

WILDLIFE SPECIES OF REGIONAL CONSERVATION CONCERN IN THE NORTHEASTERN UNITED STATES

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Key words: endangered species, list, nongame, Northeast, species of concern, state fish and wildlife agencies, wildlife diversity.

The Northeast Endangered Species and Wildlife Diversity Technical Committee is a working committee of the Northeastern Association of Fish and Wildlife Agencies. It is comprised of representatives of the state fish and wildlife agencies from the 13 northeastern states, from Maine to Virginia. Committee members are primarily nongame wildlife biologists from the state agencies. The purpose of the group is to address regional issues on endangered species, wildlife diversity, and to coordinate conservation actions at the regional level.

Limited staff and financial resources usually result in state agencies prioritizing their conservation attention to state-listed species and select nongame wildlife. These decisions are often made in the context of the status of the species within their political jurisdiction only. By this process, populations on the periphery of their range may tend to receive more conservation attention than the core populations. Conservation of peripheral populations may be warranted (Hunter and Hutchinson 1994, Lescia and Allendorf 1995), but of equal or greater importance is the conservation of core populations. In the absence of a regional approach, states with seemingly healthy core populations of species declining within other states in the region

may not devote staff and financial resources to these populations until such time as they become threatened or endangered. Additionally, conservation activities for nongame wildlife with this state-by-state strategy tends to be diverse and discontinuous across geographic ranges. A more consistent and uniform approach for conserving nongame species in the Northeast is warranted.

The need for a list of species of regional concern has increased as a result of changes to the process of designating candidate species for federal endangered species listing (U.S. Fish and Wildlife Service 1996). With the elimination of the C2 category, a mechanism was needed within the Northeast to help identify species that may warrant federal listing attention (D. Mignogno, U.S. Fish and Wildlife Service, personal communication). C2 species were candidates proposed for federal threatened or endangered species listing for which additional biological information was needed by the U.S. Fish and Wildlife Service to make a final decision. As a result, the technical committee was requested by endangered species staff within Region 5 of the U.S. Fish and Wildlife Service to develop a process to identify animal species within

the northeastern states that may warrant federal listing.

To address the above 2 needs, a list of fish and wildlife species of regional conservation concern was developed. This list is not necessarily a prerequisite for federal or state listing, but rather a tool for the identification of regional species of concern so that proactive management can be implemented to fully and accurately assess the status of these species and to prevent these species from becoming listed.

PROCESS OF ESTABLISHING THE LIST

The composite list of all species listed as endangered, threatened, or special concern by all northeastern states (French and Pence 1996) served as the starting point in our process. Each state was provided a composite list and was asked to provide information for the 6 categories given in Table 1. If a species did not occur in a given state then no comments to categories 2-6 were to be provided. Representatives from each state were to consult with appropriate experts while gathering this information. Species not officially listed by any state could be added to the list for consideration.

Once all the information was compiled, the results were provided to the chairs of 5 taxonomic subcommittees for review. The subcommittees met and reviewed the information and proposed a list of species within their taxonomic specialty for inclusion on the regional list. Each subcommittee had the latitude to decide how species were selected. For example, the bird subcommittee utilized the rankings from the Northeast Working Group of Partners in Flight (K. Rosenberg, Cornell Laboratory of Ornithology, unpublished

data) as their basis for consideration. The reptile and amphibian subcommittee involved first political and then biological criteria. Their selection emphasized species with broad distributions which occur primarily within the Northeast and whose populations were considered vulnerable if they (1) occupied unusual or localized habitats, (2) were area sensitive, or (3) were demographically sensitive. The freshwater mussels were included on this list because they were either recognized as species at risk by the Biological Research Division of the U.S. Geological Survey or because they are included on individual state lists.

The recommendations of each taxonomic subcommittee were then presented to the technical committee, discussed, then finalized.

THE LIST

The list includes 15 mammals, 23 birds, 15 reptiles, 12 amphibians, 30 fish, and 11 freshwater mussels (Table 2). At this time, the only invertebrates included on the list are freshwater mussels. Each species was listed for differing reasons, and these reasons were generalized into 4 categories. RISK indicates that there is a high risk of the species disappearing from the Northeast or that there are documented population declines that may lead to regional extinction. For many species there was a lack of sufficient DATA to assess the risk to the species, but their populations may have declined or were at risk and additional data are needed to document such. AREA indicates that a substantial portion of the global range of a species occurs in the Northeast and that without appropriate conservation attention, the entire population may be at risk. A number of species were listed because of special

Table 1. Questions answered by state representatives to assist in the selection of animal species originally considered for inclusion on the regional list of species of conservation concern.

1.	Does this species occur in your state?
2.	What is the status of this species in your state?
3.	What is the strength of the information for this species in your state?
4.	What is the risk of this species disappearing in the northeast?
5.	Would this species significantly benefit from a multi-state approach?
6.	Does this species warrant serious consideration for federal listing?

circumstances (SPEC), including vulnerability to collecting pressures (e.g., reptiles), taxonomic uncertainty (e.g., Appalachian and New England cottontails), intensive management needed to sustain the population (e.g., common tern), a substantial portion of the population of a species occurred in the region during migration (e.g., red knot), and may have been impacted by exotic species (e.g., sheepnose). The list does not include federally endangered or threatened species nor species endemic to one state.

For each species listed, taxonomic subcommittees were charged to assemble information and develop conservation recommendations. Distribution, population status, demographic data, movement patterns, and other pertinent natural history information will be reviewed. Limiting factors will be determined. Areas of importance within the region will be identified and regional conservation strategies will be developed.

The invertebrate list is incomplete. Sufficient information was only available to adequately evaluate mussels. Comparable information or expertise for the many other invertebrate groups at the time the list was developed were not available. A more comprehensive invertebrate list is desired and appropriate expertise will need to be solicited to complete this list in a

subsequent revision.

USES OF THE LIST

This list can be used by the states to establish a linkage to organize conservation activities for these species at the regional level. Coordination should then be established between adjacent regions for those species with ranges extending beyond the Northeast. Our approach could be similar to federal endangered species restoration efforts, whereby all states and regions which have a particular endangered species participate in its recovery but one region assumes the lead in coordinating this work. In many situations the state may serve only to recommend actions and to act as a conduit to direct resources for research, education, management, or other activities to more appropriate participants. Appropriate conservation efforts can be manifested in numerous ways and at varying scales. The technical committee envisioned this list to be used in 3 broad ways: (1) to serve as a surrogate for the discontinued federal C2 candidate list, (2) to identify those species in need of priority conservation action at the regional level, and (3) to integrate conservation attention for these species into regional land use and management planning efforts.

Table 2. List of the Northeast wildlife species of regional conservation concern. Reasons for including the species on the list are given, where RISK = declining populations or high risk of disappearing from the Northeast, DATA = lack of data with suspicion of risk of disappearing from the region, AREA = the Northeast comprises a significant portion of the species' global range, and SPEC = special cases.

	Reasons Listed			
	RISK	DATA	AREA	SPEC
<u>Mammals</u>				
Allegheny woodrat* (<i>Neotoma magister</i>)	X	X	X	
Appalachian cottontail (<i>Sylvilagus obscurus</i>)	X	X	X	X
eastern big-eared bat (<i>Plecotus rafinesquii</i>)	X	X		
eastern red bat (<i>Lasiurus borealis</i>)		X		
eastern small-footed bat* (<i>Myotis leibii</i>)		X	X	
harbor porpoise* (<i>Phocoena phocoena</i>)	X			
hoary bat (<i>Lasiurus cinereus</i>)		X		
least shrew (<i>Cryptotis parva</i>)	X		X	
lynx (<i>Lynx canadensis</i>)		X		
New England cottontail* (<i>Sylvilagus transitionalis</i>)	X	X	X	X
northern bog lemming* (<i>Synaptomys borealis sphagnicola</i>)			X	X
silver-haired bat (<i>Lasiorycteris noctivagans</i>)		X		X
southeastern myotis* (<i>Myotis austroriparius</i>)	X	X		
southern rock vole* (<i>Microtus chrotorrhinus carolinensis</i>)		X	X	
southern water shrew* (<i>Sorex palustris punctatus</i>)	X	X		
<u>Birds</u>				
American bittern (<i>Botaurus lentiginosus</i>)	X	X		
Appalachian Bewick's wren* (<i>Thryomanes bewickii altus</i>)	X	X	X	
Bicknell's thrush* (<i>Catharus bicknelli</i>)	X	X		
black tern (<i>Chlidonias niger</i>)	X			
Canada warbler (<i>Wilsonia canadensis</i>)	X		X	
cerulean warbler (<i>Dendroica cerulea</i>)	X	X		
common tern (<i>Sterna hirundo</i>)		X		X
golden eagle (<i>Aquila chrysaetos</i>)				X
golden-winged warbler (<i>Vermivora chrysoptera</i>)	X		X	
harlequin duck* (<i>Histrionicus histrionicus</i>)		X		X
Henslow's sparrow (<i>Ammodramus henslowii</i>)	X		X	
least tern (<i>Sterna antillarum</i>)	X	X		
loggerhead shrike* (<i>Lanius ludovicianus</i>)	X			
long-eared owl (<i>Asio otus</i>)		X		
Louisiana waterthrush (<i>Seiurus motacilla</i>)	X		X	
northern harrier (<i>Circus cyaneus</i>)	X			
pied-billed grebe (<i>Podilymbus podiceps</i>)	X	X		
red knot (<i>Calidris canutus</i>)				X
saltmarsh sharp-tailed sparrow (<i>Ammodramus caudacutus</i>)		X	X	

Table 2. (continued)

	RISK	DATA	AREA	SPEC
<u>Birds</u>				
sedge wren (<i>Cistothorus platensis</i>)	X	X		
short-eared owl (<i>Asio flammeus</i>)	X	X		
upland sandpiper (<i>Bartramia longicauda</i>)	X			
whip-poor-will (<i>Caprimulgus vociferus</i>)	X	X		
<u>Reptiles</u>				
Blanding's turtle* (<i>Emydoidea blandingii</i>)	X	X	X	X
broadhead skink (<i>Eumeces laticeps</i>)		X	X	
eastern box turtle (<i>Terrapene c. carolina</i>)		X		X
eastern hognose snake (<i>Heterodon platirhinos</i>)	X	X		
eastern massasauga rattlesnake* (<i>Sistrurus c. catenatus</i>)	X	X	X	X
eastern ribbon snake (<i>Thamnophis s. sauritus</i>)		X	X	
mountain smooth earth snake (<i>Virginia pulchra</i>)		X	X	
northern coal skink (<i>Eumeces a. anthracinus</i>)	X	X		
northern diamondback terrapin* (<i>Malaclemys t. terrapin</i>)	X	X	X	X
northern pine snake (<i>Pituophis m. melanoleucus</i>)	X	X	X	
queen snake (<i>Regina septemvittata</i>)		X		
red-bellied turtle (<i>Pseudemys rubriventris</i>)		X	X	
spotted turtle (<i>Clemmys guttata</i>)		X	X	X
timber rattlesnake* (<i>Crotalus horridus</i>)	X	X		X
wood turtle* (<i>Clemmys insculpta</i>)	X	X	X	X
<u>Amphibians</u>				
blue-spotted salamander (<i>Ambystoma laterale</i>)		X		X
carpenter frog (<i>Rana virgatipes</i>)		X	X	
eastern mud salamander (<i>Pseudotriton m. montanus</i>)		X	X	
eastern spadefoot toad (<i>Scaphiopus holbrookii</i>)	X	X		
eastern tiger salamander (<i>Ambystoma t. tigrinum</i>)		X	X	
green salamander (<i>Aneides aeneus</i>)		X	X	
hellbender* (<i>Cryptobranchus alleganiensis</i>)		X	X	X
Jefferson salamander (<i>Ambystoma jeffersonianum</i>)	X	X	X	
longtail salamander (<i>Eurycea longicauda</i>)		X	X	
mountain chorus frog (<i>Pseudacris brachyphona</i>)		X	X	
New Jersey chorus frog (<i>Pseudacris kalmi</i>)		X	X	
northern leopard frog (<i>Rana pipiens</i>)	X	X		X
<u>Fish</u>				
American brook lamprey (<i>Lampetra appendix</i>)	X	X	X	X
Atlantic sturgeon (<i>Acipenser oxyrhynchus</i>)	X	X	X	
banded sunfish (<i>Enneacanthus obesus</i>)	X	X	X	
blackbanded sunfish (<i>Enneacanthus chaetodon</i>)	X	X	X	
bluebreast darter* (<i>Etheostoma camurum</i>)	X		X	

Table 2. (continued)

	RISK	DATA	AREA	SPEC
<u>Fish</u>				
bridle shiner (<i>Notropis bifrenatus</i>)	X	X	X	
candy darter (<i>Etheostoma osburni</i>)	X	X	X	
channel darter (<i>Percina copelandi</i>)	X	X	X	
deepwater sculpin (<i>Myoxocephalus thompsoni</i>)	X	X	X	
eastern sand darter* (<i>Ammocrypta pellucida</i>)	X	X	X	
gilt darter* (<i>Percina evides</i>)	X		X	
gravel chub* (<i>Erimystax x-punctata</i>)		X	X	
Iowa darter (<i>Etheostoma exile</i>)		X	X	
lake chubsucker (<i>Erimyzon sucetta</i>)		X	X	
lake sturgeon* (<i>Acipenser fulvescens</i>)	X	X	X	
longhead darter (<i>Percina macrocephala</i>)		X	X	
mooneye (<i>Hiodon tergisus</i>)		X		
mountain brook lamprey (<i>Ichthyomyzon greeleyi</i>)	X	X	X	X
mud sunfish (<i>Acantharchus pomotis</i>)	X	X	X	
northern brook lamprey (<i>Ichthyomyzon fossor</i>)	X	X	X	X
Ohio lamprey (<i>Ichthyomyzon bdellium</i>)		X	X	
river redhorse (<i>Moxostoma carinatum</i>)		X	X	X
round whitefish (<i>Prosopium cylindraceum</i>)	X	X	X	
sharpnose darter (<i>Percina oxyrhynchus</i>)	X	X		
silver chub (<i>Macrhybopsis storeriana</i>)	X	X	X	
silver lamprey (<i>Ichthyomyzon unicuspis</i>)	X	X	X	X
spoonhead sculpin (<i>Cottus ricei</i>)	X	X	X	
spotted darter* (<i>Etheostoma maculatum</i>)	X	X	X	
spotted gar (<i>Lepisosteus oculatus</i>)		X	X	
Tippecanoe darter* (<i>Etheostoma tippecanoe</i>)		X	X	
<u>Freshwater Mussels</u>				
black sandshell (<i>Ligumia recta</i>)	X	X		
brook floater (<i>Alasmidonta varicosa</i>)	X		X	
eastern pond mussel (<i>Ligumia nasuta</i>)	X	X		
elktoe (<i>Alasmidonta marginata</i>)		X		
green floater* (<i>Lasmigona subviridis</i>)	X	X	X	
rayed bean (<i>Villosa fabalis</i>)		X		
salamander mussel (<i>Simpsonaias ambigua</i>)		X		
sheepnose (<i>Plethobasus cyphus</i>)		X		X
snuffbox* (<i>Epioblasma triquetra</i>)	X	X		
tidewater mucket (<i>Leptodea ochracea</i>)		X	X	
yellow lamp mussel (<i>Lampsilis cariosa</i>)	X		X	X

*Warrants federal endangered or threatened species listing considerations, including prelisting status reviews.

In the absence of the C2 candidate list, some mechanism for identifying potential federal candidate species is needed. Our list can serve this function. Funding for inventory and survey efforts for these species should also be given consideration by the U.S. Fish and Wildlife Service. Former C2 species were used in this manner.

The second use of the full list is to focus conservation attention to these species regionally. Attention may take the form of management actions, research, or increased inventory and monitoring. For some of these species basic status information is minimal and needed regionally to better assess the species population. Although some states may list the species as threatened or endangered, others may be doing nothing with the species. By being listed here, we encourage the states to determine the population status of each of these species that occur within their boundaries. Habitat considerations for these species should be incorporated into state, federal, and other conservation management plans. Coordinated efforts throughout the region are recommended and could be the focus of the Northeast Endangered Species and Wildlife Diversity Technical Committee.

Conservation emphasis for the species on the list should go beyond the state and federal agencies. Appropriate attention should also be given these species in regional and local land use planning processes, whenever possible. Initiatives such as The Nature Conservancy's ecoregional planning (The Nature Conservancy 1996) and others are encouraged to incorporate considerations for these species into their conservation efforts.

ACKNOWLEDGMENTS

Special thanks are extended to Alan Hutchinson and Deb Mignogno for initiating this effort. The species information provided by the states in consultation with numerous species and taxonomic experts were invaluable. Thanks are extended to the U.S. Fish and Wildlife Service's endangered species biologists who helped. The Nature Conservancy's biologists Larry Master and Dale Schweitzer also participated in the development of the process. Scott Butterworth coordinated the information gathering and Frank Felbaum compiled the results. Technical committee members participating on the subcommittees included Brad Blodget, Dan Brauning, Al Breisch, Jenny Dickson, Frank Felbaum, Mark Ferguson, Tom French, Lisa Gelvin-Innvaer, Jerry Hassinger, John Kanter, Kathy Leo, Mark McCollough, Scott Melvin, Robert Miller, Larry Niles, Peter Nye, Steve Parren, Chris Raithel, Rick Reynolds, Andrew Shiels, Craig Stihler, Beth Swartz, Glenn Therres, and Julie Victoria. U.S. Fish and Wildlife Service biologists serving on the subcommittees were Michael Amaral, Alison Haskell, Deb Mignogno, and Susie von Oettingen. Other species experts were consulted and provided invaluable information to assist in the early stages of the process.

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