Island Sound	RI DEM, Fish and Wildlife

Snake Den State Park	1,000	Pawtuxet	RI DEM, Parks and Recreation
South Shore Management Area	109	Southwest Coastal Waters	RI DEM, Fish and Wildlife
Succotash Marsh Management Area	140†	Southwest Coastal Waters	RI DEM, Fish and Wildlife
Ten Mile River	76†	Ten Mile	RI DEM, Parks and Recreation
Trestle Trail	152†	Pawtuxet	RI DEM, Parks and Recreation
Valley Marshes	154†	Blackstone	RI DEM, Fish and Wildlife
Wickaboxet Management Area	679	Pawcatuck	RI DEM, Forest Environment
Woody Hill Management Area	819	Pawcatuck	RI DEM, Fish and Wildlife
World War II Memorial State Park	14	Blackstone	RI DEM, Parks and Recreation
Total Area	**55,952 +**		

† Acreage calculated from RIGIS data coverage layer for RI DEM Open Space lands.

Appendix 8a. List of Stakeholders

This appendix lists Rhode Island's stakeholders that were contacted in the development of this CWCS and that will continue to be Contacted with updates during its implementation and revision. These stakeholders received either email, mail, phone or meeting requests for information and input on the development and implementation of Rhode Island's CWCS (Elements 7 and 8). They were invited to attend the key workshops held to incorporate their input on GCN species, key habitat, threat and conservation action development. They were also notified of web page updates.

- Allen's Cove Neighborhood Coalition
- American Fisheries Society
- American Heritage Rivers
- Applied Bio-Systems, Inc.
- Aquidneck Land Trust
- Atlantic States-Rural Waters Association
- Audubon Society of Rhode Island
- Barrington Land Conservation Trust
- Blackstone River Valley National Heritage Corridor Commission
- Block Island Bird Banding Station
- Block Island Conservancy
- Block Island Land Trust
- Bonnet Shores Land Trust
- Brown University, Dept. of Ecology and Evolutionary Biology
- Burrillville Land Trust
- Charlestown Land Trust
- Coastal Resources Management Council
- Common Fence Point Improvement Association
- Conanicut Island Land Trust
- Cooperative Ecosystem Studies Unit
- Coventry Land Trust
- Cranston Land Trust
- Cumberland Land Trust
- Defenders of Wildlife
- Department of Biology – Roger Williams University.
- Department of Ecology – URI
- Department of Geology – Brown University
- East Coast Fisheries Foundation
- East Greenwich Land Trust
- East Providence Land Conservation Trust
- East Providence Municipal Land Trust
- Environmental Protection Agency
- Federated Sportsmen Clubs, Inc.
- Federation of Inshore Seafood Harvesters
- Friends of the National Wildlife Refuges of RI

- Glocester Land Trust
- Hebb Waterfowl Wildlife Trust
- Hopkinton Land Trust
- Johnson and Wales University, Dept. of Science
- Johnston Land Trust
- Lincoln Municipal Land Trust
- Little Compton Agricultural Conservation Trust
- Lloyd Center for Environmental Studies
- Metacomet Land Trust
- Mount Hope Neighborhood Land Trust
- Museum of Natural History, Roger Williams Park
- Narragansett Bay National Estuarine Research Reserve
- Narragansett Indian Tribe
- Narragansett Land Conservancy Trust
- Narragansett Pier Sportfishing Association
- Narragansett Saltwater Fishing Club
- Narrow River Land Trust
- Narrow River Preservation Association
- National Health and Environmental Effects Research Laboratory
- National Park Service
- National Wildlife Federation
- Natural Resources Conservation Service
- New England Plant Conservation Program
- Newport County Striper Club
- NIEWPCC
- Norman Bird Sanctuary
- North Kingstown Land Conservancy
- North Smithfield Land Trust
- Ocean State Aquaculture Association
- Ocean State Fisherman's Association
- Pokanoket/Wampanoag Federation
- Rhode Island College, Dept. of Biology
- Rhode Island Forest Conservators Organization
- Rhode Island Indian Council
- Rhode Island Natural History Survey
- RI Association of Wetland Scientists
- RI DEM, Division of Forest Environment
- RI DEM, Division of Planning and Development
- RI DEM, Natural Heritage Program
- RI DEM, Office of Water Resources
- RI DEM, Sustainable Watersheds Office
- RI Department of Administration, Statewide Planning Program
- RI Department of Transportation
- RI Ducks Unlimited
- RI Federated Sportsmen's Clubs
- RI Geological Survey

- RI Lobsterman Association
- RI National Wildlife Refuge Complex
- RI Ornithological Club
- RI Party and Charter Boat Association
- RI Saltwater Anglers Association
- RI Shellfisherman's Association
- RI Water Resources Board
- RI Wild Plant Society
- Richmond Land Trust
- RIGIS
- Roger Williams University
- Roger Williams University, Center for Economic and Environmental Development
- Sakonnet Fisherman's Association
- Saugatucket River Heritage Coalition
- Save The Bay
- Scituate Land Trust
- Seaconnet Sportsmen's Club
- Smithfield Land Trust
- South County Conservancy
- South Kingstown Land Trust
- Southern New England Forest Consortium, Inc.
- The Conservation Agency
- The Nature Conservancy
- The Nature Conservancy, Block Island Program
- The Wildlife Society
- Tiverton Land Trust
- University of Rhode Island, Coastal Institute
- University of Rhode Island, Dept. of Biological Sciences
- University of Rhode Island, Graduate School of Oceanography
- University of Rhode Island, Watershed Watch
- US Army Corps of Engineers
- US Department of Defense
- US Fish and Wildlife Service
- US Forest Service
- US Geological Survey
- West Bay Anglers
- West Bay Land Trust
- West Greenwich Land Trust
- Wood-Pawcatuck Watershed Association

Appendix 8b. Public Input Plan

This appendix summarizes the input plan that was designed for use in Rhode Island's CWCS process to Contact Rhode Island's stakeholders and public (Elements 7 and 8). The input plan identified different tiers of stakeholders and developed appropriate messages, methods, and objectives for each group. The Bleiker Citizen Participation by Objective (CPO) and Systematic Development of Informed Consent (SDIC) techniques and programs were used to develop this plan and they were consulted for follow up during this process in order to develop the most effective methods for outreach to the many "publics" or PAI's (Bleiker and Bleiker 2000, http://www.consentbuilding.com/).

.

RI's CWCS Bleiker CPO/SDIC worksheet results: Contact Method Type of Promotion	**Audiences Targeted**			**Target Dates during development of CWCS and Continuation through implementation of CWCS Repeat for next revision 2015**
	Tier 1 Stakeholders- DEM, Taxa Fed/sate partners Collaborators Goal: Consult and collaborate	**Group 2 Stakeholders- Interested but limited investment Goal: Inform and involve**	**Group 3 General Public Goal- Inform**	
Direct Mail/email Fact sheets/ program material	Email, mail – begun 1/04	Email, mail- begun 1/04		Quarterly (Same as website- see below)
Direct mail/email Brochures/Flyers	Email, mail – begun 4/04 Brochures 1/05	Email, mail- begun 4/04 Brochures 1/05		Initial mailing, then distribute at meetings and presentations throughout 04-05
Website- Updated quarterly Phase 1- Introductory material Phase -2 GCN species/habitat info Phase 3- Conservation Actions, Threats Phase 4- Conservation Actions Draft Phase 5- Draft Plan update, Phase 6- final plan announcement Implementation updates 2-4/ per year through 2015	maps and threats to help ID conservation Actions	X	X	**Jan 04-05** **Intro** materials **April**- Species/Habitats **July-** GCN info and solicit Conservation actions - solicit input July 05 August-September**- draft plan** Jan 06 Approved Plan- 2015

Planning Committee meetings DEM/agency internal memos-Inreach Expert/Taxa consultation/correspondence	X			Meeting- Every month monthly updates monthly emails minimum
Newsletters- put in org newsletters	X	X		Quarterly to every 6 months
Updates- 2006-2015 letters/emails/website	X	X	X	2x per year minimum
Magazine articles- DEM or state conservation orgs	Begun 1-04 X	X	X	Quarterly to every 6 months
Public relations: press releases	Quarterly X	X	X	Quarterly with website updates
Workshops	June 04 GCN- July 05-Consvtn Actions	X	X	2 for Tier 1 possible invite to Tier 2
Exhibit /poster at Meetings	X	X		Every possible state meeting; set up traveling exhibit
DEM staff and partner briefing/report at all meetings possible	Distribute brochures, and updates	Distribute brochures, and updates	Distribute brochures, and updates	All meetings possible Develop schedule and list
Presentations to Tier 2 and 3 groups	X	X	X	As requested

The Citizen Participation by Objective (CPO) worksheet results identified the following specific techniques as the most effective to meet the communication objectives for the SWG CWCS: Open Meetings and Forums; Content-type Advice-Giving Advisory Committees, Existing Clubs, Groups Organizations and their newsletters; Existing School Systems and Institutions, and finally Electronic Bulletin Boards and Websites.

Appendix 8c. Stakeholder/Public Workshop Agendas

This appendix reprints the agendas for the major workshops held during the CWCS development process, each of which solicited input from stakeholders /public/partners at important phases of the strategy's development. The first workshop was held on June 21, 2004, and solicited input on the selection of GCN species and key habitats. The second workshop was held on July 12, 2005, and focused on reviewing the threats and conservation actions identified in the draft strategy. Appendix 8a lists the stakeholders invited to these workshops, which were also announced on the web with information posted to allow participant preparation for these workshops. Additional meetings with key stakeholders were held in October 2004, and took the form of a Mapathon to identify the location of key habitats and conservation areas. Follow up meetings /correspondence with participants provided for input and comments to be incorporated. Notices for and information from these meetings were posted on the web.

Workshop Agenda
Input on Species/Habitats of Greatest Conservation Need
For the
Development of Rhode Island's Comprehensive Wildlife Conservation Strategy (CWCS)

Date: **June 21, 2004, 9a.m.-12 p.m.**
***Location*:** **Corliss Auditorium, URI**

***Purpose*:** To provide information and solicit input on RI's CWCS development and get review and feedback on the draft GCN species list.

9 a.m. Introduction Session

Welcome & Intro to RI's SWG program-DEM Division of Fish & Wildlife

CWCS process and plan- KT

10 a.m. Break- Coffee and refreshments

10:15-11:45 a.m. Breakout Sessions-

Open space format- You are invited to visit each of the Topic Tables at your own pace. The following stations have been set up to solicit specific input and review of:

Birds, Mammals, Herps (reptiles and amphibians), Invertebrates
Freshwater Fish, Marine Life, Habitats, DEM's overall SWG CWCS process

Please visit the topic tables in your field of expertise/interest, but please make an effort to visit all tables, as your input is important to us.

Please review the draft list of Species of Greatest Conservation Need (GCN) drafted by DEM staff with input from various taxa experts and provide specific input to the experts at the each Table.

11:45 a.m. - Wrap up and next steps- KT

We will reconvene as a group and discuss the next steps and wrap up
Thanks for your time and participation! It is greatly appreciated.

RI DEM Mapathon 10/13/04

Identifying Sites/Areas of Greatest Conservation Need for RI's Comprehensive State Wildlife Conservation Strategy
10/13/04, 9:00 AM to 3:00 PM
Coastal Institute Main Campus Rm 117 *Lunch Provided*

Meeting called by: RI DEM, K Terwilliger **Type of meeting:** Mapping Workshop

Attendees: Karen Terwilliger, Pete August, Chris Raithel, Rick Enser, Paul Jordan, Julie Lundgren, Kevin Ruddock, Lisa Gould, Eric Endrulat, Andy Lipsky, Joan Touchette, Tim Lynch, Jason Osenkowski, Alan Libby, Cathy Sparks, Deb Pelton , John O'brien

Purpose of Meeting: To identify and discuss: existing and new GIS data needed to map areas in RI to conserve wildlife species in Greatest Conservation Need (GCN) and their key habitats.

Intro, Purpose- kt

Overview of SWG CWCS-kt

1-ID existing data to be used to create best map now

2- ID data needed to create the best map in future

GIS mapping discussion led by Pete August

Needs- 1 map of composite sites- all habitats for GCN species as layers, etc

Concerns- scale and dimensions, data sensitivity
Product for document will be 8 1/2 x 11.

Discussion/ questions, data/resources

Discussion- partners discuss ongoing projects, relevant programs and data, as well as their potential uses of and needs for these CWCS mapping projects

Wrap up

Workshop Agenda
for
Input on Threats and Conservation Actions
For
Rhode Island's Comprehensive Wildlife Conservation Strategy (CWCS)

Date: **July 12, 2005; 9 a.m.-12: 30 p.m.**
***Location*:** **Weaver Auditorium, URI**

***Purpose*:** To provide an update on RI's CWCS and solicit stakeholder input on the draft list of Conservation actions identified to conserve RI's species of Greatest Conservation Need (GCN) and key habitats for the next decade.

9 a.m. Introductory Session

Welcome and Update on RI DEM's CWCS program – Mike Lapisky

RI CWCS process and progress summary- Q and A
Review of statewide threats and actions – KT
Prioritization of actions

10:00 p.m.- 10:15 Break- Refreshments provided

10:15 -12 p.m. Breakout Session: Topic Tables

Open space format- You are invited to visit each of the Habitat Tables at your own pace. The following stations have been set up to solicit specific input and review of:

1- Forests, 2- Non-forested Terrestrial, 3- Wetlands, 4 – Streams & Rivers, 5 – Estuaries & Oceans, 6- DEM's CWCS process,

Please visit the topic tables in your field of expertise/interest, but please make an effort to visit all tables, as your input is important to us. Please write your top # actions on the sheets provided before you leave each station so that we record your priorities.

12 noon - Wrap up and next steps- KT

Reconvene as a group and discuss the next steps and wrap up

Thanks for your time and participation! It is greatly appreciated.

Information and Education Materials Developed for the CWCS Outreach to Stakeholders and public

To be Inserted in final draft:

- **poster used at meetings**
- **brochure**
- **webpage**