NORTHEAST CONSERVATION SYNTHESIS APPENDICIES

CONTENTS

ES1 – Acronyms 2

1A – RSGCN Methods 5

Key Differences/Advancements: 7

2A – Cross-walk of SWAP Key Habitats with the 24 habitats 9

2B – Cross-walk of DSLland Formations and Ecosystems with the 24 habitats 38

4A – Regional Project Summary Table (Includes RCN, USFWS, CSWG, AND SA) Projects 45

4B – Priority Actions Compiled from the 14 2015 NE SWAPS and prioritized through analysis and final input from NEFWDTC/SWAP COORDINATORS IN 2017 68

ES1 – ACRONYMS

AFS – American Fisheries Society
ACFHP- Atlantic Coast Fish Habitat Partnership
ACJV- Atlantic Coast Joint Venture
AFWA – Association of Fish and Wildlife Agencies
AMJV- Appalachian Mountains Joint Venture
ARS- At-Risk Species
ASMFC- Atlantic States Marine Fisheries Commission
BCR- Bird Conservation Region
BMP – Best Management Practice
CMP – Conservation Measures Partnership
COA- Conservation Opportunity Area
CSWG – Competitive State Wildlife Grant
DNR – Department of Natural Resources
DOD- Department of Defense
DOT- Department of Transportation
DSL- Designing Sustainable Landscapes
EBTJV- Eastern Brook Trout Joint Venture
EPA- Environmental Protection Agency
EPT – Ephemeroptera (Mayflies), Plecoptera (Stoneflies), and Trichoptera (Caddisflies)
ES- Ecological Services
ESA- Endangered Species Act
FHP – Fish Habitat Partnership
GIS – Geographic Information System
ITIS – Integrated Taxonomic Information System
IUCN – International Union for the Conservation of Nature
JV – Joint Venture
LCC – Landscape Conservation Cooperative
LE- Law Enforcement
MAFWA – Midwest Association of Fish and Wildlife Agencies
MLI – Midwest Landscape Initiative
MPA- Marine Protected Areas

NAFO- National Alliance of Forest Owners
NEAFWA – Northeast Association of Fish and Wildlife Agencies
NE CASC – Northeast Climate Adaptation Science Center
NEFWDTC – Northeast Fish and Wildlife Diversity Technical Committee
NEPARC – Northeast Partners for Amphibian and Reptile Conservation
NERR- National Estuarine Research Reserve
NGO- Non-Governmental Organization
NHP- Natural Heritage Program
NLCD – National Land Cover Dataset
NMFS- National Marine Fisheries Service
NOAA – National Oceanographic and Atmospheric Administration
NRCS- Natural Resource Conservation Service
NWF – National Wildlife Federation
NWI – National Wetlands Inventory
PAD US- Protected Areas Database- U.S.
PARC- Partners in Amphibian and Reptile Conservation
PIF – Partners in Flight
RAWA – Restoring America's Wildlife Act
RCP- Regional Conservation Partnerships
RCN – Regional Conservation Needs
RISCC- Regional Invasive Species and Climate Change
RR – Regional Responsibility
RSGCN – Regional Species of Greatest Conservation Need
SA- Science Applications
SCORP- State Comprehensive Outdoor Recreation Plan
SDM- Structured Decision Making
SEAFWA – Southeast Association of Fish and Wildlife Agencies
SECAS – Southeast Conservation Adaptation Strategy
SFAP- State Forest Action Plan
SGCN – Species of Greatest Conservation Need
SSA- Species Status Assessment
SWAP – State Wildlife Action Plan
SWG- State Wildlife Grant

TCI – Terwilliger Consulting, Inc.
TNC – The Nature Conservancy
TWG- Tribal Wildlife Grant
TWS- The Wildlife Society
USFS- U.S. Forest Service
USFWS – U.S. Fish and Wildlife Service
USGS – U.S. Geological Survey
WDC or Committee – Wildlife Diversity Committee
WDPM – Wildlife Diversity Program Managers
WMA- Wildlife Management Area
WMI- Wildlife Management Institute
WNS – White-nose Syndrome

1A RSGCN METHODS

Northeast RSGCN Method Advancement Summary for the 2022 List Update

One of the first tasks needed to update the RSGCN list is the evaluation and updating of the method. This revision, we benefit from both the Southeast (2019) and Midwest (2022) applications of the original Northeast process. Each application resulted in advancements in thinking and data processing efficiencies that are now available to the Northeast for this current list update process.
TCI met with the Invertebrate Overview Team and the RSGCN Method Team to get their input and guidance. These teams consisted of NEFWDTC and SWAP coordinators who worked on previous RSGCN list updates as well as several new state representatives. Progress was reported to the NEFWDTC monthly. A survey was sent to all states for input into improving the method. After several meetings and versions over a six-month period, the following process guidance and summary was developed.

RSGCN Purposes:
Maintain a non-regulatory list of RSGCN to provide focus, resources, and collaboration to conserve these species of mutual conservation concern (and their habitats) for current and future generations in the northeast.

Recognize *regional stewardship responsibility*. Implement proactive measures to prevent further declines of common species with conservation concerns.

Prioritize imperiled *species*. Spotlight species with population declines or emerging issues for collective conservation action.

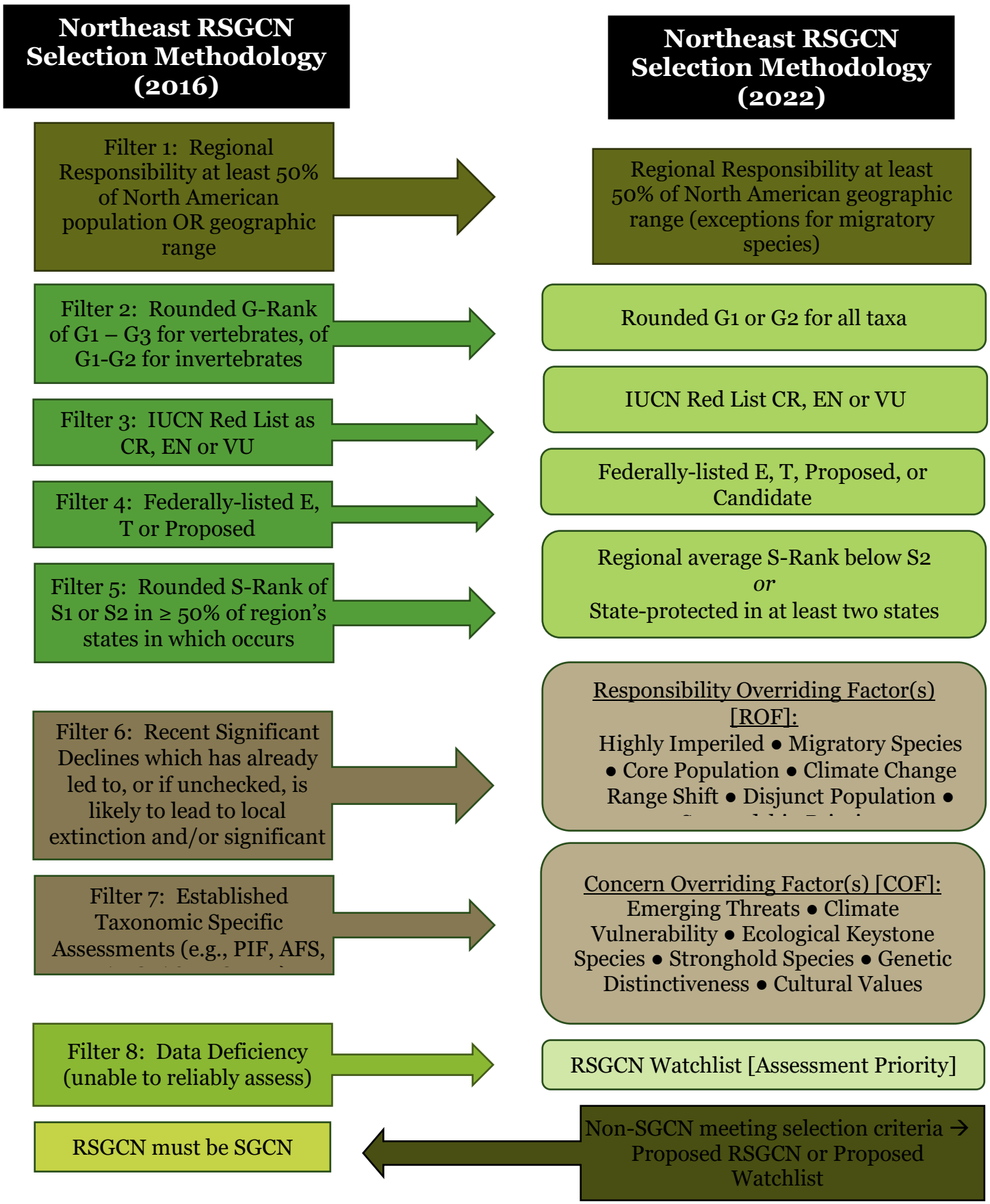
Fill *data gaps*. Enhance knowledge of a species range-wide distribution, imperilment status, threats, and needed actions.

RSGCN Goal: *Secure and restore Regional Species of Greatest Conservation Need (and their habitats) across the region's lands and waters through strategic, collaborative action.*

RSGCN Objective: *NEAFWA's NEFWDTC will update the Regional Species of Greatest Conservation Need list every 5 years using the following criteria:*
Regional stewardship responsibility (proportion of the species range that occurs in the NE region)

Conservation concern status (imperilment)

The diagram below depicts the RSGCN selection criteria, filters, and process that will be used in the 2022 update. Differences and advancements are listed that compare the original Northeast and new proposed methods.


Northeast RSGCN Selection Methodology (2016)
Northeast RSGCN Selection Methodology (2022)
Filter 1: Regional Responsibility at least 50% of North American population OR geographic range
Regional Responsibility at least 50% of North American geographic range (exceptions for migratory species)
Filter 2: Rounded G-Rank of G1 – G3 for vertebrates, of G1-G2 for invertebrates
Rounded G1 or G2 for all taxa
Filter 3: IUCN Red List as CR, EN or VU
IUCN Red List CR, EN or VU
Filter 4: Federally-listed E, T or Proposed
Federally-listed E, T, Proposed, or Candidate
Filter 5: Rounded S-Rank of S1 or S2 in ≥ 50% of region's states in which occurs
Regional average S-Rank below S2
or
State-protected in at least two states
Filter 6: Recent Significant Declines which has already led to, or if unchecked, is likely to lead to local extinction and/or significant
Responsibility Overriding Factor(s) [ROF]:
Highly Imperiled ● Migratory Species ● Core Population ● Climate Change Range Shift ● Disjunct Population ●
Filter 7: Established Taxonomic Specific Assessments (e.g., PIF, AFS,
Concern Overriding Factor(s) [COF]:
Emerging Threats ● Climate Vulnerability ● Ecological Keystone Species ● Stronghold Species ● Genetic Distinctiveness ● Cultural Values
Filter 8: Data Deficiency (unable to reliably assess)
RSGCN Watchlist [Assessment Priority]
RSGCN must be SGCN
Non-SGCN meeting selection criteria → Proposed RSGCN or Proposed Watchlist

KEY DIFFERENCES/ADVANCEMENTS:

The pre-screening process begins with *all* species that occur in the Northeast, not just SGCN.

The Regional Responsibility calculation no longer considers population density or distribution but is limited to the geographic range in North America. Population density and distribution characteristics are taken into consideration in the **ROF (Core Population, Disjunct Population)** and **COF (Stronghold Species, Genetic Distinctiveness)**.

Vertebrate and invertebrate taxa are screened with the same selection criteria. Previously, qualifying rounded G-Ranks for vertebrate taxa were G1 – G3 while invertebrate taxa were G1 - G2. All taxa are now screened for G1 and G2 as a filter. Species with lower G-Ranks may still be identified as RSGCN if they meet other selection criteria (i.e., average S-Rank in the region, IUCN Red List category, Federal listing status).

The Federal listing status criteria has expanded to include Candidate species as well as Endangered, Threatened, or Proposed. Species that do not meet these criteria (i.e., At-Risk, Under Review) may still be identified as RSGCN if they meet other selection criteria (i.e., rounded G-Rank, average S-Rank in the region, IUCN Red List category). Taxa teams often consider all Federal listing status categories when determining RSGCN recommendations and RSGCN Concern Levels.

The S-Rank filter has been adjusted to be a regional average of all the states with an S-Rank for that species. A regional average S-Rank of less than S2 remains the primary filter.

A new secondary filter of State Protected Status is now included for species prescreened as Possible RSGCN. This filter includes state endangered or threatened in individual states. Special concern as well as protected statuses unique to individual states, including non-regulatory designations by various state agencies, are not included in this filter.

Filter 6 that previously considered recent significant declines that is or could lead to local extinction(s) or range contraction(s) are now formalized in the **ROF (Highly Imperiled, Core Population, Climate Change Range Shift, Disjunct Population)** and **COF (Emerging Threats, Climate Vulnerability, Stronghold Species, Genetic Distinctiveness)**. ROF and COF can be identified by the taxa teams to document the reasons for identifying a species as RSGCN when it does otherwise meet either the Regional Responsibility or Concern Selection Criteria.

Filter 7 that considered established taxonomic-specific assessments has now been formalized in the **ROF (all)** and **COF (all)**. Taxa teams also consider these assessments, conservation plans, and focal species designated by other organizations or initiatives when identifying RSGCN Concern Levels.

Species that are not currently identified as SGCN by at least one state in the region may now be considered as **Proposed RSGCN** or **Proposed Watchlist** species. Some species were previously identified as SGCN but taxonomic revisions now technically

make them Non-SGCN until a state updates or revises their list of SGCN or SWAP. Other species are those with new information or emerging threats that are likely to be recommended as SGCN in the next round of SWAP updates. Proposed RSGCN and Proposed Watchlist species meet the selection criteria for RSGCN or Watchlist species with the exception that they are not currently SGCN. States may reference these Proposed RSGCN and Proposed Watchlist species as potential SGCN when updating their SWAPs.

A RSGCN **Watchlist** has been added for species that are of concern to the taxa teams but for which:

The species are data deficient or are showing varying trends in different parts of the region, prioritizing them for additional survey or research efforts = **Watchlist [Assessment Priority]**

The species is interdependent with a RSGCN but does not qualify as RSGCN on its own = **Watchlist [Interdependent Species]**

The region has low regional responsibility but high concern = **Watchlist [Deferral to adjacent region]**

Taxa teams remain the definitive authority on reviewing, confirming or revising prescreened RSGCN recommendations, identifying Overriding Factor(s), determining RSGCN Concern Levels, and recommending species for the Watchlist.

2A CROSS-WALK OF SWAP KEY HABITATS WITH THE 24 HABITATS

The key habitats for SGCN identified in the 2015 Northeast SWAPS associated with each of the regional habitats for the 2023 updated list of RSGCN and Watchlist species in the NEAFWA region.

Table 2A.1 Forest and Woodland Key Habitats identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Boreal Upland Forest: Acadian Low Elevation Spruce-Fir-Hardwood Forest; Acadian Sub-boreal Spruce Flat; Acadian-Appalachian Montane Spruce-Fir-Hardwood Forest; Boreal Jack Pine-Black Spruce Forest Central Oak-Pine: Central Appalachian Dry Oak-Pine Forest; Central Appalachian Pine-Oak Rocky Woodland; North Atlantic Coastal Plain Hardwood Forest; North Atlantic Coastal Plain Maritime Forest Exotic Upland Forest Northern Hardwood & Conifer: Appalachian (Hemlock)-Northern Hardwood Forest; Laurentian-Acadian Northern Hardwoods Forest; Laurentian-Acadian Pine-Hemlock-Hardwood Forest; Laurentian-Acadian Red Oak-Northern Hardwood Forest; Northeastern Coastal and Interior Pine-Oak Forest
Vermont	Early Succession Boreal Conifers; Early Succession Boreal Hardwoods; Early Succession Northern Hardwoods; Early Succession Other Types; Early Succession Pine and Hemlock; Early Succession Spruce-Fir; Early Succession Upland Oak; Northern Hardwood; Oak-Pine Northern Hardwood; Spruce-Fir Northern Hardwood
New Hampshire	Appalachian Oak Pine Forest; Hemlock Hardwood Pine Forest; Lowland Spruce-Fir Forest; Northern Hardwood-Conifer Forest
Massachusetts	Central Hardwoods-White Pine Upland Forest; Large Unfragmented Landscape Mosaics; Northern Hardwoods-Spruce-Fir Upland Forest; Pitch Pine-Oak Upland Forest; Transition Hardwoods-White Pine Upland Forest; Young Forests and Shrublands
Rhode Island	Upland, Coniferous Woodlands & Forests: Hemlock/Hardwood Forest; Pitch Pine Woodland Upland, Deciduous Woodlands & Forests: Beech/Sugar Maple/Red Oak Forest; Chestnut Oak

State	SWAP Key Habitat
	Forest; Maritime Woodland; Mixed Oak – American Holly Forest; Mixed Oak/Hickory Forest; Oak Forest; White Oak/Mountain Laurel Forest Upland, Mixed Deciduous/Coniferous Forests: Mixed Oak/Pitch Pine Forest; Mixed Oak/White Pine Forest
Connecticut	Upland Forest: Calcareous Forests*; Coniferous Forests; Maritime Forests; Mixed Hardwood Forest; Northern Hardwood Forest; Oak Forests; Old Growth Forest; Young Forest Upland Woodland and Shrub; Pitch Pine – Scrub Oak Woodlands
New York	Boreal Upland Forest; Coastal Hardwoods; Mixed Northern Hardwoods; Mountain Spruce-Fir Forests; Northeast Upland Forest; Oak Forest; Oak-Pine Forest; Spruce-Fir Forests and Flats
Pennsylvania	Allegheny-Cumberland Dry Oak Forest and Woodland; Appalachian (Hemlock)-Northern Hardwood Forest; Central Appalachian Dry Oak-Pine Forest; Central Appalachian Pine-Oak Rocky Woodland; Central Oak-Pine; North Atlantic Coastal Plain Hardwood Forest; Northeastern Interior Dry-Mesic Oak Forest; Northern Hardwood & Conifer; South-Central Interior Mesophytic Forest
New Jersey	Forest
Delaware	Basic Mesic Forest; Coastal Plain Modified / Successional Forests; Coastal Plain Oak-Pine Forest; Early Successional Forest (Seedling/Sapling); Maritime Forest and Shrubland*; Mesic Mixed Hardwood Forest; Natural Forested Uplands; Piedmont; Piedmont Modified / Successional Forests; Piedmont Oak Forest; Xeric Sand Ridge Forest and Woodland
Maryland	Basic Mesic Forest; Coastal Plain Oak-Pine Forest; Coastal Plain Pitch Pine Forest; Cove Forest; Hemlock-Northern Hardwood Forest; Maritime Forest and Shrubland*; Mesic Mixed Hardwood Forest; Montane - Piedmont Oak-Pine Forest; Oak-Hickory Forest
D.C.	Central Appalachian Dry Oak-Pine Forest; Northern Atlantic Coastal Plain Hardwood Forest; Southern Atlantic Coastal Plain Mesic Hardwood Forest; Southern Interior Low Plateau Dry-Mesic Oak Forest; Successional Virginia Pine Forest
West Virginia	Dry Oak (-Pine) Forests; Dry-Mesic Oak Forests; Mixed Mesophytic Forests; Montane Red Oak Forests; Northern Hardwood Forests; Pine-Oak Rocky Woodlands; Red Spruce Forests
Virginia	Central Atlantic Coastal Plain Maritime Forest; Mixed Hardwood and Conifer; North Atlantic Coastal Plain Maritime Forest; Southern Appalachian Low Elevation Pine Forest; Southern Atlantic

State	SWAP Key Habitat
	Coastal Plain Upland Longleaf Pine Woodland; Spruce-Fir Forest

Table 2A.2 High Elevation Forest Key Habitats identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Alpine: Acadian-Appalachian Subalpine Woodland and Heath-Krummholz
New Hampshire	High Elevation Spruce-Fir Forest

Table 2A.3 GRASSLANDS KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Coastal Grassland & Shrubland*; Grassland-shrubland-early Successional*; Northern Atlantic Coastal Plain Dune and Maritime Grassland* Ruderal Shrubland & Grassland: Powerline Right-of-Way*; Ruderal Upland - Old Field*
Vermont	Grasslands and Hedgerows; Outcrops and Upland Meadows*; Powerlines / RR / Roadsides
New Hampshire	Grasslands
Massachusetts	Grasslands
Rhode Island	Upland, Open Uplands (Grassland & Shrubland): Maritime Grassland; Ruderal Grassland/Shrubland – Clearcut* Upland, Open Uplands (Grassland & Shrubland): Ruderal Grassland/Shrubland - Utility Rights-of-Way
Connecticut	Unique, Natural or Man-made: Public Utility Transmission Corridors Upland Herbaceous: Cool Season Grasslands; Warm Season Grasslands
New York	Old Field/Managed Grasslands; Powerline
Pennsylvania	Shrubland & grassland (NLCD 52/71)*
New Jersey	Grassland
Delaware	Early Successional Herbaceous; Maritime Dune and Grassland*
Maryland	Managed Grassland; Maritime Dune and Grassland*; Roadside and Utility Right-of-way
D.C.	Ruderal Upland - Old field
West Virginia	Anthropogenic Shrubland & Grassland*
Virginia	Open - Grassland and Retired Agriculture Fields

Table 2A.4 SHRUBLANDS KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Coastal Grassland & Shrubland*; Grassland-shrubland-early Successional* Ruderal Shrubland & Grassland: Introduced Shrubland; Powerline Right-of-Way*; Ruderal Upland - Old Field*
New Hampshire	Shrublands
Massachusetts	Young Forests and Shrublands
Rhode Island	Upland, Open Uplands (Grassland & Shrubland): Maritime Shrubland; Ruderal Grassland/Shrubland – Clearcut*; Ruderal Grassland/Shrubland – Hedgerow Ruderal Grassland/Shrubland - Old Field
Connecticut	Upland Woodland and Shrub: Maritime Shrublands; Reverting Fields and Early Successional Shrublands
New York	Non-native Shrublands
Pennsylvania	Shrubland & grassland (NLCD 52/71)*
New Jersey	Shrub
Delaware	Early Successional Shrubland; Maritime Forest and Shrubland*; Ruderal Introduced Shrubland / Old Field
Maryland	Maritime Forest and Shrubland*
D.C.	Introduced Shrubland
West Virginia	Anthropogenic Shrubland & Grassland*

Table 2A.5 GLADES, BARRENS AND SAVANNA KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Central Oak-Pine: Northeastern Interior Pine Barrens; Glade, Barren and Savanna: Central Appalachian Alkaline Glade and Woodland; Pine Barrens
Vermont	Outcrops and Upland Meadows*
New Hampshire	Pine Barrens
Massachusetts	
Rhode Island	Upland, Open Uplands (Grassland & Shrubland): Inland Rocky Outcrop*; Pitch Pine Woodland/Barren – Barren
Connecticut	Upland Forest: Calcareous Forests* Upland Herbaceous: Grassy Glades and Balds; Sand Barrens and Sparsely Vegetated Sand and Gravel Upland Woodland and Shrub: Red Cedar Glades
New York	Coastal Coniferous Barrens, Native Barrens and Savanna, Pine Barrens
Pennsylvania	Appalachian Shale Barrens; Central Appalachian Alkaline Glade and Woodland; Eastern Serpentine Woodland; Glade, Barren and Savanna
New Jersey	Barren and Exposed Rock*
Delaware	Diverse Herb Layer; Exposed Upland Sands; Natural Unforested Uplands; Roadside; Serpentine Barren
Maryland	Acidic Glade and Barren; Basic Glade and Barren; Serpentine Barren; Shale Barren
D.C.	
West Virginia	Dry Calcareous Forests, Woodlands, and Glades; Heath-Grass Barrens; Shale Barrens
Virginia	Open - Glade and Barren; Open - Pine and Oak Savanna

Table 2A.6 ALPINE KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Alpine: Acadian-Appalachian Alpine Tundra
Vermont	Outcrops and Alpine
New Hampshire	Alpine
New York	Alpine

Table 2A.7 CLIFF AND TALUS KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Cliff and Talus: Laurentian-Acadian Acidic Cliff and Talus; Laurentian-Acadian Calcareous Cliff and Talus; North-Central Appalachian Acidic Cliff and Talus; North-Central Appalachian Circumneutral Cliff and Talus Outcrop & Summit Scrub: Laurentian-Acadian Calcareous Rocky Outcrop; Northern Appalachian-Acadian Rocky Heath Outcrop Rocky Summits-Outcrops-Mountaintops
Vermont	Cliffs and Talus
New Hampshire	Rocky Ridge, Cliff, and Talus
Massachusetts	Rock Cliffs, Ridgetops, Talus Slopes, and Similar Habitats
Rhode Island	Upland, Open Uplands (Grassland & Shrubland): Inland Rocky Outcrop*
Connecticut	Unique, Natural or Man-made: Cliffs and Talus Slopes; Traprock Ridges
New York	Cliff and Talus; Rocky Outcrop
Pennsylvania	North-Central Appalachian Acidic Cliff and Talus; North-Central Appalachian Circumneutral Cliff and Talus
New Jersey	Barren and Exposed Rock*
Maryland	Cliff and Rock Outcrop; Coastal Bluff*
West Virginia	Acidic Rock Outcrops, Cliffs, and Talus; Calcareous Cliffs and Talus
Virginia	Cliff and Talus; Open - outcrop, summit scrub

Table 2A.8 SUBTERRANEAN AREA KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Extractive: Subsurface Mines & Caves, Quarries-Pits-Stripmines
Vermont	Mine; Subterranean
New Hampshire	Caves and Mines
Massachusetts	Springs, Caves, and Mines
Connecticut	Unique, Natural or Man-made: Caves and Other Subterranean Habitats
New York	Caves and Tunnels
Pennsylvania	Cave; Karst & Mines
Delaware	Extractive – Sand/Gravel Active, Sand/Gravel Inactive
Maryland	Artificial Structure - Mine and Tunnel; Cave and Karst
West Virginia	Caves and Karst
Virginia	Caves / Karst

Table 2A.9 NON-TIDAL WETLANDS KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Boreal Forested Peatland: Boreal-Laurentian Conifer Acidic Swamp; Central Hardwood Swamp: North-Central Interior Wet Flatwoods; Coastal Plain Peat Swamp: North Atlantic Coastal Plain Basin Peat Swamp; Emergent Marsh: Laurentian-Acadian Freshwater Marsh; Freshwater Marshes; Modified-Managed Marsh: Modified-Managed Marsh; Northern Forests and Swamps Northern Peatland & Fens: Acadian Maritime Bog; Boreal-Laurentian Bog; Boreal-Laurentian-Acadian Acidic Basin Fen; Laurentian-Acadian Alkaline Fen; North-Central Interior and Appalachian Acidic Peatland Northern Swamp: Acadian-Appalachian Conifer Seepage Forest; Laurentian-Acadian Alkaline Conifer-Hardwood Swamp; North-Central Appalachian Acidic Swamp; North-Central Interior and Appalachian Rich Swamp; Northern Appalachian-Acadian Conifer-Hardwood Acidic Swamp South-Central Forests and Swamps; Vernal Pools Wet Meadow-Shrub Marsh: Introduced Wetland and Riparian Vegetation; Laurentian-Acadian Wet Meadow-Shrub Swamp
Vermont	Hardwood Swamps; Marshes and Sedge Meadows; Open Peatlands; Seeps and Vernal Pools; Shrub Swamps; Softwood Swamps; Wet Swales and Ditches
New Hampshire	Marsh and Shrub Wetlands; Northern Swamps; Peatlands; Temperate Swamps; Vernal Pools
Massachusetts	Forested Swamps; Marshes and Wet Meadows; Peatlands and Associated Habitats; Shrub Swamps; Vernal Pools
Rhode Island	Palustrine, Forested Mineral Soil Wetlands: Hemlock/Hardwood Swamp; Red Maple Swamp; Seeps, Springs, Vernal Pools; Swamp White Oak Swamp Palustrine, Forested Peatlands: White Cedar Swamp; White Cedar-Rhododendron Swamp Palustrine, Open Mineral Soil Wetlands: Modified/Managed Marsh – Impoundment; Modified/Managed Marsh - Ruderal Marsh; Seasonally flooded (shallow) Marsh; Semi-permanently Flooded (Deep) Marsh; Shrub Swamp/Wet Meadow - Shrub Swamp; Shrub Swamp/Wet Meadow - Wet Meadow Palustrine, Open Peatlands: Coastal Plain Peatlands - Coastal Plain Quagmire; Coastal Plain Peatlands - Graminoid Fen; Coastal Plain Peatlands - Sea Level Fen; Northern Peatlands - Black Spruce Bog; Northern Peatlands - Dwarf Shrub Fen/Bog
Connecticut	Forested Inland Wetland: Atlantic White Cedar Swamps; Northern White Cedar Swamps; Red Maple Swamps; Red/Black Spruce Swamps

State	SWAP Key Habitat
	Herbaceous Inland Wetland: Calcareous Spring Fens; Freshwater Marshes; Wet Meadows Shrub Inland Wetland: Bogs and Fens; Shrub Swamps Unique, Natural or Man-made: Surface Springs and Seeps; Vernal Pools
New York	Atlantic White Cedar Swamp; Boreal Forested Peatland; Boreal Wetland Forest; Coastal Red Maple-Black Gum Swamp; Conifer Forest Swamp; Freshwater Marsh; Great Lakes Freshwater Estuary Marsh; Hardwood Swamp; Mixed Hardwood Swamp; Northeast Wetland Forest; Northern White Cedar Swamp; Open Acidic Peatlands; Open Alkaline Peatlands; Vernal Pool; Wet Meadow/Shrub Marsh
Pennsylvania	Emergent Marsh; Laurentian-Acadian Freshwater Marsh; Laurentian-Acadian Wet Meadow-Shrub Swamp; North Atlantic Coastal Plain Basin Swamp and Wet Hardwood Forest; North-Central Appalachian Acidic Swamp; North-Central Interior and Appalachian Acidic Peatland; North-Central Interior and Appalachian Rich Swamp; Wet Meadow / Shrub Marsh
New Jersey	Wetlands
Delaware	Bald Cypress Swamp; Coastal Plain Flatwood and Depression Swamp; Coastal Plain Seepage Fen; Coastal Plain Seepage Swamp; Coastal Plain White Cedar Peat Swamp; Emergent Freshwater Marsh; Forested Non-tidal Wetlands; Freshwater Shrub Swamp; Freshwater Tidal Swamp; Interdunal Wetlands; Maritime Swamp; Modified Wetlands; Open Non-tidal Wetlands; Piedmont Seepage Meadow; Piedmont Seepage Swamp; Sea Level Fen; Springhead/Springhouse; Vernal Pool; Wetlands
Maryland	Coastal Plain Flatwood and Depression Swamp; Coastal Plain Seepage Bog and Fen; Coastal Plain Seepage Swamp; Maritime Swamp; Montane - Piedmont Basic Seepage Swamp; Montane - Piedmont Acidic Seepage Swamp; Montane Bog and Fen; Piedmont Seepage Wetland; Piedmont Upland Depression Swamp; Spring; Vernal Pool
D.C.	Acidic Bogs; Acidic Seeps; Freshwater Emergent Wetland; Freshwater Forested/Shrub Wetland; Introduced Wetland and Riparian Vegetation; Northern Atlantic Coastal Plain Swamp; Springs and Seeps; Successional Woody Wetland; Vernal Pools
West Virginia	High Allegheny Wetlands
Virginia	Non-Tidal Wetlands

Table 2A.10 BIG RIVERS KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Vermont	Lower Connecticut River
Massachusetts	Connecticut and Merrimack Mainstems
Connecticut	Freshwater Aquatic: Large Rivers and their Associated Riparian Zones*
New York	Large/Great River*: 5 Key Habitats categorized by gradient (low, low-moderate), alkalinity (assume moderately buffered) and temperature (transitional cool, warm)
D.C.	Great River

Table 2A.11 RIVERS AND STREAMS KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Rivers and Streams: Ephemeral; Headwaters and Creeks; Large River; Medium River; Small River Streams, Rivers, Lakes, and Ponds*
Vermont	Fluvial; Large Lake Champlain Tributaries Below Falls
New Hampshire	Coldwater Rivers and Streams; Large Warmwater Rivers; Warmwater Rivers and Streams
Massachusetts	Large and Mid-sized Rivers; Small Streams
Rhode Island	Lower Perennial: River - Cold Water, slower flowing stream; River - Cold Water, swiftly flowing stream; River - Warm Water, slower flowing stream; River - Warm Water, swiftly flowing stream Upper Perennial: River - Cold Water, slower flowing stream; River - Cold Water, swiftly flowing stream; River - Warm Water, slower flowing stream; River - Warm Water, swiftly flowing stream
Connecticut	Freshwater Aquatic: Cold Water Streams; Head-of-tide and Coastal Streams; Large Rivers and their Associated Riparian Zones; Unrestricted, Free-flowing Streams
New York	Headwater Creek: 17 Key Habitats categorized by gradient (low, low-moderate, moderate, moderate-high, high), alkalinity (low buffered acidic, highly buffered calcareous, moderately buffered neutral, moderately buffered calcareous) and temperature (cold, transitional cool, warm) Large/Great River*: 5 Key Habitats categorized by gradient (low, low-moderate), alkalinity (assume moderately buffered) and temperature (transitional cool, warm) Medium River: 14 Key Habitats categorized by gradient (low, low-moderate, moderate, moderate-high, high), alkalinity (assume moderately buffered) and temperature (cold, transitional cool, warm) Small River: 17 Key Habitats categorized by gradient (low, low-moderate, moderate, moderate-high, high), alkalinity (low buffered acidic, highly buffered calcareous, moderately buffered neutral, moderately buffered calcareous) and temperature (cold, transitional cool, warm)
Pennsylvania	Cool, Medium River; Headwaters and Creeks; High Gradient, Cold, Headwaters and Creeks; High Gradient, Cool, Headwaters and Creeks; Large Rivers; Lotic; Low Gradient, Cool, Headwaters and Creeks; Low Gradient, Cool, Small River; Low Gradient, Warm, Headwaters and Creeks; Low Gradient, Warm, Small River; Medium Rivers; Moderate Gradient, Cold, Headwaters and Creeks; Moderate Gradient, Cool, Headwaters and Creeks; Moderate Gradient,

State	SWAP Key Habitat
	Cool, Small River; Moderate Gradient, Warm, Small River; Small Rivers; Warm, Large River; Warm, Medium River
New Jersey	Coldwater Stream, Warmwater Stream
Delaware	Coastal Plain Headwaters and Creeks Non-tidal; Coastal Plain Small and Medium River; Coastal Plain Small and Medium River Non-tidal; Freshwater Aquatic Substrate: Embedded rock, bedrock*; Freshwater Gravel/Cobble*; Freshwater Non-tidal SAV; Headwaters and Creeks; Large River; Low Gradient; Moderate Gradient; Piedmont Headwaters and Creeks Non-tidal; Piedmont Small and Medium River Non-tidal; Riverine Aquatic Habitat Systems; Small and Medium River
Maryland	Blackwater Stream; Coastal Plain River; Coastal Plain Stream; Coldwater Stream; Highland River; Highland Stream; Limestone Stream; Piedmont River
D.C.	Central Appalachian Stream and Riparian*; Creek & Headwater Creek; Northern Atlantic Coastal Plain Stream and River; Riverine; Small River
West Virginia	Headwater Creek, High Gradient, Cold; Headwater Creek, High Gradient, Cool; Headwater Creek, High Gradient, Warm; Headwater Creek, Low Gradient, Warm; Headwater Creek, Low Gradient, Cool; Headwater Creek, Moderate Gradient, Cold; Headwater Creek, Moderate Gradient, Cool; Headwater Creek, Moderate Gradient, Warm; Large River, Low Gradient, Warm; Large River, Moderate Gradient, Warm; Medium River, Low Gradient, Warm; Medium River, Moderate Gradient, Warm; Small River, Low Gradient, Warm; Small River, Low Gradient, Cool; Small River, Moderate Gradient, Cool; Small River, Moderate Gradient, Warm; Embayment, Low Gradient, Warm
Virginia	Aquatic – general* Aquatic/ Riparian - Blackwater streams and rivers; Coldwater streams and rivers; Non-tidal warm streams and rivers

Table 2A.12 TIDAL RIVERS AND STREAMS KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Streams, Rivers, Lakes, and Ponds*
Rhode Island	Estuarine, Subtidal: Tidal Creek/River - Tidal Creek; Tidal Creek/River - Tidal River/Stream Tidal, Coastal Stream: River - Warm Water, Slower Flowing Stream
New York	Estuarine Brackish Intertidal Benthic Geomorphology Tidal Creek; Estuarine Freshwater Intertidal Benthic Geomorphology Tidal Creek
Pennsylvania	Tidal Large River; Tidal Small and Medium River
Delaware	Coastal Plain Large River Tidal; Coastal Plain Small and Medium River Tidal; Fresh and Oligohaline (0 - 5 ppt)*; Headwaters and Creeks Tidal; Large River Tidal; Piedmont Small and Medium River Tidal; Small and Medium River Tidal; Tidal Riverine Open Water (Salinity <0.5, depth >4m)
Virginia	Aquatic/ Riparian - Tidally Influenced Warm Water Streams and Rivers

Table 2A.13 RIPARIAN AND FLOODPLAIN KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Floodplain Forests; Northeastern Floodplain Forest; Northeastern Floodplain Forest: Laurentian-Acadian Floodplain Systems
Vermont	Floodplain Forests, Riparian
New Hampshire	Floodplain Habitats
Massachusetts	Riparian Forest
Rhode Island	Palustrine, Forested Mineral Soil Wetlands: Silver Maple/Sycamore Floodplain Forest; Red Maple/Pin Oak Floodplain Forest; Upland, Deciduous Woodlands & Forests: Mixed Hardwood Riverside Forest
Connecticut	Forested Inland Wetland: Floodplain Forests; Freshwater Aquatic: Large Rivers and their Associated Riparian Zones*
New York	Floodplain Forest; Riparian
Delaware	Coastal Plain Stream and River Floodplain; Piedmont Stream and River Floodplain
Maryland	Coastal Plain Floodplain; Montane - Piedmont Floodplain
D.C.	Central Appalachian River Floodplain; Central Appalachian Stream and Riparian*; Floodplain
West Virginia	River Floodplains; Small Stream Riparian Habitats

Table 2A.14 GREAT LAKES KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Vermont	Lake Champlain
New York	Great Lakes Aquatic Bed; Lake Very Large
Pennsylvania	Lake Erie

Table 2A.15 LAKES AND PONDS KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Coastal Plain Pond: Northern Atlantic Coastal Plain Pond Lakes and Ponds: Dystrophic, Eutrophic, Mesotrophic or Intermediate, Oligotrophic Streams, Rivers, Lakes, and Ponds*
Vermont	Lacustrine, Man-Made Water Bodies
New Hampshire	Lakes and Ponds with Coldwater Habitat; Warmwater Lakes and Ponds
Massachusetts	Coastal Plain Ponds; Lakes and Ponds
Rhode Island	Estuarine; Subtidal: Salt Pond - Coastal Salt Pond; Lake/Pond; Eutrophic: Lake – shallow; Lake/Pond; Oligotrophic: Lake – deep; Lake/Pond; Shoreline: Inland Pond and River Shore – shallow; Palustrine; Open Mineral Soil Wetlands: Coastal Plain Pond/Pondshore
Connecticut	Freshwater Aquatic: Coastal Plain Ponds; Lakes and their Shorelines; Unique, Natural or Man-made: Offshore Islands*
New York	Coastal Plain Pond; Lake; Lake Large; Lake Medium; Lake Medium Oligotrophic; Lake Small; Lake Small Eutrophic; Pond; Pond Eutrophic; Pond Oligotrophic; Reservoir
Pennsylvania	Eutrophic, High Alkalinity Lake; Eutrophic, Medium Alkalinity Lake; Hypereutrophic, High Alkalinity Lake; Hypereutrophic, Medium Alkalinity Lake; Lakes and Ponds; Mesotrophic, High Alkalinity Lake; Mesotrophic, Low Alkalinity Lake; Mesotrophic, Medium Alkalinity Lake; Oligotrophic, High Alkalinity Lake; Oligotrophic, Low Alkalinity Lake
Delaware	Coastal Plain Seasonal Pond; Freshwater Aquatic Substrate: Embedded rock, bedrock*; Freshwater Gravel/Cobble*; Impoundment; Lake / Reservoir; Mill Pond; Small Pond
Maryland	Artificial Impoundment and Wetland
D.C.	Embayed River Area; Freshwater Pond; Reservoir; Riverine Pond
West Virginia	Lentic, Low Gradient, Warm; Sinkhole and Depression Ponds; Small Lentic Water Bodies

Table 2A.16 SHORELINE KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Intertidal Bedrock: High Intertidal; Low-Intertidal; Mid-Intertidal Lake & River Shore; Rocky Coast: Acadian-North Atlantic Rocky Coast
Vermont	Upland Shores; Wet Shores
New Hampshire	Coastal Islands/Rocky Shores
Massachusetts	Rocky Coastlines
Rhode Island	Estuarine, Intertidal: Intertidal Shore - Rocky Shore Upland, Open Uplands (Grassland & Shrubland): Maritime Bluff; Maritime Rocky Cliff
Connecticut	Unique, Natural or Man-made: Coastal Bluffs and Headlands
New York	Erosional Bluff; Estuarine Brackish Intertidal*; Marine Intertidal Benthic Geomorphology Rocky Intertidal
Delaware	Intertidal*
Maryland	Coastal Bluff*

Table 2A.17 BEACHES AND DUNES KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Coastal Grassland & Shrubland: Northern Atlantic Coastal Plain Dune and Maritime Grassland; Northern Atlantic Coastal Plain Sandy Beach Intertidal Sandy Shore: Sand Beach; Lake & River Shore: Laurentian-Arcadian Lakeshore Beach Intertidal Gravel Shore: High Intertidal; Low Intertidal; Mid-intertidal Rocky Coast: North Atlantic Cobble Shore
New Hampshire	Dunes
Massachusetts	Coastal Dunes, Beaches and Small Islands
Rhode Island	Upland, Open Uplands (Grassland & Shrubland): Maritime Beach Strand; Maritime Herbaceous Dune; Maritime Shrub Dune
Connecticut	Upland Herbaceous: Coastal Beaches and Dunes; Tidal Wetland: Intertidal Beaches, Flats and Rocky Shores; Unique, Natural or Man-made: Offshore Islands*
New York	Estuarine Brackish Intertidal*; Estuarine Brackish Intertidal Benthic Geomorphology; Estuarine Brackish Intertidal Benthic Geomorphology Bar; Great Lakes Dune and Swale; Lake and River Beach; Marine Dredge Spoil Shore; Marine Intertidal Benthic Geomorphology Bar; Marine Intertidal Gravel/Sand Beach; Maritime Dunes
Pennsylvania	Great Lakes Dune and Swale
New Jersey	Beach and Dune
Delaware	Intertidal*; Maritime Dune and Grassland*; Unvegetated Sandy Beach
Maryland	Maritime Dune and Grassland*; Coastal Beach
Virginia	Beaches, Dunes and Mudflats

Table 2A.18 TIDAL WETLANDS AND FLATS KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Emergent Marsh; Intertidal Sandy Shore: Sand Flat; Tidal Marsh Intertidal Mudflat: Freshwater Tidal Marsh; Non-Vascular Mudflat Intertidal Tidal Marsh (peat-forming): Acadian Coastal Salt Marsh; Coastal Plain Tidal Marsh
New Hampshire	Salt Marshes
Massachusetts	Salt Marsh
Rhode Island	Estuarine, Intertidal: Brackish Marsh; Intertidal Shore - Mud Flat/Sand Flat; Intertidal Shore - Sand Flat; Tidal Salt Marsh - Low Salt Marsh, High Salt Marsh, Salt Panne, Salt Scrub Palustrine, Open Mineral Soil Wetlands: Freshwater Tidal Marsh
Connecticut	Tidal Wetland: Salt and Brackish Marshes
New York	Estuarine Brackish Intertidal Benthic Geomorphology Tidal Flat; Estuarine Brackish Intertidal Tidal Wetland; Estuarine Brackish Intertidal Tidal Wetland High Marsh; Estuarine Brackish Intertidal Tidal Wetland Low Marsh; Estuarine Freshwater Intertidal Benthic Geomorphology Tidal Flat; Estuarine Freshwater Intertidal Tidal Wetland; Estuarine Freshwater Intertidal Tidal Wetland Freshwater Tidal Marsh; Estuarine Freshwater Intertidal Tidal Wetland Freshwater Tidal Swamp; Marine Intertidal Benthic Geomorphology Shellfish Bed; Marine Intertidal Benthic Geomorphology Tidal Flat
Pennsylvania	North Atlantic Coastal Plain Tidal Swamp; Salt Marsh; Tidal Marsh
New Jersey	Tidal Mudflat
Delaware	Brackish Tidal Marsh and Shrubland; Fresh and Oligohaline Tidal Marsh and Shrubland; Intertidal*; Intertidal Mud Bank; Intertidal Mud Flat; Intertidal Sand Flat; Salt Marsh Pond; Salt Panne; Tidal Salt Marsh (Low); Tidal Salt Marsh and Shrubland (High); Tidal Wetlands
Maryland	Intertidal Mudflat and Sand Flat; Tidal Brackish Marsh and Shrubland; Tidal Freshwater Marsh and Shrubland; Tidal Salt Marsh and Shrubland; Tidal Forest
D.C.	Intertidal Mudflat; Northern Atlantic Coastal Plain Fresh/Oligohaline Tidal Marsh and Created Marsh; Northern Atlantic Coastal Plain Tidal Swamp
Virginia	Tidal Wetlands

Table 2A.19 ESTUARIES KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Intertidal Mollusc Reefs*: Gastropod Reef, Mussel Reef, Oyster Reef Intertidal Mudflat*: Submerged Aquatic Vegetation Intertidal Sandy Shore*: Submerged Aquatic Vegetation Intertidal Water Column*: Confined Channel, Embayment Subtidal Bedrock Bottom*: Bedrock, Erect Epifauna, Kelp Bed Subtidal Coarse Gravel Bottom*: Coarse Gravel, Erect Epifauna, Kelp Bed Subtidal Mollusc Reefs*: Gastropod Reef, Mussel Reef, Oyster Reef Subtidal Mud Bottom*: Submerged Aquatic Vegetation, Unvegetated Subtidal Sand Bottom*: Submerged Aquatic Vegetation, Unvegetated Subtidal Pelagic (Water Column)*: Confined Channel, Nearshore
New Hampshire	Estuarine
Massachusetts	Marine and Estuarine Habitats*
Rhode Island	Estuarine, Nearshore: Marine Soft Sediment - Nearshore Soft Sediment; Estuarine, Pelagic: Pelagic - Estuarine Pelagic; Estuarine, Subtidal: Brackish Tidal Aquatic Vegetation - Brackish Subtidal Aquatic Bed; Estuarine, Nearshore: Mulluscan Shellfish Reef - Nearshore Rocky Reef Estuarine, Offshore: Marine Soft Sediment - Offshore Soft Sediment; Mulluscan Shellfish Reef - Offshore Rocky Reef Pelagic - Coastal Pelagic*
Connecticut	Estuarine Aquatic: Algal Beds; Coastal Rivers, Coves and Embayments; Hard Bottoms; Open Water; Sedimentary Bottoms; Shellfish Reefs/Beds; Sponge Beds; Vegetation Beds Unique, Natural or Man-made: Navigational Channels, Breakwaters, Jetties and Piers
New York	Estuarine Brackish Deep; Estuarine Brackish Deep Shellfish Bed; Estuarine Brackish Intertidal*; Estuarine Brackish Intertidal Benthic Geomorphology Shellfish Bed; Estuarine Brackish Shallow Subtidal; Estuarine Brackish Shallow Subtidal Aquatic Bed; Estuarine Brackish Shallow Subtidal Aquatic Bed Rooted Vascular; Estuarine Brackish Shallow Subtidal Artificial Structure Jetties; Estuarine Brackish Shallow Subtidal Artificial Structure Reefs; Estuarine Brackish Shallow Subtidal Benthic Geomorphology Bar; Estuarine Brackish Shallow Subtidal Benthic Geomorphology Shellfish Bed; Estuarine Freshwater Deep Sub-tidal; Estuarine Freshwater Intertidal; Estuarine Freshwater Intertidal Artificial Structure; Estuarine Freshwater Shallow Subtidal

State	SWAP Key Habitat
Delaware	Estuarine Coastal (Salinity >0.5, depth to 4 m); Estuarine Open Water (Salinity >0.5, depth >4 m); Fresh and Oligohaline (0 - 5 ppt)*; Mesohaline (5-18 ppt); Mesohaline and Polyhaline SAV; Oyster aggregation / reef; Polyhaline (18-30 ppt); Shell Accumulation; Subtidal*; Tidal Fresh and Oligohaline SAV
Maryland	Delmarva Bay; Hard bottom (Living and Non-living); Shellfish Bed; Submerged Aquatic Vegetation
D.C.	Rocky Shoals

Table 2A.20 MARINE NEARSHORE KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Intertidal*; Subtidal Mollusc Reefs*: Gastropod Reef; Subtidal Mud Bottom*; Subtidal Sand Bottom*: Submerged Aquatic Vegetation Intertidal Water Column*: Confined Channel, Embayment, Exposed Shore Subtidal Bedrock Bottom*: Bedrock, Erect Epifauna, Kelp Bed Subtidal Coarse Gravel Bottom*: Coarse Gravel, Erect Epifauna, Kelp Bed Subtidal Pelagic (Water Column)*: Confined Channel, Nearshore
New Hampshire	Marine*
Massachusetts	Marine and Estuarine Habitats*
Rhode Island	Coastal, Nearshore: Marine Rocky Reef - Hard, Rocky Bottom; Marine Soft Sediment - Soft Bottom Marine, Nearshore: Marine Rocky Reef; Nearshore Soft Sediment Pelagic - Coastal Pelagic*
New York	Marine*; Marine Intertidal; Marine Intertidal Artificial Structure; Marine Intertidal Artificial Structure Groins; Marine Intertidal Artificial Structure Jetties; Marine Intertidal Benthic Geomorphology; Marine Shallow Subtidal; Marine Shallow Subtidal Aquatic Bed; Marine Shallow Sub-tidal Aquatic Bed Rooted Vascular
New Jersey	Marine Nearshore Zone
Delaware	Artificial Reef / Wreck*; Breakwater/Jetty*; Intertidal*; Macroalgae*; Marine Aquatic Substrate: Embedded rock, bedrock*; Marine/Estuarine System*; Marine Gravel/Cobble*; Marine Nearshore (<30 m depth); Marine Structured Sand*; Subtidal*; Tubeworm Reef*
Maryland	Pelagic – Open Water*
Virginia	Marine*

Table 2A.21 MARINE OFFSHORE AND OCEANIC KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Subtidal Mollusc Reefs*: Gastropod Reef; Subtidal Mud Bottom*; Subtidal Sand Bottom*: Submerged Aquatic Vegetation Subtidal Bedrock Bottom*: Bedrock, Erect Epifauna, Kelp Bed Subtidal Coarse Gravel Bottom*: Coarse Gravel, Erect Epifauna, Kelp Bed Subtidal Pelagic (Water Column)*: Confined Channel, Offshore, Upwelling Zones
New Hampshire	Marine*
Massachusetts	Marine and Estuarine Habitats*
Rhode Island	Coastal, Offshore: Marine Rocky Reef - Hard, Rocky Bottom; Marine Soft Sediment - Soft Bottom Marine, Offshore: Offshore Rocky Reef; Offshore Soft Sediment Pelagic - Marine Pelagic
New York	Marine Deep Subtidal
New Jersey	Marine Offshore Zone
Delaware	Marine/Estuarine System*; Marine Oceanic (shelf break to deep ocean); Marine Offshore (30 m depth to shelf break); Ocean (30+ ppt); Subtidal*
Maryland	Pelagic - Open Water*
Virginia	Marine*

Table 2A.22 AGRICULTURE: CROPLANDS / PASTURES KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Agricultural: Cultivated Crops; Pasture-Hay
Vermont	Lawns, Gardens, and Row Crops*
Rhode Island	Upland, Agricultural: Agricultural Lands – Hayfields; Pasture Upland, Agricultural: Agricultural Lands – Vegetables, Turf, Nursery, Orchard, Vineyard, Christmas Trees*
Connecticut	Unique, Natural or Man-made: Agricultural Lands
New York	Cultivated Crops; Pasture/Hay
Pennsylvania	Agriculture (NLCD 81-82)
Delaware	Agricultural - Buffers / Filter Strips; Fallow; Pasture; Row Crops
West Virginia	Agriculture

Table 2A.23 AGRICULTURE: PLANTATIONS / ORCHARDS KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Exotic Upland Forest: Introduced Upland Vegetation – Tree, Plantation and Ruderal Forest Plantation and Ruderal Forest: Managed Tree Plantation; Ruderal Forest - Northern and Central Hardwood and Conifer
Rhode Island	Upland, Agricultural: Agricultural Lands – Vegetables, Turf, Nursery, Orchard, Vineyard, Christmas Trees* Upland, Plantation & Ruderal Forest: Plantation, Upland, Plantation & Ruderal Forest: Ruderal Forest
New York	Plantation Disturbed Land Pioneer Forest
Delaware	Loblolly Pine Plantation; Mature Forest (Sawtimber); White Pine Plantation
Maryland	Managed Successional Forest; Montane Managed Conifer Forest
D.C.	Northern and Central Hardwood and Conifer – Ruderal Forest
Virginia	Agricultural/Plantation

Table 2A.24 DEVELOPED AREAS KEY HABITATS identified in 2015 SWAPs in the NEAFWA region. SWAP habitats noted with (*) are associated with multiple RSGCN habitats.

State	SWAP Key Habitat
Maine	Maintained Grasses and Mixed Cover: Urban & Recreational Grasses; Ruderal Shrubland & Grassland* Urban-Suburban Built: Commercial-Industrial; Residential - High Intensity; Residential - Low Intensity; Residential - Medium Intensity; Residential - Rural-Sparse
Vermont	Building or Structure; Lawns, Gardens, and Row Crops*; Other Cultural
New Hampshire	Developed Habitats
Connecticut	Unique, Natural or Man-made: Urban and Man-made Features
New York	Commercial/Industrial and Residential; Residential Rural; Urban and Recreational Grasses; Urban/Suburban
Pennsylvania	Developed (NLCD 21-24 & 31); Ruderal Shrubland & Grassland*
Delaware	Buildings/Structures; Developed; Developed - Commercial / Industrial
Maryland	Artificial Structure - Buildings and Other Structures
D.C.	Canopy Trees and Recreational Grasses; Commercial/Industrial; Residential - High Intensity; Residential - Medium Intensity; Urban and Recreational Grasses
West Virginia	Anthropogenic Shrubland & Grassland*; Developed
Virginia	Urban/Suburban Built

2B CROSS-WALK OF DSLLAND FORMATIONS AND ECOSYSTEMS WITH THE 24 HABITATS

Ecosystems of the DSLland, Version 5.0, associated with each of the 24 coarse habitat types for Northeast RSGCN and Watchlist species.

Northeast RSGCN Database Habitat Type	DSLland Formation	DSLland Ecosystem
Developed Area	Developed	Motorway
Developed Area	Developed	Primary road
Developed Area	Developed	Secondary road
Developed Area	Developed	Tertiary road
Developed Area	Developed	Local road
Developed Area	Developed	Active train
Developed Area	Developed	Abandoned train
Developed Area	Developed	Developed- open space
Developed Area	Developed	Developed- low intensity
Developed Area	Developed	Developed- medium intensity
Developed Area	Developed	Developed- high intensity
Developed Area	Developed	Barren land
Developed Area	Developed	Dam
Developed Area	Developed	Culvert/bridge
Agriculture: Cropland & Pasture	Agriculture	Pasture/hay
Agriculture: Cropland & Pasture	Agriculture	Cultivated crops
River & Stream	Stream (headwater/creek)	Stream (headwater/creek) cold low
River & Stream	Stream (headwater/creek)	Stream (headwater/creek) cold moderate
River & Stream	Stream (headwater/creek)	Stream (headwater/creek) cold high

Northeast RSGCN Database Habitat Type	DSLland Formation	DSLland Ecosystem
River & Stream	Stream (headwater/creek)	Stream (headwater/creek) cool low
River & Stream	Stream (headwater/creek)	Stream (headwater/creek) cool moderate
River & Stream	Stream (headwater/creek)	Stream (headwater/creek) cool high
River & Stream	Stream (headwater/creek)	Stream (headwater/creek) warm low
River & Stream	Stream (headwater/creek)	Stream (headwater/creek) warm moderate
River & Stream	Stream (headwater/creek)	Stream (headwater/creek) warm high
River & Stream	Stream (small)	Stream (small) cold low
River & Stream	Stream (small)	Stream (small) cold moderate
River & Stream	Stream (small)	Stream (small) cool low
River & Stream	Stream (small)	Stream (small) cool moderate
River & Stream	Stream (small)	Stream (small) warm low
River & Stream	Stream (small)	Stream (small) warm moderate
River & Stream	Stream (medium)	Stream (medium) cold
River & Stream	Stream (medium)	Stream (medium) cool
River & Stream	Stream (medium)	Stream (medium) warm
River & Stream	Stream (large)	Stream (large) cool
River & Stream	Stream (large)	Stream (large) warm
Tidal River & Stream	Stream (tidal)	Freshwater Tidal Riverine
Great Lakes	Lentic	Great Lakes
Lake & Pond	Lentic	Very Cold Lake
Lake & Pond	Lentic	Cold Lake
Lake & Pond	Lentic	Cold Pond
Lake & Pond	Lentic	Cool Eutrophic Lake

Northeast RSGCN Database Habitat Type	DSLland Formation	DSLland Ecosystem
Lake & Pond	Lentic	Cool Oligo-Mesotrophic Lake
Lake & Pond	Lentic	Cool Eutrophic Pond
Lake & Pond	Lentic	Cool Oligo-Mesotrophic Pond
Lake & Pond	Lentic	Warm Eutrophic Lake
Lake & Pond	Lentic	Warm Oligo-Mesotrophic Lake
Lake & Pond	Lentic	Warm Eutrophic Pond
Lake & Pond	Lentic	Warm Oligo-Mesotrophic Pond
Lake & Pond	Lentic	Small Pond
Estuaries	Estuarine Subtidal	Estuarine Subtidal Sheltered
Estuaries	Estuarine Subtidal	Estuarine Subtidal Unconsolidated Bottom
Estuaries	Estuarine Subtidal	Estuarine Subtidal Aquatic Bed
Marine Nearshore or Marine Offshore & Oceanic	Marine Subtidal	Marine Subtidal Unconsolidated Bottom
Marine Nearshore or Marine Offshore & Oceanic	Marine Subtidal	Marine Subtidal Aquatic Bed
Tidal Wetlands & Flats	Estuarine Intertidal	Estuarine Intertidal Aquatic Bed
Tidal Wetlands & Flats	Estuarine Intertidal	Estuarine Intertidal Reef
Tidal Wetlands & Flats	Estuarine Intertidal	Estuarine Intertidal Unconsolidated Shore
Tidal Wetlands & Flats	Estuarine Intertidal	Estuarine Intertidal Emergent
Tidal Wetlands & Flats	Estuarine Intertidal	Estuarine Intertidal Scrub Shrub
Tidal Wetlands & Flats	Estuarine Intertidal	Estuarine Intertidal Forested
Tidal Wetlands & Flats	Northeastern Wetland	North Atlantic Coastal Plain Tidal Swamp
Tidal Wetlands & Flats	Northeastern Wetland	Southern Atlantic Coastal Plain Tidal Wooded Swamp
Shorelines	Estuarine Intertidal	Estuarine Intertidal Rocky Shore

Northeast RSGCN Database Habitat Type	DSLland Formation	DSLland Ecosystem
Shorelines	Marine Intertidal	Marine Intertidal Rocky Shore
Riparian & Floodplain	Northeastern Wetland	Atlantic Coastal Plain Blackwater/Brownwater Stream Floodplain Forest
Riparian & Floodplain	Northeastern Wetland	Central Appalachian Stream and Riparian
Riparian & Floodplain	Northeastern Wetland	Laurentian-Acadian Large River Floodplain
Riparian & Floodplain	Northeastern Wetland	North Atlantic Coastal Plain Stream and River
Riparian & Floodplain	Northeastern Wetland	North-Central Appalachian Large River Floodplain
Riparian & Floodplain	Northeastern Wetland	North-Central Interior Large River Floodplain
Riparian & Floodplain	Northeastern Wetland	Piedmont-Coastal Plain Large River Floodplain
Riparian & Floodplain	Northeastern Wetland	Southern Piedmont Lake Floodplain Forest
Riparian & Floodplain	Northeastern Wetland	Southern Piedmont Small Floodplain and Riparian Forest
Non-tidal Wetland	Northeastern Wetland	Central Atlantic Coastal Plain Non-riverine Swamp and Wet Hardwood Forest
Non-tidal Wetland	Northeastern Wetland	Central Interior Highlands and Appalachian Sinkhole and Depression Pond
Non-tidal Wetland	Northeastern Wetland	Glacial Marine & Lake Wet Clayplain Forest
Non-tidal Wetland	Northeastern Wetland	High Allegheny Headwater Wetland
Non-tidal Wetland	Northeastern Wetland	Laurentian-Acadian Alkaline Conifer-Hardwood Swamp
Non-tidal Wetland	Northeastern Wetland	Laurentian-Acadian Freshwater Marsh
Non-tidal Wetland	Northeastern Wetland	Laurentian-Acadian Wet Meadow-Shrub Swamp
Non-tidal Wetland	Northeastern Wetland	North Atlantic Coastal Plain Basin Peat Swamp
Non-tidal Wetland	Northeastern Wetland	North Atlantic Coastal Plain Basin Swamp and Wet Hardwood Forest
Non-tidal Wetland	Northeastern Wetland	North Atlantic Coastal Plain Pitch Pine Lowland
Non-tidal Wetland	Northeastern Wetland	North-Central Appalachian Acidic Swamp

Northeast RSGCN Database Habitat Type	DSLland Formation	DSLland Ecosystem
Non-tidal Wetland	Northeastern Wetland	North-Central Interior and Appalachian Rich Swamp
Non-tidal Wetland	Northeastern Wetland	North-Central Interior Wet Flatwoods
Non-tidal Wetland	Northeastern Wetland	Northern Appalachian-Acadian Conifer-Hardwood Acidic Swamp
Non-tidal Wetland	Northeastern Wetland	Piedmont Upland Depression Swamp
Non-tidal Wetland	Northeastern Wetland	Piedmont-Coastal Plain Freshwater Marsh
Non-tidal Wetland	Northeastern Wetland	Piedmont-Coastal Plain Shrub Swamp
Non-tidal Wetland	Northeastern Wetland	Ruderal Shrub Swamp
Non-tidal Wetland	Peatland	Acadian Maritime Bog
Non-tidal Wetland	Peatland	Atlantic Coastal Plain Northern Bog
Non-tidal Wetland	Peatland	Atlantic Coastal Plain Peatland Pocosin and Canebrake
Non-tidal Wetland	Peatland	Boreal-Laurentian Bog
Non-tidal Wetland	Peatland	Boreal-Laurentian-Acadian Fen
Non-tidal Wetland	Peatland	North-Central Interior and Appalachian Acidic Peatland
Cliff & Talus	Cliff & Rock	Acidic Cliff and Talus
Cliff & Talus	Cliff & Rock	Calcareous Cliff and Talus
Cliff & Talus	Cliff & Rock	Circumneutral Cliff and Talus
Alpine	Alpine	Acadian-Appalachian Alpine Tundra
Beach & Dune	Marine Intertidal	Marine Intertidal Aquatic Bed
Beach & Dune	Marine Intertidal	Marine Intertidal Unconsolidated Shore
Beach & Dune	Coastal Scrub-Herb	Atlantic Coastal Plain Beach and Dune
Beach & Dune	Coastal Scrub-Herb	Great Lakes Dune and Swale
Beach & Dune	Coastal Scrub-Herb	North Atlantic Coastal Plain Heathland and Grassland
Grassland & Shrubland	Grassland & Shrubland	Shrubland & grassland (NLCD 52/71)

Northeast RSGCN Database Habitat Type	DSLland Formation	DSLland Ecosystem
Glades, Barrens & Savanna	Grassland & Shrubland	Acidic Rocky Outcrop
Glades, Barrens & Savanna	Grassland & Shrubland	Appalachian Shale Barrens
Glades, Barrens & Savanna	Grassland & Shrubland	Central Appalachian Alkaline Glade and Woodland
Glades, Barrens & Savanna	Grassland & Shrubland	Mafic Glade and Barrens
Glades, Barrens & Savanna	Grassland & Shrubland	Southern Appalachian Grass and Shrub Bald
Glades, Barrens & Savanna	Northeastern Upland Forest	Central Appalachian Pine-Oak Rocky Woodland
Glades, Barrens & Savanna	Northeastern Upland Forest	North Atlantic Coastal Plain Pitch Pine Barrens
Glades, Barrens & Savanna	Northeastern Upland Forest	Northeastern Interior Pine Barrens
Glades, Barrens & Savanna	Northeastern Upland Forest	Southern Atlantic Coastal Plain Upland Longleaf Pine Woodland
Grassland & Shrubland	Grassland & Shrubland	Southern Ridge and Valley Calcareous Glade and Woodland
Grassland & Shrubland	Grassland & Shrubland	Calcareous Rocky Outcrop
Grassland & Shrubland	Grassland & Shrubland	Eastern Serpentine Woodland
Grassland & Shrubland	Grassland & Shrubland	Great Lakes Alvar
Agriculture: Plantation & Orchard	Northeastern Upland Forest	Pine plantation / Horticultural pines
Forest & Woodland	Boreal Upland Forest	Acadian Low Elevation Spruce-Fir-Hardwood Forest
Forest & Woodland	Boreal Upland Forest	Acadian Sub-boreal Spruce Flat
Forest & Woodland	Boreal Upland Forest	Acadian-Appalachian Montane Spruce-Fir-Hardwood Forest
Forest & Woodland	Boreal Upland Forest	Central and Southern Appalachian Spruce-Fir Forest
Forest & Woodland	Northeastern Upland Forest	Allegheny-Cumberland Dry Oak Forest and Woodland
Forest & Woodland	Northeastern Upland Forest	Appalachian (Hemlock)-Northern Hardwood Forest
Forest & Woodland	Northeastern Upland Forest	Central and Southern Appalachian Montane Oak Forest
Forest & Woodland	Northeastern Upland Forest	Central Appalachian Dry Oak-Pine Forest
Forest & Woodland	Northeastern Upland Forest	Central Atlantic Coastal Plain Maritime Forest

Northeast RSGCN Database Habitat Type	DSLland Formation	DSLland Ecosystem
Forest & Woodland	Northeastern Upland Forest	Glacial Marine & Lake Mesic Clayplain Forest
Forest & Woodland	Northeastern Upland Forest	Laurentian-Acadian Northern Hardwood Forest
Forest & Woodland	Northeastern Upland Forest	Laurentian-Acadian Northern Pine-(Oak) Forest
Forest & Woodland	Northeastern Upland Forest	Laurentian-Acadian Pine-Hemlock-Hardwood Forest
Forest & Woodland	Northeastern Upland Forest	Laurentian-Acadian Red Oak-Northern Hardwood Forest
Forest & Woodland	Northeastern Upland Forest	North Atlantic Coastal Plain Hardwood Forest
Forest & Woodland	Northeastern Upland Forest	North Atlantic Coastal Plain Maritime Forest
Forest & Woodland	Northeastern Upland Forest	North-Central Interior Beech-Maple Forest
Forest & Woodland	Northeastern Upland Forest	Northeastern Coastal and Interior Pine-Oak Forest
Forest & Woodland	Northeastern Upland Forest	Northeastern Interior Dry-Mesic Oak Forest
Forest & Woodland	Northeastern Upland Forest	Piedmont Hardpan Woodland and Forest
Forest & Woodland	Northeastern Upland Forest	South-Central Interior Mesophytic Forest
Forest & Woodland	Northeastern Upland Forest	Southern and Central Appalachian Cove Forest
Forest & Woodland	Northeastern Upland Forest	Southern Appalachian Low Elevation Pine Forest
Forest & Woodland	Northeastern Upland Forest	Southern Appalachian Montane Pine Forest and Woodland
Forest & Woodland	Northeastern Upland Forest	Southern Appalachian Northern Hardwood Forest
Forest & Woodland	Northeastern Upland Forest	Southern Appalachian Oak Forest
Forest & Woodland	Northeastern Upland Forest	Southern Atlantic Coastal Plain Mesic Hardwood Forest
Forest & Woodland	Northeastern Upland Forest	Southern Piedmont Dry Oak-Pine Forest
Forest & Woodland	Northeastern Upland Forest	Southern Piedmont Mesic Forest
Forest & Woodland	Northeastern Upland Forest	Southern Ridge and Valley / Cumberland Dry Calcareous Forest

4A Regional Project Summary Table (Includes RCN, USFWS, CSWG, AND SA) Projects

Project ID	Brief Title	Principal Investigator/Lead Organization	SWAP Element & Synthesis Chapter #	NE States included	Final Product/link Links will sync with the new website (www.northeastwildlifediversity.org)when it is enabled.	Product Release Date
NETWHCS	Northeastern Terrestrial Wildlife Habitat Classification	VDGIF	2	All	main Excel spreadsheet of classification with supporting documents www.northeastwildlifediversity.org	2008
NEAHCS	Northeastern Aquatic Habitat Classification	VDGIF	2	All	GIS database, final report and supporting documents, www.northeastwildlifediversity.org	2008
NERPMF	Regional Monitoring and Performance Framework	NYDEC	5	All	2 Final reports and appendices, www.northeastwildlifediversity.org	2008
RCN 2007-01	Regional Habitat Maps: NE Terrestrial Habitat Class. System	TNC	2	All	Terrestrial Ecosystem and Habitat Map of NE, www.northeastwildlifediversity.org	2012
RCN 2007-02	Northeast Regional Connectivity Assessment Project	TNC	2,3,4	All	NE Aquatic Connectivity report and NCAT tool, www.northeastwildlifediversity.org	2012
RCN 2007-03	Identifying Relationships between Invasive Species and SGCN	CMI	3	All	Final report, Excel spreadsheets, example, www.northeastwildlifediversity.org	2012
RCN 2007-	Development of Avian	ABC	5	All	Protocol, SOP, and data for mountain, tidal and grassland birds	2009

Project ID	Brief Title	Principal Investigator/Lead Organization	SWAP Element & Synthesis Chapter #	NE States included	Final Product/link Links will sync with the new website (www.northeastwildlifediversity.org)when it is enabled.	Product Release Date
04	Indicators and Measures				www.northeastwildlifediversity.org	
RCN 2007-05	Conservation Status of Key Habitats and Species	TNC	1,2,3,5	All	Conservation Status report with maps and tables www.northeastwildlifediversity.org,	2011
RCN 2007-06	GIS based Application to Estimate Stream Flow	USGS	3	NH, VT, MA, CT	Report, Manuscript, GIS-based Tool, User Manual www.northeastwildlifediversity.org,	2012
RCN 2007-07	Regional Initiative Biomass Successional SGCN	CMI	3,4	All	Final report www.northeastwildlifediversity.org,	2011
RCN 2007-08	Grassland/Shrubland Conservation Initiatives	NEAFWA	1,2,3,4	All	4 final reports, BMPs www.northeastwildlifediversity.org,	2010-2011
RCN 2007-09	WNS in Bats	Bucknell Univ	1,3	All	Manuscript, report, www.northeastwildlifediversity.org,,	2012
RCN 2008-01	GIS Application to Estimate Target Fish Comm.	Rushing Rivers	1,2	All	GIS Application	2012
RCN 2008-02	Model Guidelines for Local Planning Boards	NatureServe	3	All	Final report and Excel spreadsheet of guidelines www.northeastwildlifediversity.org,	2012

Project ID	Brief Title	Principal Investigator/Lead Organization	SWAP Element & Synthesis Chapter #	NE States included	Final Product/link Links will sync with the new website (www.northeastwildlifediversity.org)when it is enabled.	Product Release Date
RCN 2008-03	Focal Area Resilience and Adaptive Capacity	TNC	2, 3	All	Final report, www.northeastwildlifediversity.org,	2011
RCN 2008-04	Implementation of Bird Monitoring	ABC	1,5	All	Monitoring Implementation	2011
RCN 2008-05	Key Habitat and Species Indicators and Measures	TNC	1,2,3,5	All	Project merged with RCN 2007-05, final report www.northeastwildlifediversity.org,	2011
RCN 2009-01	Assessing Impacts of Climate Change on SGCN	Manomet	1,3	All	3 Final reports www.northeastwildlifediversity.org,	2011
RCN 2009-02	Condition Analysis for NE Habitats	TNC	2,3,5	All	Report 2010, 2011 www.northeastwildlifediversity.org,	2011
RCN 2009-03	Invertebrate Online Database	CMNH	1,2,3,4,5	All	web-accessible database http://iz.carnegiemnh.org/sgcninverts/default.asp www.northeastwildlifediversity.org,	2012
RCN 2009-04	Noninvasive Monitoring Tools for NE Cottontail	UNH	1,2,3,4,5	ME, NH, MA, CT, RI, NY	3 Final reports www.northeastwildlifediversity.org,	2012
RCN 2010-01	Lab and Field Testing of Treatments for WNS	Bucknell Univ.	1, 3	All	Report	2012

Project ID	Brief Title	Principal Investigator/Lead Organization	SWAP Element & Synthesis Chapter #	NE States included	Final Product/link Links will sync with the new website (www.northeastwildlifediversity.org)when it is enabled.	Product Release Date
					www.northeastwildlifediversity.org,	
RCN 2010-02	Instream Flow for Great Lakes Basin of NY and PA	TNC	3	NY, PA	Report and database www.northeastwildlifediversity.org,	2012
RCN 2010-03	Identification of Tidal Marsh Bird Focal Areas BCR 30	U of DE	1,2,3,4,5	NJ, DE, MD, DC, VA	Report www.northeastwildlifediversity.org,	2013
RCN 2010-04	Regional Analysis of Frog Monitoring	USGS	1, 5	All	Website, report www.northeastwildlifediversity.org,	2013
RCN 2011-01	Conservation Action Plan for the Eastern Black Rail	Ctr for Cons. Bio.	1,2,3,4,5	NY, NJ, PA, DE, MD	Report www.northeastwildlifediversity.org	2013
RCN 2011-02	Wood Turtle Conservation Strategy	UMass CRU	1,2,3,4,5	All	Report, website, https://www.northeastturtles.org/ www.northeastwildlifediversity.org	2013
RCN 2011-03	Conservation Assessment of Odonata	NY Natural Heritage	1,2,3,4,5	All	Report www.northestwildlifediversity.org	2013
RCN 2011-05	Terrestrial Map Guidance	TNC	2	All	Report, website https://www.northeastturtles.org/	2013

Project ID	Brief Title	Principal Investigator/Lead Organization	SWAP Element & Synthesis Chapter #	NE States included	Final Product/link Links will sync with the new website (www.northeastwildlifediversity.org)when it is enabled.	Product Release Date
RCN 2011-06	Aquatic Habitat Map Guidance	TNC	2	All	Report, https://www.conservationgateway.org/	2013
RCN 2011-07	RCN Regional Synthesis	TCI	1,2,3,4,5	All	Report www.northestwildlifediversity.org	2013
RCN 2011-08	Northeast State Wildlife Action Plans: Database Framework for Common Elements	NJ DFW	all	All	Report www.northestwildlifediversity.org	2015
RCN 2012-01	Rana Virus in Amphibians	MD DNR	3	All	Report www.northestwildlifediversity.org	2013
RCN 2012-02	Conservation Status of Brook Floater Mussel	Saint Anselm College	1,2,3,4,5	All	Report www.northestwildlifediversity.org	2013
RCN 2012-03	Fungal Dermatitis in New England Timber Rattlesnake	RI Zoological Society	3	ME, NH, VT, MA	Report www.northestwildlifediversity.org	2013
RCN 2013 (1)	Hellbender Conservation	Kim Terrell Smithsonian Zoological Park	1-5,7,8	all	Report www.northestwildlifediversity.org	2014
RCN 2013	Northern Diamondback Terrapin Conservation	Stephanie Egger,	1-5,7,8	All coastal	Report	2014

Project ID	Brief Title	Principal Investigator/Lead Organization	SWAP Element & Synthesis Chapter #	NE States included	Final Product/link Links will sync with the new website (www.northeastwildlifediversity.org)when it is enabled.	Product Release Date
(2)	Strategy	SUNY			www.northestwildlifediversity.org	
RCN 2013 (3)	Leopard Frog in Coastal NE	Matthew Schlesinger, SUNY	1-5,7,8	All coastal	Report www.NortheastWildlifeDiversity.org	2017
RCN 2014 (1)	Best practices wildlife populations NE forests	Dan Lambert, High Branch Conservation Services	1-5	All	Report www.NortheastWildlifeDiversity.org	2013-2017
RCN 2014 (2)	Coordination and I&E support	TCI	all	All	Annual reports www.NortheastWildlifeDiversity.org/	2018-2022
RCN 2014 (3)	Database	TCI	all	All	Database, report www.NortheastWildlifeDiversity.org/	2018-2022
RCN 2015 (1)	Determining effects of Landlocked Alewives on Anadromous Alewife Restoration	Eric Palkovacs, Santa Cruz	1-5	New England	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2015 (2)	Conservation and Management of Rare Butterfly	Jennifer Selfridge, MD DNR	1-5		Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2015 (3)	Strategies for Allegheny Woodrat Recovery	Sunshine Brosi, Frostburg State	1-5		Report www.NortheastWildlifeDiversity.org/	2019-2022

Project ID	Brief Title	Principal Investigator/Lead Organization	SWAP Element & Synthesis Chapter #	NE States included	Final Product/link Links will sync with the new website (www.northeastwildlifediversity.org)when it is enabled.	Product Release Date
RCN 2015 (4)	Wildlife Diversity Conservation Coordination	TCI	1-5		Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2016 (1)	Conservation Genetics of the Wood Turtle from ME to VA	Lisabeth Willey U of New England	1-5	All	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2016 (2)	Five-Factor Analysis of Petitioned Species	Scott Klopfer, VA Tech	all	All	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2016 (3)	Facilitate State SWAP Data Delivery and Population of RCN Regional Database	TCI	all	All	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2016 (4)	Bat Cave Gating	Armstrong et al	1,2,4	CT, NJ, NH, PA	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2016 (5)	Northern and Peripheral Populations of the Timber Rattlesnake	Christopher Jenkins, Orianne Society	1-5	All	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2016 (6)	Assessing the Status of Land Snails in the Northeast Region	Ken Hotopp Carnegie	1,4	All	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 1	Spotted Turtle Spatial Structure and Genetic	Rodney Dyer	1,4	All	Report	2019-

Project ID	Brief Title	Principal Investigator/Lead Organization	SWAP Element & Synthesis Chapter #	NE States included	Final Product/link Links will sync with the new website (www.northeastwildlifediversity.org)when it is enabled.	Product Release Date
Job 1 GSA 00040	Connectivity				www.NortheastWildlifeDiversity.org/	2022
RCN 2 Project 1 Job 1 GSA 00041	Spotted Turtle Assessment in MD/DE	Eric Liebgold	1,4	MD, DE	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 1 Job 1 GSA 00042	Assessment of Spotted Turtles in NJ	Jason Tesauro	1,4	NJ	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 1 Job 1 GSA 00043	Spotted Turtle Assessment Protocol	Donald Brown	1,4	All	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 1 Job 1 GSA 00045	Assessment of Spotted Turtles in NY	Glenn Johnson	1,4,5	NY	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 1 Job 1 GSA 00046 Amend 1	Spotted Turtle Population Monitoring and DNA Collection	Brandon Ruhe	1,4,5	all	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 1 Job 2 GSA	Eastern Box Turtle Status Assessment, Conservation Plan and BMPs	Brandon Ruhe	1-5	all	Report www.NortheastWildlifeDiversity.org/	2019-2022

Project ID	Brief Title	Principal Investigator/Lead Organization	SWAP Element & Synthesis Chapter #	NE States included	Final Product/link Links will sync with the new website (www.northeastwildlifediversity.org)when it is enabled.	Product Release Date
00046						
RCN 2 Project 1 Job 2 GSA 00047	Eastern Box Turtle Status Assessment, Conservation and BMPs	Patrick Roberts	1-5	all	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 1 Job 3 GSA 00033	Targeted Road Mitigation Assessment and BMPs	Tom Langen	1-5	all	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 1 Job 4 GSA 00046 Amend 2	Implementation of the Conservation Plan for the Wood Turtle in the NE	Brandon Ruhe	1-5	all	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 1 Job 4 GSA 00057	Northeast Turtle Conservation Database	Daniel Martinelli	1-5	all	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 1 Job 4 GSA 00074	Conservation Plan for the Blanding's Turtle and Associated SGCN in the NE	Kiley Briggs	1-5	all	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 2 Job 1 GSA 00031	Identification of Pollinator Species in the Northeast	Steve DeStefano	1-5	all	Report www.NortheastWildlifeDiversity.org/	2019-2022

Project ID	Brief Title	Principal Investigator/Lead Organization	SWAP Element & Synthesis Chapter #	NE States included	Final Product/link Links will sync with the new website (www.northeastwildlifediversity.org)when it is enabled.	Product Release Date
RCN 2 Project 2 Job 1 GSA 00032	Identification of Pollinator Species in the northeast	Joan Milam	1-5	all	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 2 Job 1 GSA 00050	Process Bee Samples	Michael Veit	1-5	all	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 2 Job 1 GSA 00078	Bee Identification	Clare Maffei	1-5	all	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 2 Job 1 GSA 00078 Amend 1	Bee Identification	Clare Maffei	1-5	all	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 2 Job 1 GSA 00096	Preparatory Phase for Data Analysis	Helen Poulos	1-5	all	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 2 Job 2 GSA 00030	Vegetation Monitoring Protocols to Inform LTLongterm anagement	Lori Cookman	1-5	all	Report www.NortheastWildlifeDiversity.org/	2019-2022

Project ID	Brief Title	Principal Investigator/Lead Organization	SWAP Element & Synthesis Chapter #	NE States included	Final Product/link Links will sync with the new website (www.northeastwildlifediversity.org)when it is enabled.	Product Release Date
RCN 2 Project 2 Job 3 GSA 00060A, Amend 1	Green Ridge Xerics Site	Jen Selfridge	1-5	MD	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 2 Job 3 GSA 00060B, Amend 1	Pocomoke Xerics Site	Jen Selfridge	1-5	MD	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 2 Job 3 GSA 00061, Amend 1	Linda Loring Xerics Site	Sarah Bois	1-5		Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 2 Job 3 GSA 00067, Amend 1	Albany Pine Bush Xerics Site	Neil Gifford	1-5	NY	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 2 Job 3 GSA 00073	Concord Pine Barrens Site #3 Xerics Site	Heidi Holman	1-5	NH	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 2 Job 3 GSA 00076	Pre- and Post-Burning Vegetation Surveys, Nicholas Farm and Pratt	Brian Maynard	1-5		Report www.NortheastWildlifeDiversity.org/	2019-2022

Project ID	Brief Title	Principal Investigator/Lead Organization	SWAP Element & Synthesis Chapter #	NE States included	Final Product/link Links will sync with the new website (www.northeastwildlifediversity.org)when it is enabled.	Product Release Date
Amend 1	Farm Xerics Site					
RCN 2 Project 2 Job 3 GSA 00084	Sandbar WMA Xerics Site	Leif Richardson	1-5		Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 2 Job 4 GSA 00029 Amend 1	Habitat for Pollinators: Improve Management Xeric Grasslands, Barrens and Woodlands	Elizabeth Crisfield	1-5	all	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 2 Job 4 GSA 00070, Amend 1	Communication and Project Support	Elizabeth Crisfield	1-5	All	Report www.NortheastWildlifeDiversity.org/	2019-2022
RCN 2 Project 3 Job 1 GSA 00029, Amend 1,2,3,4,5	Technical Support and NE SWAP and RSGCN database management RSGCN List Update, Limiting Factors Report, NE Regional Conservation Synthesis	TCI	1-5	All	RSGCN Database, RSGCN list, limiting factors report, regional conservation synthesis, annual reports	2018-2023
RCN 2 Project 1 Amend	Northeast Lexicon	SSI	1-5	All	Report-NE Regional Lexicon	2022

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RCN 2 Project 1 Amend	NE Habitat Condition Analysis	TNC	1-5	All	Report-NE Habitat Condition Assessment	2023
	CSWG Projects	Lead State		Grant Active		
CSWG	Rangewide New England Cottontail Initiative, Conservation Strategy	NHF&G	1-5	CT, ME, MA, NY, RI	Report https://newenglandcottontail.org/	2008
CSWG	Staying Connected in the N Appalachians	NH	1-5	ME, NY, VT	Report www.NortheastWildlifeDiversity.org	2008-2013
CSWG	WNS: Multistate Coordination, Investigation, and Response	PA	1-5	CT, DE, ME, NH, NJ, NY, WI, WV, VA	Report www.NortheastWildlifeDiversity.org	2008-10
CSWG	Conservation of Tidal Marsh Birds	ME	1-5	CT, DE, MD	Report www.NortheastWildlifeDiversity.org	2010-2011
CSWG	Rangewide New England Cottontail Expansion	MA	1-5	CT, ME, NH, NY, RI	Report https://newenglandcottontail.org	2011
CSWG	Conservation of Blanding's Turtles and Associated NE Wetland	NH	1-5	ME, MA, NY, PA	Report	2012

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	SGCN				www.northeastturtles.org	
CSWG	Rangewide New England Cottontail Phase 3	CT	1-5	NH, MA, ME, NY, RI	Report https://newenglandcottontail.org	2013
CSWG	The Gulf of Maine Coastal Marine Ecosystem Survey: Mapping Biological Hotspots	ME	1-2	ME, NH, MA	Report, publications	2018
CSWG	Integrating Vulnerability Science into a Strategic Conservation Plan for Maine's Species of Greatest Conservation Need	ME	1-3	ME	Report	2013
CSWG	Conserving Snake Species of Greatest Conservation Need Threatened by an Emerging Fungal Skin Disease	MA	1-5	NH, CT, VT, NJ, TN, MN, WI, IL	Report	2015
CSWG	Pennsylvania Wildlife Action Plan 2.0 – Prioritization and Mapping Enhancements	PA	1-4		Report	2013
CSWG	Conservation Planning and Implementation for the Wood Turtle (*Glyptemys insculpta*) and Associated	MA	1-5	ME, NH, CT, NJ, PA, MD, VA	Report – Conservation Plan for the Wood Turtle in the Northeastern US	2014, 2018

Project ID	Brief Title	Principal Investigator/Lead Organization	SWAP Element & Synthesis Chapter #	NE States included	Final Product/link Links will sync with the new website (www.northeastwildlifediversity.org)when it is enabled.	Product Release Date
	Riparian Species of Greatest Conservation Need from Maine to Virginia					
CSWG	Rangewide New England Cottontail Initiative (2014)	ME	1-5	NH, MA, CT	Report	2014
CSWG	Multistate Recovery Actions for Bog Turtle	PA Fish & Boat Commission	1-5	CT, MD, MA, NJ	Report https://www.fws.gov/sites/default/files/documents/Bog_Turtle_Conservation_Plan_2019_508C_0.pdf	2015, 2019
CSWG	Comprehensively Evaluating New Jersey's Bee Pollinators for the State Wildlife Action Plan	NJ	1, 5	NJ	Report	2015
CSWG	Adaptive Implementation of the Regional Conservation Plan for Blanding's Turtle and Associated Wetland SGCN in the Northeast	NH	1-5	MA, ME, PA	Report	2016
CSWG	Brook Floater: Rangewide Conservation and Restoration Initiative	MA	1-5	NY, ME, VA, NH	Report	2017
CSWG	MD Portion of Ohio and Maryland Bat Research Proposal	OH	1,2	MD	Report	2017

Project ID	Brief Title	Principal Investigator/Lead Organization	SWAP Element & Synthesis Chapter #	NE States included	Final Product/link Links will sync with the new website (www.northeastwildlifediversity.org)when it is enabled.	Product Release Date
CSWG	Spotted Turtle Conservation	VA	1-5	CT, DC, MA, PA, NH, ME	Report	2017
CSWG	Recovery of the Chesapeake Logperch, *Percina bimaculata*	PA	1-5	Chesapeake Watershed, MD	Report	2018
CSWG	Motus I: Overcoming Geographic and Temporal Barriers to Identifying Landscape-scale Habitat Use of Multiple SGCN in the Mid-Atlantic Region Using Nanotag Technology	PA	1,5	MD	Report, installed receiver stations	2018
CSWG	Implementation of the Bog Turtle Conservation Plan for the Northern Population, With Benefits to Associated Headwater Wetland Species of Greatest Conservation Need	PA	1-4	MD, MA, CT, DE	Report, implementation	2019-2023
CSWG	Motus II: Using Nanotag Technology to Identify Landscape-scale Habitat Use of Multiple SGCN in New England	NH	1,2,5	MA, ME, PA	Report	2019
CSWG	Testing Salt Marsh Restoration Practices for	CT	1-4	CT, ME, MD,	Report	2020

Project ID	Brief Title	Principal Investigator/Lead Organization	SWAP Element & Synthesis Chapter #	NE States included	Final Product/link Links will sync with the new website (www.northeastwildlifediversity.org)when it is enabled.	Product Release Date
	Saltmarsh Sparrow Conservation			RI, VA, MA		
CSWG	Wetland Habitat for Black Rails	MD	1-4	MD	Report, https://bioone.org/journals/waterbirds/volume-44/issue-2/063.044.0211/Mapping-Habitat-Quality-and-Threats-for-Eastern-Black-Rails-Laterallus/10.1675/063.044.0211.full	2020
CSWG	Regional Conservation for Wood Turtles and Related Emydine Turtles	CT, ME, MD, NH, NJ, PA, RI, VA, WV, NY	1-5	all	Report	2020
CSWG	Advancing Conservation and Restoration of Brook Floater and Associated Freshwater Mussels	MA	1-5	NJ, SC, VA	Report	2021-2024
CSWG	Updating Vermont's 2025 Action Plan with Vermont Conservation Design	VT	1-5	VT	Report	2021
CSWG	Eastern Shore Conservation Initiatives	VA	2,4	VA	Report, land acquisition	2021, 2022
CSWG	Addressing Population Declines Due to Loss of Adult and Juvenile Turtles to Illegal Wildlife Trade	VA	1-5	all	Report	2021

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CSWG	Conserving Vermont's Spotted Turtles: Using Novel Techniques to Detect a Cryptic Species and Identify Unknown Populations		1-5	VT	Report	2022
CSWG	Creating a Comprehensive Conservation and Management Plan for the Southern Lineage of the Bog Turtle and its Associated Habitats	VT	1-5	all	Report	2021
CSWG	Distribution and Demography of Saltmarsh Sparrows in the Understudied, Southern Extent of the Species' Breeding Range	VA	1-5	VA	Report	2022
CSWG	Modernizing the Northeast Wildlife Action Plan Database	NEAFWA	1-5	CT, DE, ME, MD, MA, NH, NJ, NY, PA, RI, VT,DC, WV	www.NortheastWildlifeDiversity.org	2022-2026
CSWG	Motus III: PA and VT portion of Identifying SGCN Habitat Use Across Multiple Scales Throughout the Eastern U.S. Using the Motus	AL	1-5	WV, VA, KY, TN, NC, SC, GA, FL, CT, DE, ME, MD, MA,RI, PA, NH, NJ,	Report	2022

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	Wildlife Tracking System			NY		
ARS At Risk Species Program (ARS)-USFWS	USFWS- SA Team leads assembled to address these topic areas	USFWS			Report	2021-22
	ARS Chesapeake Logperch	SA/ USFWS	1-5	Chesapeake watershed	Report	2021-22
	ARS New England Cottontail	SA/ USFWS	1-5	NE England	Report	2021-22
	Saltmarsh Sparrow	SA/ USFWS	1-5	All but VT,WV	Report	2021-22
	Atlantic Coast Beach and Shorebirds (AMOY, RUTU, WHIM)	SA/ USFWS	1-5	All but VT, WV	Report	2021-22
	Forest Songbirds (GWWA, CEWA, WOTH)	SA/ USFWS	1-5	all	Report	2021-22
	Pine Barrens Species	SA/ USFWS	1-5	all	Report	2021-22
	Diadromous Fishes (Alewife, Blueback	SA/ USFWS	1-5	all	Report	2021-22

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	Herring)					
	Farmland Pollinators (Bees and Butterflies)	SA/ USFWS	1-5	all	Report	2021-22
	Freshwater Mussels (Brook Floater, Cumberland Moccasinshell, Pheasantshell, Tennessee Clubshell, Tidewater Mucket, Yellow Lampmussel)	SA/ USFWS	1-5	all	Report	2021-22
	Mountain Butterflies- White Mountain Arctic, White Mountain Fritillary	SA/ USFWS	1-4	NH	Report	2021-22
	NE Turtles (Blandings, Spotted and Wood Turtles	SA/ USFWS	1-5	all	Report	2021-22
Early LCC projects pre- 2014						
LCC - 1	Virginia Piedmont and Coastal Plain Updates to Northeast Habitat Map	TNC		VA, MD	Extension of the Terrestrial Ecosystem and Habitat Map of NE https://www.landscapepartnership.org/projects/north-atlantic-projects/virginia-piedmont-and-coastal-plain-updates-to-northeast-habitat-map	Jun-12

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LCC - 2	Extending the Northeast Terrestrial Habitat Map to Atlantic Canada	TNC		Canada - Quebec, New Brunswick, Prince Edward Island, Nova Scotia		2015
LCC - 3	Revisions to the Northeastern Aquatic Habitat Classification	TNC		All		2015
LCC - 4	Application of the Coastal and Marine Ecological Classification Standards (CMECS) to the Northeast	TNC		ME, NH, MA, CT, RI, NY, NJ, PA, DE, MD, DC,VA		2014
LCC - 5	Rapid Update to the National Wetlands Inventory for Selected Areas of Intertidal Wetlands in the North Atlantic LCC	Conservation Management Institute		ME, MD, MA, NY, PA, and VA		2017
LCC - 6	Vulnerabilities to Climate Change of Northeast Fish and Wildlife Habitats, Phase II	Manomet Center for Conservation Sciences		All		2013
LCC - 7	Completing Northeast Regional Vulnerability Assessment Incorporating	NatureServe		All		2013

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	the NatureServe Climate Change Vulnerability Index					
LCC - 8	Permeable Landscapes for Species of Greatest Conservation Need	TNC		All	https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/terrestrial/resilience/Pages/default.aspx	2016
LCC - 9	Designing Sustainable Landscapes: Assessment of Landscape Changes in the North Atlantic Landscape Conservation Cooperative: Decision-Support Tools for Conservation	University of Massachusetts, Amherst		All	https://umassdsl.org/	2015-2016
LCC - 10	Decision Support Tool to Assess Aquatic Habitats and Threats in North Atlantic Watersheds and Estuaries	Downstream Strategies		All		2015
LCC - 11	Mapping the Distribution, Abundance and Risk Assessment of Marine Birds in the Northwest Atlantic Ocean	North Carolina State University		ME, NH, MA, CT, RI, NY, NJ, PA, DE, MD, VA		2017
LCC - 12	Forecasting Changes in Aquatic Systems and Resilience of Aquatic Populations in the	USGS/ University of Massachusetts Amherst		All		2017

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	NALCC: Decision-support Tools for Conservation					
LCC - 13	Forecast Effects of Accelerating Sea-level Rise on the Habitat of Atlantic Coast Piping Plovers and Identify Responsive Conservation Strategies	Virginia Tech		ME, NH, MA, CT, RI, NY, NJ, DE, MD, VA		2014
LCC - 14	Assessing Priority Amphibian & Reptile Conservation Areas (PARCAs) and Vulnerability to Climate Change in the North Atlantic Landscape Conservation Cooperative (LCC)	Association of Fish and Wildlife Agencies		All		2017
LCC - 15	Identifying Important Migratory Landbird Stopover Sites in the Northeast	University of Delaware		All		2014
LCC - 16	Northeast Regional Conservation Design, Regional Synthesis and Delivery of Conservation Information and Tools for SWAP updates	North Atlantic LCC		All		2013

APPENDIX 4B PRIORITY ACTIONS COMPILED FROM THE 14 2015 NE SWAPS AND PRIORITIZED THROUGH ANALYSIS AND FINAL INPUT FROM NEFWDTC/SWAP COORDINATORS IN 2017

	Development	Pollution	Dams and Water Management	Invasives and Disease	Climate Change
Direct Management of Natural Resources	**OVERARCHING ACTIONS** ✓ Inform, guide, implement, and evaluate strategic conservation of RSGCN and key habitats in the Northeast. ✓ Promote and implement recommendations from previous RCN and Competitive SWG funded conservation projects that developed conservation strategies for RSGCN.				
	• Develop and Implement incentives, BMPs and more cost-effective designs and green infrastructure. • Install transportation crossing structures (e.g., turtle crossing), fencing, protecting key areas etc. (Partner with DOTs). • Provide incentives, tools and information on land management to increase native pollinators and supporting habitats.	• Engage partners and landowners to develop effective, consistent implement BMPs to reduce pollution from development. • Incorporate SWAP priorities into standards of practice for residential and commercial development, service, and transportation to reduce impacts of pollution (e.g., the lawn care, road salting).	• Improve aquatic connectivity by Upgrade or remove barriers to provide passage and flow. • Improve buffer condition. • Provide guidance to prioritize conservation on the ground by applying SWAP, RCN and partner tools and data as a framework to guide a regional conservation land/water network enhanced with state and local level data.	• Collaborate with Wildlife Disease Cooperatives to implement *B. sal* testing at ports of entry for the pet trade. • Develop and Implement BMPs for treatment of invasives to avoid harm to non-target species. • Protect native populations (i.e., SGCN RSGCN) from the introduction and spread of diseases (e.g., *B. sal*) as they emerge.	• Manage for shifting habitats and to provide refugia.

Develop Partnerships	**OVERARCHING ACTIONS** ✓ Cultivate existing partnerships and build new partnerships. ✓ Reduce impacts of all top threats to preserve, protect, and restore habitats. ✓ Incorporate SWAP information and priorities into partner plans and programs at the local, state and regional levels				
	• Provide incentives, and tools to enhance existing efforts with SWAP priorities and on-the-ground delivery of conservation for RSGCN and habitat in the region (e.g., APPLCC, NALCC restoration tools). • Link core areas across the region (Like the *Staying Connected* Initiative)	• Incorporate SWAP priorities into standards of practice in the lawn care industry. • Work with NRCS, EPA, state and local water control entities, and other partners to reduce non-point source **pollution** by helping communicate the benefits and needs of SGCN species.	• Aquatic connectivity is accomplished with support from public and private partners. • Departments of Transportations, Trout Unlimited and other NGOs and watershed groups, and other public and private partners to improve aquatic connectivity and pollution.	• Work with USDA to develop BMPs to reduce the risk of disease transmission from captive bees to wild bees. • Build regional and state-level partnership with Xerces Society. • Work with: ○ Disease Cooperatives ○ USGS Wildlife Health Center Lab ○ USDA ○ Wildlife Conservation Society ○ Cornell, Brown, Tufts	
Data Collection and Analysis	• Apply key regional tools and data to guide a regional network. • Nature's Network (NALCC) provides several development layers including predicted development. • Inform development and implementation of effective on-the-ground management and conservation tools and techniques	• Measure results of pollution reduction through long-term monitoring. • Document species' vulnerabilities to **pollution, (development, invasives and disease, natural systems modifications and climate change)** and response to implemented actions to document changes.	• Inventory barriers. • Document species' vulnerabilities to **pollution, (development, invasives and disease, natural systems modifications and climate change)** and response to implemented actions to document changes.	• Amphibian research and monitoring (work with USGS. • Develop standardized monitoring protocols for grassland RSGCN invertebrate pollinators • Engage citizen scientists (like Maryland Statewide Eyes program) • Facilitate rapid and coordinated response to new **disease and invasive introductions.**	• Develop regionally coordinated and cost-effective monitoring protocols that meet multiple objectives across states. • Improve agreements for data sharing to support adaptive and iterative management decisions across jurisdictions (better ways to collect, compile, curate, and distribute data). • Determine how pollution affects the impacts of ocean acidification.

	that address the needs of SGCN and key habitats.				• Better understand species' responses to ecological dynamics including stresses associated with **climate change.**
Communication (Education and Technical Assistance)	**OVERARCHING ACTIONS** ✓ Develop and deliver regionally consistent messaging of SWAP priorities and conservation needs. ✓ Develop improved communication approaches including outreach, education and technical assistance to target audiences including land use decision-makers, stakeholders and the public to address the top five threat impacts on SGCN and key habitats. Include benefits and risks to wildlife species and humans. ✓ Explain how threats cause RSGCN population declines or habitat degradation, to motivate partner engagement and develop more effective actions to address them. ✓ Promote regional actions in this report and in RCN project results. ✓ Promote public awareness of and support for state wildlife diversity conservation programs (e.g., SWAPs, BioMap, Beginning with Habitat).				
	• Provide clear and consistent dissemination of information to land use decision-makers and home/building/land owners and developers. • Develop effective state environmental review process, land use planning, and conservation policies to incorporate the needs of SGCN/RSGCN and key habitats to advance regional consistency (including regulations and policies for each top	• Standardize and promote buffer guidance and other BMPs. • Include large landowners such as military bases and corporate/industrial parks, USDA programs, to take advantage of opportunities to **restore important grassland and early successional habitats and minimize pollution.**	• Benefits of aquatic connectivity to SGCN. • Costs and risks of degrading dams. • Best practices for dam/culvert upgrading or removal. • Importance of minimum flows or levels to SGCN.	• Communicate SWAP priorities to groups involved with native species promotion and invasive species eradication. • Apply lessons learned from fighting white-nose syndrome – increased communication and coordination. • Develop targeted outreach and education messages and need for conservation actions (for priority species and habitats) for target audiences to prevent the introduction and spread of invasives and disease.	• Explain how states are working together toward objectives. • Explain how climate change interacts with other persistent threats. • Explain how regional stewardship of vulnerable species can be accomplished and why it is important.

	threat (water management).				
Planning and Coordination	**OVERARCHING ACTIONS** ✓ Develop feasible plans for effectiveness measures to improve project reporting and adaptive management. ✓ Build funding and capacity to protect the nearly 3000 SGCN listed in NE SWAPs. ✓ Incorporate SWAP Priorities and Regional (Nature's Network) into all levels of planning to conserve RSGCN and Key Habitats				
	• Implement smart growth planning initiatives such as the Staying Connected initiative (VT, ME, NH). • Provide regional SWAP and partner priorities highlighting RSGCN and key habitats for incorporation n local, state and regional planning efforts.	• Provide regional SWAP and partner priorities for incorporation into local, state and regional water and watershed planning efforts highlighting RSGCN and key habitats.	• Consider SGCN requirements when regulating wells near SGCN habitats. • Consider Regulations & Policies for Dam and Water Management. • Consider SGCN Life-History Requirements with Dam Flow-Release Schedules and Practices. • Consider SGCN Life-History Requirements for wells in proximity to SGCN habitats. • Reduce Impact of Aquifer Withdrawals in Coastal Areas.	• Identify target areas for disease prevention (e.g., Appalachia endemics). • Identify next steps for Ranavirus prevention and treatment based on RCN project results. • Develop plans for prevention and treatment of emerging fish (and other taxa) diseases. • Develop regionally coordinated early detection/rapid response plans for both invasives and disease. • Develop protocols for treatment, containment, mitigation of diseases. • Improve disease prevention strategies (quarantine and risk assessment). • Customize the National Invasive species strategy ○ Prevention. ○ Early Detection and Rapid Response.	• Develop maps of refugia for vulnerable RSGCN for more strategic and long-standing SWAP implementation. • Collaborate to refine the role of State Fish and Wildlife Agencies in conserving SGCN ○ Determine management objectives for species or habitats. ○ Determine prioritization factors to direct limited funds to SGCN for long-term benefit. ○ Develop use of tools to manage uncertainty in action planning. • Develop position papers and inter-state strategies for: ○ Considering the feasibility of assisted migration of species to new suitable habitats, potentially across state lines. ○ Communication and coordination when states begin or cease to conserve

				○ Control and Management ○ Rehabilitation and restoration.	a species that has shifted into or out of the state. ○ More frequently convening experts to review emerging threats and population trends.
Law, Regulation, and Policy	**OVERARCHING ACTIONS** ✓ Review incentives, laws and policies region-wide (e.g., endangered species protection, invasive animal and plant introductions or use) ✓ Use state environmental review process to incorporate the needs of SGCN/RSGCN and key habitats.				
	• Guide acquisition, easements, and management based on RSGCN key habitats. • Develop effective habitat protection policies and zoning for RSGCN and Key habitats	• Develop effective wetland and riparian buffer incentives, policies and regulation to reduce pollution.	• Improve dam regulation discharges to provide more natural flow regimes. • Regulate water withdrawals to preserve wetlands, particularly in coastal areas where saltwater intrusion is a concern. • Inventory, assess and monitor compliance and condition of structures.	• Strengthen regulations on invasive animal and plant species. • Develop incentives and polices to reduce invasive species impacts on native species, particularly pollinators, reptiles and amphibians, fish and invertebrates or other RSGCN, as needed.	• Develop effective incentives, policies and regulations to provide for habitat shifting and to prevent loss of key coastal and upland habitats.