Northeast SWAP Roll Up

Learning from the 14 State Wildlife Action Plan 2015-2016 Revisions

Preliminary observations
of regional species and habitats of greatest conservation need and the key challenges they face in the next decade

2013-15 Background-Regional Data Sharing Projects to inform SWAP Revisions and enable Roll Up

1- NE Synthesis- *ROLL DOWN*

* Compile 50+ regional projects for state use (Wildlife Action Plans)
* different terms and scales for each project

2- State Action Plan Database+ *ROLL UP*

- Compile 14 State Action Plans
- different terms and processes for each state

Needed to develop and agree on COMMON terminology and processes for both projects to be meaningful and effective = *LEXICON*

* Developed the Lexicon
* Organize by SWAP Plan Element

Funded by:

Regional Conservation Needs Grant Program

* RCN Program established in 2007 (2005 SWAP shared action)
* 13 States +District of Columbia contribute 4% of their SWG fun
* Administered by Wildlife Management Institute
* Overseen by Northeast Fish and Wildlife Diversity Technical Co
* 2007-2015- $2.5 million to 50+ projects (provide equal match)
* Set national precedent w value added benefits

Project Schedule

- Most SWAP revisions submitted October 2015 – last one anticipated August 2016
- Project start date – January 1, 2016
- Review, data collection, organization- January- June 2016
- Analyses and interim reports- fall 2016- 2017
- Final report December 2017

- Terwilliger Consulting Inc. Team:

Karen Terwilliger, Elizabeth Crisfield, Judy Stokes Weber, Alison Whitlock, Shannon Alexander, Bridie Farmer, Peter Good, Sally Sims

Project Scope

- Compile and analyze 13 state and District of Columbia SWAPs :
- **Species of Greatest Conservation Need** (SGCN) and RSGCN update
- **Key habitats-** ID shared priorities or common concerns
- Determine shared priority **threats** acting at the regional scale
- Identify shared conservation **actions** to address these threats

Approach to Identify NE SWAP Priorities

- Preliminary Review followed by data set analyses
- Short-term 2016: Review to organize large volume data
  - Inform NEFWDTC, NEAFWA and RCN Task Force in April
  - Assist states in SWAP data export and QA/QC
- Long-term 2017: Use SWAP data from 14 NE states
  - parallel database project to provide data

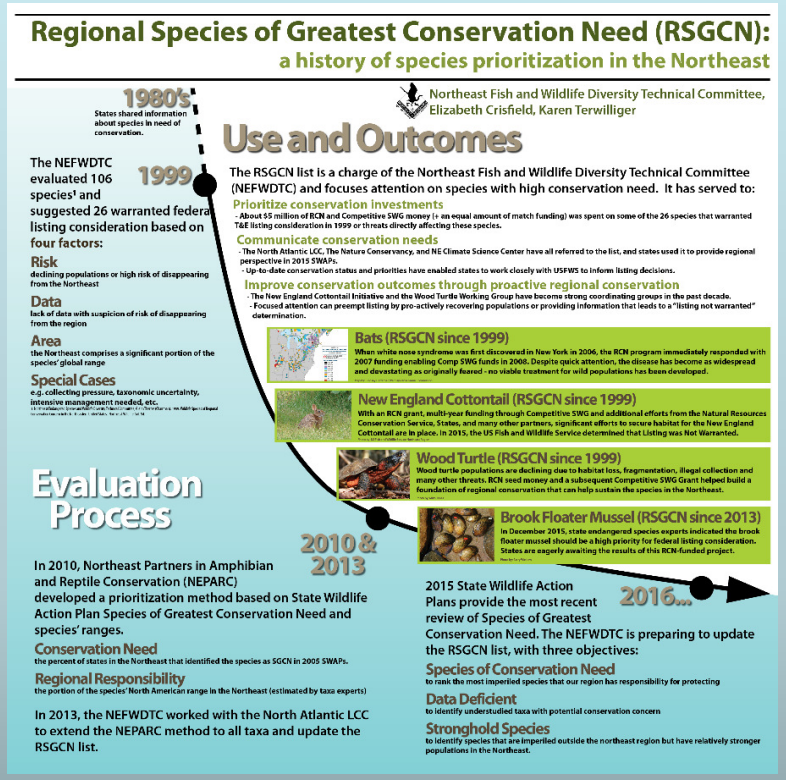
Species - RSGCN: Approach

1. Compiled 14 SGCN lists (complete- posted on RCNgrants.org website)
2. Compare methods and results from 1999 – present and track species and trends
3. Address NEFWDTC Objectives: (why species should be on the list)
   * Identify the most imperiled species
   * Identify data deficient taxa
   * Identify species for which the northeast region has stronghold responsibility
4. Work with NALCC developing RSGCN list for RCOAs and coordinate Taxa expert review

First: Document History of RSGCN

History and Evolution of Regional Species of Greatest Conservation Need (RSGCN)

* 1980's: NEFWDTC shared state lists
* 1996-2000: French and Pence compiled state lists
* 1999: NEFWDTC (Therres) species assessment
* 2005: SWAPs and Whitlock compilation
* 2010: NEPARC Conservation Need and Regional Responsibility
* 2013: NEFWDTC/NALCC expanded to all taxa
* **2016: NEFWDTC currently updating the list**



Highlights of 14 state SGCN lists

* 2950 SGCN throughout the region
* 800 newly listed SGCN species from 2005- 700 invertebrates
* 300 no longer listed as SGCN
* 14 species were listed as SGCN in all SWAPS
  * 5 bats (white nose syndrome!)
  * 8 birds
  * Spotted turtle
* Species not listed in 2005 now listed throughout the region
  * Rusty-patched bumblebee
  * Little brown bat
  * Tri-colored bat
  * Rusty blackbird

Rusty-patched bumblebee

Johanna James Heinz

Tri-colored bat

Darwin Brock

Regional Species SGCN List

Has already Informed state listing and partner efforts such as:

* USFWS ES-MDL, NALCC- RCOA, NRCS- focal species

When database complete we can:

* Sort by species, habitat, threat and/or action
* Sorted compiled SGCN list for species in Chesapeake Bay:
* Preliminary sort: 27 species shared between 6 C Bay states:
* Some species occur only in the watershed- responsibility?
* List available upon request

Next steps- continue to work with NALCC- RCOA process

* Finalize a RSGCN list to fulfill the NEFWDTC charge

Habitats: SWAP Approaches

Preliminary observations:

* Used NE Lexicon - TNC classification systems

The Northeast Terrestrial Wildlife Habitat Classification System Report (Gawler 2008).

The Northeast Aquatic Habitat Classification System (Olivero and Anderson 2008)

* Rolled up to user-friendly broad categories (Formation)
* SWAPs were habitat oriented (half with SGCN species profiles)
* Linked to species, threats and actions

SWAP Key Habitats being compiled

Formation Class	Formation Name	Macrogroup
1. Forest and Woodland	Southeastern Upland Forest	Longleaf Pine
	Northeastern Upland Forest	Southern Oak-Pine
		Central Oak-Pine
		Northern Hardwood & Conifer
		Plantation and Ruderal Forest
		Exotic Upland Forest
	Northeastern Wetland Forest	Southern Bottomland Forest
		Coastal Plain Swamp
		Central Hardwood Swamp
		Northeastern Floodplain Forest
		Northern Swamp
	Boreal Upland Forest	Boreal Upland Forest
	Boreal Wetland Forest	Boreal Forested Peatland
		Glade and Savanna

Habitats: State Key Habitats (RHGCN)

MACRO_R	SUM_GRP_R	States
Boreal Upland Forest	Acadian Low Elevation Spruce-Fir-Hardwood Forest	MA, ME, NH, NY, VT
Northern Peatland	Acadian Maritime Bog	ME
Boreal Upland Forest	Acadian Sub-boreal Spruce Flat	MA, ME, NH, NY, VT
Alpine	Acadian-Appalachian Alpine Tundra	ME, NH, NY, VT
Boreal Upland Forest	Acadian-Appalachian Montane Spruce-Fir-Hardwood Forest	MA, ME, NH, NY, VT
Rocky Coast	Acadian-North Atlantic Rocky Coast	CT, MA, ME, NH, NY, RI
Cliff and Talus	Acidic Cliff and Talus	CT, DC, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VA, VT, WV

Threats to the Most Vulnerable Habitats as Reported in 2015 SWAPs (cursory review- database will refine)

Upland Habitats

Major Threats: Land use changes and conversion (development, energy, and road infrastructure), invasives species, climate change, for forests: habitat condition—lack of young forest conditions.

Wetlands (Tidal and Nontidal)

Major Threats: Impaired water quality, land use changes, water supply, invasive species, climate change. **Major Climate Change Threats:** Sea level rise, more intense storm events, increased coastal flooding, increased erosion, increased saltwater intrusion.

Aquatic and Riparian Habitat (Freshwater and Tidal)

Major Threats: Water quality degradation, increased impervious surface, invasive species, habitat conversion and alteration (lack of aquatic connectivity), climate change, channel dredging. **Major Climate Change Threats:** Droughts, changes in air temperature and precipitation, water temperature extremes, sea level rise.

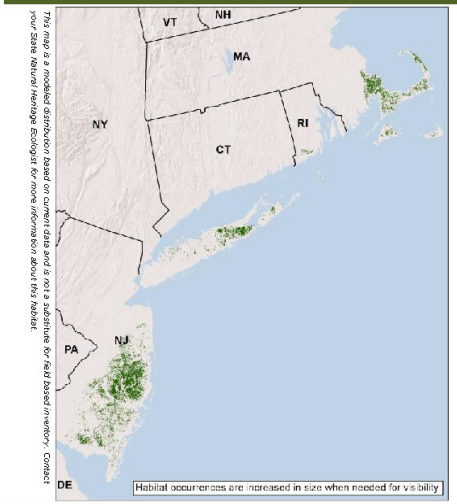
Coastal/Marine (Beaches, Dunes, Mudflats, Offshore Islands, Other)

Major Threats: Habitat conversion and alteration (development; shoreline hardening), climate change, invasive species. **Main climate change threats:** Sea level rise; more intense, more frequent storm events; increased coastal flooding, exacerbated by land subsidence, increased erosion, increased saltwater intrusion; increased salt spray, increased coastal acidification.

Existing data from RCN project: TNC Habitat Guides: Compiled habitats by states

North Atlantic Coastal Plain Pitch Pine Barrens

Macrogroup: Central Oak-Pine



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State Distribution: MA, NJ, NY, RI

Total Habitat Acreage: 491,551

Percent Conserved: 46.8%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
NJ	66%	326,469	82,234	86,207	158,029
MA	21%	101,284	8,984	36,076	56,224
NY	12%	60,016	7,303	8,204	44,509
RI	1%	3,782	656	284	2,842

Description:

A dry, fire-adapted forest with a variable canopy of pitch pine, a tall-shrub layer dominated by scrub oak, and a low-shrub layer characterized by blueberry and other heaths. Other oaks (scarlet, black, chestnut, white) are also sometimes present. Composition and structure vary with fire frequency. In general, tree oaks are more prevalent in those stands having a longer fire-return interval, while fire frequencies of eight to ten years foster the growth of "pine plains," dwarf pine stands one meter in height. Dwarf-shrubs such as lowbush blueberry, bearberry and golden-heather typify the field layer of pine plains. Scrub oak stands may occur without pine cover, particularly in low-lying areas where cold-air drainage inhibits pine growth.

Ecological Setting and Natural Processes:

This system favors low-nutrient, deep sandy soils in dry, flat settings on the coastal plain. Historically large occurrences in southeastern Massachusetts and on Long Island have been largely degraded or destroyed, but sizable and relatively intact examples still exist in New Jersey. Occasional small barrens peripheral to the main distribution occur from southern Maine to Maryland.

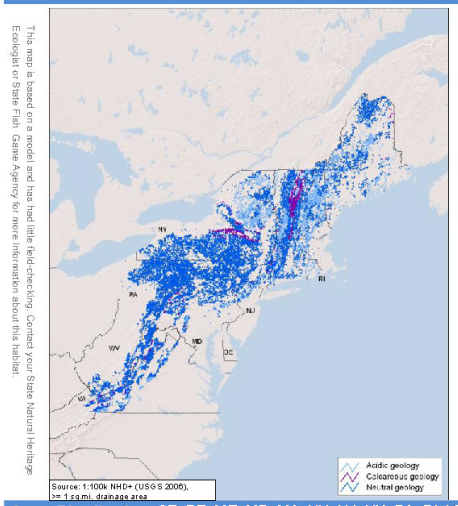
Similar Habitat Types:

On the coastal plain of New Jersey, the pitch pine lowland system often occurs immediately adjacent to the upland pitch pine barrens system, where the water table is close to the surface. These upland pitch pine barrens are similar in structure and composition to the Northeastern Interior Pine Barrens system, but each system has species not shared by the other.

Crosswalk to State Wildlife Action Plans:

High Gradient, Cold, Headwaters and Creeks

Macrogroup: Headwaters and Creeks



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State Distribution: CT, DE, ME, MD, MA, NH, NJ, NY, PA, RI, VT, VA, WV

Total Habitat (mi): 36,183

% Conserved: 26.3 Unit = Acres of 100m Riparian Buffer

State	State Habitat %	Miles of Habitat	Acres GAP 1 - 2	Acres GAP 3	Total Acres Unsecured
NY	29	10443	1008	696	6458
PA	24	8847	293	1935	4756
ME	10	3799	180	454	2380
VT	10	3552	109	345	2313
NH	8	2868	265	594	1396
VA	6	2143	296	394	1004
WV	5	1692	58	273	1006
MA	3	1196	41	231	669
CT	2	816	37	74	526
NJ	1	403	65	28	224
MD	1	376	21	71	204

Description:

Cold, fast-moving headwaters and creeks of steeper slopes at moderate to high elevations. These small streams of northern regions or high elevations occur on steep slope in watersheds less than 39 sq.mi in size. The cold fast moving water has high water clarity and is well oxygenated. Instream habitats are dominated by riffles and cascade and step-pool systems. Channels are usually narrowly confined, high-gradient, and surrounded by upland forests. Bed materials often consist of bedrock, boulders, cobbles, and coarse gravel. The predominant source of energy to the stream is terrestrial leaf litter or organic matter (these are allochtonous streams). Permanent cold water temperatures in these streams means coldwater fish species, such as brook trout, likely represent over half of the fish community. Additional variation in the stream biological community is associated with acidic, calcareous, and neutral geologic settings where the pH of the water will limit the distribution of certain macroinvertebrates, plants, and other aquatic biota. The habitat can be further subdivided into 1) headwaters that drain watersheds less than 4 sq.mi, and have an average bankfull width of 16 feet or 2) Creeks that include larger streams with watersheds up to 39 sq.mi. and have an average bankfull width of 32 feet.

Similar Habitat Types:

Headwaters and creeks may also occur at lower elevations but these tend to be warmer, flatter, and slower. Coastal examples of high gradient headwaters are rare. Cold high gradient streams typically flows into moderate or low gradient cold and cool rivers in areas of less topography.

Places to Visit this Habitat:

Habitats: Next Steps

- ✓ Update with 2015 SWAP habitat data- RHGCN list
- ✓ Incorporate RCN products – add info on condition and extent (TNC, UMass, NALCC, etc.) from NE Synthesis*
- ✓ Incorporate RCOA/NALCC/habitat associations

*Terwilliger Consulting Inc., and Northeast Fish and Wildlife Diversity Technical Committee. 2013. Taking Action Together: Northeast Regional Synthesis for State Wildlife Action Plans. <http://rcngrants.org/content/northeast-regional-conservation-synthesis-state-wildlife-action-plan-revisions-0>.

Threats: SWAP Approaches

- **Preliminary observations:**
  - Almost all States used IUCN classification
  - Almost all States used the NE Lexicon criteria (severity, scope, etc.)
  - Threats identified at 3 levels (statewide/coarse, habitat, SGCN)
  - Most ranked H, M, L (or 3 level equivalents)
  - All states linked threats to actions
  - Most States involved partners to ID and rank
  - Most cited Climate Change, Invasives and Disease as regional threats

Threats: Top ranked (preliminary)

* Assumptions and Limitations
* Differences in ranking
* To identify preliminary relative priorities, state threats were assigned a value on a scale of 1-10 (10 being highest). Both the highest ranked and most frequently occurring threats received a value of 10 and then summed across states.
* Interpretation but shared patterns

Threats: Top ranked (preliminary)

Rank	IUCN code	IUCN Threat
100	1	Development
87	8	Invasive species
85	9	Pollution
81	7	Natural Systems Modifications
72	4	Transportation
61	11	Climate Change
51	12	Resource information needs
36	2	Agriculture and Aquaculture
35	5	Biological Resource Use
30	6	Human Disturbance
21	3	Energy production
20	15	Admin and coordination
18	14	Education and outreach
4	13	Recreational needs

SWAP Rollup- Climate Change Synthesis *will present:*

- A review of climate impacts of the most concern throughout the region
- State approaches to assess vulnerability of conservation targets to climate change
- Highlights of species and habitats at most risk to climate change impacts
- Priority actions that states have identified for addressing CC threats
- Recommendations for regional coordination and engagement of additional stakeholders that can make climate adaptation more cost effective and successful
- An overview of the extent to which states incorporated AWFA Best Practices guidance into the 2015 SWAP revision and recommendations to increase use of emerging information and knowledge for the next SWAP revision cycle

CC Impacts: Expected and Reported

Direct (mostly physical or biochemical impacts)

- Air and water temperature changes and extremes.
- Precipitation changes and extremes, including droughts, increased amounts of precipitation, and changes in relative amounts of snow versus rain in winter.
- Increased storms and flooding.
- Sea level rise.
- Near-shore ocean acidification.

Indirect (mostly biological responses to direct impacts)

- Longer growing seasons.
- Habitat changes and alterations.
- Species interaction changes.
- Phenology changes and mismatches.

Climate Change and Severe Weather Impacts of High Concern as Reported in the 2015 SWAPs

Temperature
- Temperature extremes (air), more heat waves
- Temperature increase (water)

Precipitation
- Increased periodic droughts (increased short-term and late summer droughts)
- Increased precipitation; more rain, less snow in winter

Extreme Events
- More intense storms
- More frequent flooding

Sea Level Rise

Habitat Shifting and Alteration

Phenology Change

Hydrologic Change
- Increased streamflow (freshwater)

Refining the IUCN Coding

- Interpretation of an “incomplete” IUCN climate change coding system
- Phenology mismatches and changes in species interactions are issues not addressed adequately in this coding system. Although not direct climate change impacts, they are important indirect impacts that would be useful to track and address for wildlife and habitat conservation.
- States modified and developed their own coding systems to make them more relevant to their climate change impacts and conservation goals (e.g., NY, MD, and NJ).
- Suggested changes/additions for clarity and will update lexicon

Non-Climate Stressors

Non-Climate Stressors of Most Concern

Habitat loss and fragmentation

from residential, commercial, infrastructure, energy, and/or recreational development

Increased invasive species

Increased diseases

Pollution (mostly water quality related)

Another issue that the states are concerned with concerning the ability to plan for climate change impacts is the *lack of knowledge*, especially regarding:

- Lesser known species life history traits and on finer-scale, rare, and ephemeral habitats.
- How and with what severity climate impacts will affect species and habitats and on what time scales.

Regional Conservation Design Considerations

Common Themes/Actions

Species and Habitat Protection and Management:

- Conserve and connect terrestrial and aquatic habitats.
- Manage species and habitats for changing conditions.
- Reduce non-climate stressors.

Conservation Capacity and Partnership Development:

- Increase data, information, and knowledge.
- Enhance management capacity.
- Support adaptive management, including threshold-based decisionmaking.
- Increase awareness and develop partnerships to motivate adaptation action at all levels.

Challenges to Address —The Next 10 Years

SWAPs/ partners will be seeking ways to keep abreast of:

- Rapidly evolving climate, species, and adaptation science.
- Conservation decisionmaking involving multiple threats and threshold-based decisionmaking.
- Opportunities to collaborate regionally, and beyond traditional partners to focus on species, habitat, and broader ecosystem resilience goals that interact with the health of human communities and economies.

Lessons learned from the SWAP revisions:

- Many similarities among species and habitats vulnerable to climate change
- Embrace climate-smart conservation principles to address them
- Hopefully will form the basis **for targeted regional action**

Actions: SWAP Approaches

Preliminary observations:

- Most States used TRACS (USFWS)
- Almost all States used the NE Lexicon criteria (urgency, likelihood of success, etc.)
- Actions were identified at 3 levels (statewide/coarse, habitat, SGCN/taxa/guilds)
- Most ranked H, M, L or equivalent tiers
- All linked to threats, most to habitat and SGCN (results chains)
- Most involved partners in ID and ranking
- Most cited CC, Invasives and disease as regional
- All states cited and supported RCN and regional coordinated program

Threats and Actions: Next Steps

- Assist states in exporting their SWAP data
- Analyze at different scales:
  - statewide/coarse filter
  - habitats (aquatic/terrestrial)
  - and SGCN/taxa
- Use RCN products – add info (condition and extent) on top threats (Manomet, NALCC, TNC, UMass, etc.)
- Work with NEFWDTC/NEAFWA input

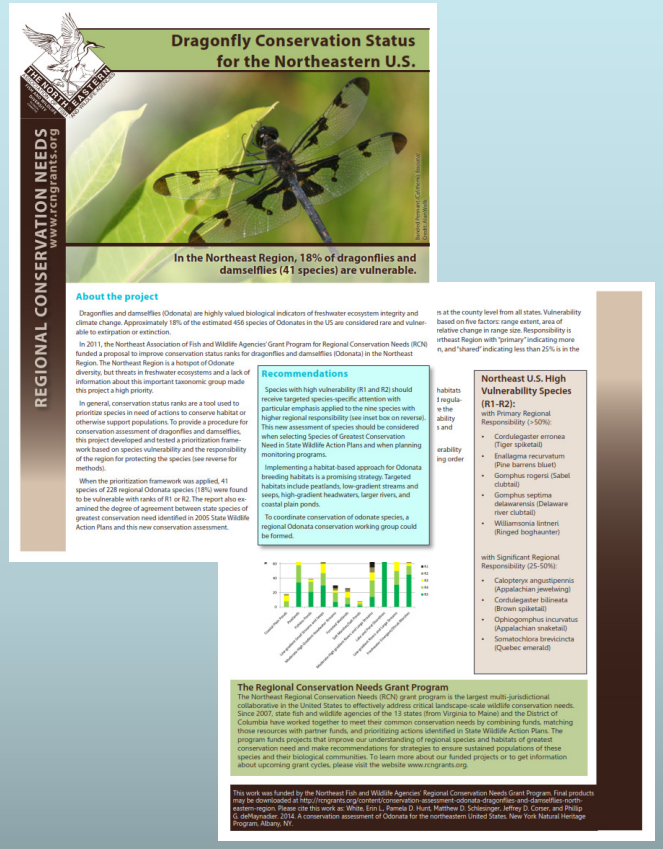
Northeast SWAP Roll Up Questions?

Acknowledgments: NEFWDTC, NEAFWA

RCN program and cooperators/partners products

This project ***was supported by State Wildlife Grant funding awarded through the Northeast Regional Conservation Needs (RCN) Program. The RCN Program joins thirteen northeast states, the District of Columbia, and the U.S. Fish and Wildlife Service in a partnership to address landscape-scale, regional wildlife conservation issues. Progress on these regional issues is achieved through combining resources, leveraging funds, and prioritizing conservation actions identified in the State Wildlife Action Plans. See RCNGrants.org for more information.***

This is an RCN project of NEFWDTC/NEAFWA
Please check out www.RCNgrants.org and posters



Dragonfly Conservation Status for the Northeastern U.S.

REGIONAL CONSERVATION NEEDS www.rcngrants.org

In the Northeast Region, 18% of dragonflies and damselflies (41 species) are vulnerable.

About the project

Dragonflies and damselflies (Odonata) are highly valued biological indicators of freshwater ecosystem integrity and climate change. Approximately 18% of the estimated 456 species of Odonates in the US are considered rare and vulnerable to extirpation or extinction.

In 2011, the Northeast Association of Fish and Wildlife Agencies' Grant Program for Regional Conservation Needs (RCN) funded a proposal to improve conservation status ranks for dragonflies and damselflies (Odonata) in the Northeast Region. The Northeast Region is a hotspot of Odonate diversity, but threats in freshwater ecosystems and a lack of information about this important taxonomic group made this project a high priority.

In general, conservation status ranks are a tool used to prioritize species in need of actions to conserve habitat or otherwise support populations. To provide a procedure for conservation assessment of dragonflies and damselflies, this project developed and tested a prioritization framework based on species vulnerability and the responsibility of the region for protecting the species (see reverse for methods).

When the prioritization framework was applied, 41 species of 228 regional Odonata species (18%) were found to be vulnerable with ranks of R1 or R2. The report also examined the degree of agreement between state species of greatest conservation need identified in 2005 State Wildlife Action Plans and this new conservation assessment.

Recommendations

Species with high vulnerability (R1 and R2) should receive targeted species-specific attention with particular emphasis applied to the nine species with higher regional responsibility (see inset box on reverse). This new assessment of species should be considered when selecting Species of Greatest Conservation Need in State Wildlife Action Plans and when planning monitoring programs.

Implementing a habitat-based approach for Odonata breeding habitats is a promising strategy. Targeted habitats include peatlands, low-gradient streams and seeps, high-gradient headwaters, larger rivers, and coastal plain ponds.

To coordinate conservation of odonate species, a regional Odonata conservation working group could be formed.

Northeast U.S. High Vulnerability Species (R1-R2):

with Primary Regional Responsibility (>50%):

- Cordulegaster erronea (Tiger spiketail)
- Enallagma recurvatum (Pine barrens bluet)
- Gomphus rogersi (Sabel clubtail)
- Gomphus septima delawarensis (Delaware river clubtail)
- Williamsonia lintneri (Ringed boghaunter)

with Significant Regional Responsibility (25-50%):

- Calopteryx angustipennis (Appalachian jewelwing)
- Cordulegaster bilineata (Brown spiketail)
- Ophiogomphus incurvatus (Appalachian snaketail)
- Somatochlora brevicincta (Quebec emerald)

The Regional Conservation Needs Grant Program

The Northeast Regional Conservation Needs (RCN) grant program is the largest multi-jurisdictional collaborative in the United States to effectively address critical landscape-scale wildlife conservation needs. Since 2007, state fish and wildlife agencies of the 13 states (from Virginia to Maine) and the District of Columbia have worked together to meet their common conservation needs by combining funds, matching those resources with partner funds, and prioritizing actions identified in State Wildlife Action Plans. The program funds projects that improve our understanding of regional species and habitats of greatest conservation need and make recommendations for strategies to ensure sustained populations of these species and their biological communities. To learn more about our funded projects or to get information about upcoming grant cycles, please visit the website www.rcngrants.org.

This work was funded by the Northeast Fish and Wildlife Agencies' Regional Conservation Needs Grant Program. Final products may be downloaded at http://rcngrants.org/content/conservation-assessment-odonata-dragonflies-and-damselflies-north-eastern-region. Please cite this work as: White, Erin L., Pamela D. Hunt, Matthew D. Schlesinger, Jeffrey D. Corser, and Phillip G. deMaynadier. 2014. A conservation assessment of Odonata for the northeastern United States. New York Natural Heritage Program, Albany, NY.

Accomplishing Regional Conservation

RCN Grant Program Highlights: (2007-2011)

REGIONAL CONSERVATION NEEDS www.rcngrants.org

We work together-

because the issues facing many species of greatest conservation need can not be meaningfully addressed by individual states.

The Northeast Regional Conservation Needs (RCN) grant program is the largest multi-jurisdictional collaborative in the United States to effectively address critical landscape-scale wildlife conservation needs. Since 2007, state fish and wildlife agencies of the 13 states (from Virginia to Maine) and the District of Columbia have worked together to meet their common conservation needs by combining funds, matching those resources with partner funds, and prioritizing actions identified in State Wildlife Action Plans.

urgent emerging issues

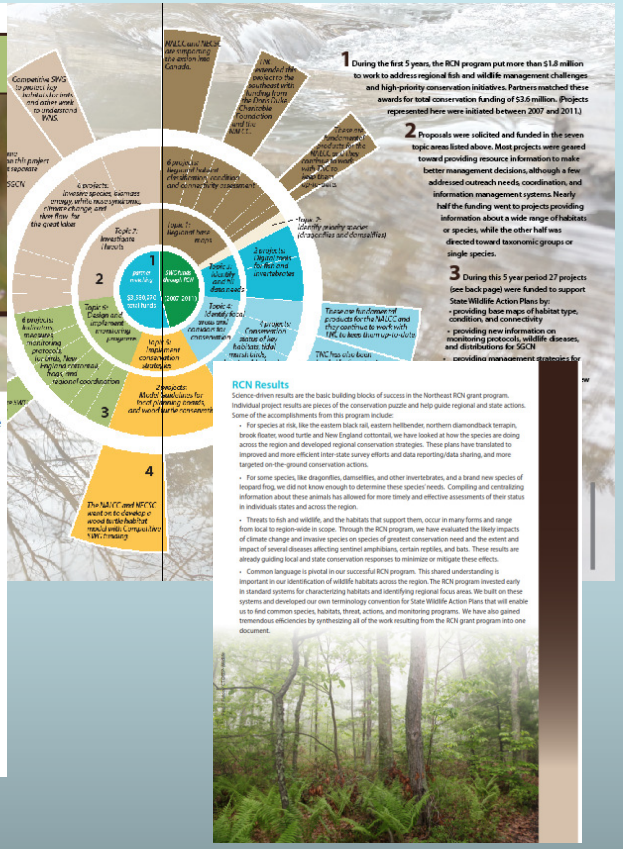
Since 2007, a fungal disease affecting hibernating bats has spread rapidly throughout the eastern U.S. RCN funding was immediately available to help determine the nature of the disease and test treatments for white nose syndrome.

regional threats

The Black Rail, a rare, secretive tidal marsh bird, has seen declines of at least 80% over the past 10 years. Loss of high salt marsh habitat squeezed between rising seas and development is thought to be a major threat. The RCN program is an efficient way to help states address these regional threats.

keeping common species common

Like so many species, the New England cottontail was once common. The RCN program provided critical support to begin the development of a conservation strategy for this federal candidate species.



1 During the first 5 years, the RCN program put more than $1.8 million to work to address regional fish and wildlife management challenges and high-priority conservation initiatives. Partners matched these awards for total conservation funding of $3.6 million. (Projects represented here were initiated between 2007 and 2011.)

2 Proposals were solicited and funded in the seven topic areas listed above. Most projects were geared toward providing resource information to make better management decisions, although a few addressed outreach needs, coordination, and information management systems. Nearly half the funding went to projects providing information about a wide range of habitats or species, while the other half was directed toward taxonomic groups or single species.

3 During this 5 year period 27 projects (see back page) were funded to support State Wildlife Action Plans by:

- providing base maps of habitat type, condition, and connectivity
- providing new information on monitoring protocols, wildlife diseases, and distributions for SGCN
- providing management strategies for

RCN Results

Science-driven results are the basic building blocks of success in the Northeast RCN grant program. Individual project results are pieces of the conservation puzzle and help guide regional and state actions. Some of the accomplishments from this program include:

- For species at risk, like the eastern black rail, eastern hellbender, northern diamondback terrapin, brook floater, wood turtle and New England cottontail, we have looked at how the species are doing across the region and developed regional conservation strategies. These plans have translated to improved and more efficient inter-state survey efforts and data reporting/data sharing, and more targeted on-the-ground conservation actions.
- For some species, like dragonflies, damselflies, and other invertebrates, and a brand new species of leopard frog, we did not know enough to determine these species' needs. Compiling and centralizing information about these animals has allowed for more timely and effective assessments of their status in individuals states and across the region.
- Threats to fish and wildlife, and the habitats that support them, occur in many forms and range from local to region-wide in scope. Through the RCN program, we have evaluated the likely impacts of climate change and invasive species on species of greatest conservation need and the extent and impact of several diseases affecting sentinel amphibians, certain reptiles, and bats. These results are already guiding local and state conservation responses to minimize or mitigate these effects.
- Common language is pivotal in our successful RCN program. This shared understanding is important in our identification of wildlife habitats across the region. The RCN program invested early in standard systems for characterizing habitats and identifying regional focus areas. We built on these systems and developed our own terminology convention for State Wildlife Action Plans that will enable us to find common species, habitats, threat, actions, and monitoring programs. We have also gained tremendous efficiencies by synthesizing all of the work resulting from the RCN grant program into one document.