



Appendix A1:

Comprehensive Wildlife Conservation Strategy Species Group Reports for Birds

Prepared by New York State Department of Environmental Conservation staff in cooperation with Cazenovia College and the Riverhead Foundation for Marine Research in support of the Comprehensive Wildlife Conservation Strategy prepared for New York as required by the United States Fish and Wildlife Service's State Wildlife Grants Program

27-Sep-05

Taxa Group: Bird
Species Group: Bald Eagle

Threats:

- Habitat loss/alteration
- human activity/disturbance
- alteration of prey base
- contaminants (e.g. Pb, Hg, PCB)
- vehicular collisions (including high-speed trains)
- deaths due to electrocution, trapping, collisions (e.g. from towers, wind-generators, electrical lines)

Trends:

-Although raw numbers of bald eagles have been increasing since 1980 in New York and elsewhere, the habitats upon which this species relies are diminishing in quantity and quality. The salient question is, when will the habitat-loss trend line (expected to continue at a steep, increasing slope) begin to cause the bald eagle population trend line to move in a negative direction, and how fast will the population crash and to what level as this species' habitats disappear. The bald eagle (and it's necessary habitats) can be used as an indicator to overall trends in habitat loss/alteration and biodiversity we are likely to encounter in as little as 20 years.

SEQR - No Action Alternative:

Even though the gross numbers of bald eagles are currently substantial and increasing, without an explicit understanding of the essential habitats used and required by this species in our state and elsewhere, and further the application of that knowledge to management and protection of those habitats, the inevitable consequence will be the eventual reversal of the increasing population trend, a rapidly decreasing and unsuccessful population, heading once again toward extirpation or extinction before protective/proactive steps can be put back in place.

Species in the Group and their Management Status						
Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Bald eagle (<i>Haliaeetus leucocephalus</i>)	T		S2S3B,S2N	G4	T	Resident

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Bald eagle (Haliaeetus leucocephalus)	Allegheny	Allegheny	Increasing
	Lake Champlain	Delaware	Increasing
	Lake Erie	Lake Champlain	Increasing
	Delaware	Lake Erie	Increasing
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Increasing
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Increasing
	SE Lake Ontario	SE Lake Ontario	Increasing
	Susquehanna	Susquehanna	Increasing
	SW Lake Ontario	SW Lake Ontario	Increasing
	Upper Hudson	Upper Hudson	Increasing

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Bald eagle (Haliaeetus leucocephalus)	Great Lakes	High Allegheny Plateau	Increasing
	High Allegheny Plateau	Lower New England Piedmont	Increasing
	Lower New England Piedmont	North Atlantic Coast	Decreasing
	North Atlantic Coast	Northern Appalachian/Boreal Forest	Increasing
	Northern Appalachian/Boreal Forest	St. Lawrence-Lake Champlain Valley	Increasing
	St. Lawrence-Lake Champlain Valley	Western Allegheny Plateau	Increasing
	Western Allegheny Plateau		

Critical Habitats for Species in the Group				
Species	Life Stage or Use	System	SubSystem	Habitat
Bald eagle (Haliaeetus leucocephalus)	all	Lacustrine	warm water deep	other
	all	Terrestrial	forested	mixed deciduous/coniferous

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Breeding	Terrestrial	coastal	beach/shoreline
	Feeding	Estuarine	intertidal	mudflats
	Feeding	Riverine	deepwater river	mud bottom
	Feeding	Riverine	warmwater stream	other
	Roosting/Congregating	Terrestrial	coastal	beach/shoreline
	Roosting/Congregating	Terrestrial	forested	mixed deciduous/coniferous

Goal and Objectives for Bald Eagle

Goal: To ensure the perpetuation and broad distribution of the bald eagle, its essential habitat, and the ecosystems upon which it depends within New York State.

Objective 1 : Determine the current overall landscape baseline across NYS: including total miles/extent of roads, human-occupied landscapes (buildings, marinas, etc.), forests, grasslands, protected vs. unprotected areas, etc., and monitor changes periodically.

Measure: *An comprehensive assessment is completed showing what the current conditions are across NYS on a landscape level, which is conducted at least every 5 years with appropriate comparisons and statistics of change completed and reported.*

Objective 2 : Ensure protection for a minimum of 50% (25) of the occupied bald eagle territories within each NYS Ecozone (6), except the Atlantic Coast Zone.

Measure: *A minimum of 25 bald eagle nesting territories within each of the specified NYS Ecozones are protected in perpetuity, assuring future suitability to and utilization by, bald eagles.*

Objective 3 : Ensure the protection and management of at least 12 bald eagle wintering habitats in New York (e.g. St. Lawrence River, Upper Delaware River, Mongaup River, Upper and Lower Hudson River) capable of supporting a minimum of 400 wintering eagles.

Measure: *Essential bald eagle wintering habitats are identified, protected, monitored and managed, and annual counts made documenting the minimum number of wintering bald eagles (400).*

Objective 4 : Establish at least 50 breeding pairs of bald eagles (occupied pairs) within each NYS Ecozone (6), except the North Atlantic Coast zone, achieving an average annual productivity of 1.0 young per occupied pair.

Measure: *Bald eagle nests are identified, monitored, mapped, and their productivity determined annually.*

Recommended Actions

Development rights acquisition:

- * Pursue conservation easements or outright fee-acquisition of essential bald eagle habitats.

Easement acquisition:

- * Pursue conservation easements or outright fee-acquisition of essential bald eagle habitats.

Educational signs:

- * Develop signs/displays and post in essential habitat areas to inform public of need to protect the species and to limit behavior that would be disturbing.

Fact sheet:

- * Prepare a landowner/contact pamphlet describing "what does it mean that eagles are using my land".
- * Develop materials and post in essential habitat areas to inform public of need to protect the species and to limit behavior that would be disturbing.

Habitat management:

- * Review and comment on any plans to ensure that any proposed actions would not be detrimental to essential bald eagle habitat or to the continued use of essential bald eagle habitats.

Habitat monitoring:

- * Review and comment on any plans to ensure that any proposed actions would not be detrimental to essential bald eagle habitat or to the continued use of essential bald eagle habitats.

Habitat research:

- * Conduct live-capture radio telemetry studies, as well as through field observations, to delineate essential bald eagle breeding and wintering habitats.

Life history research:

- * Determine site-fidelity, familial relationships to habitat use, migratory patterns/pathways, and home-ranges of breeding and wintering NYS bald eagles.

Other acquisition:

- * Pursue conservation easements or outright fee-acquisition of essential bald eagle habitats.

Other action:

- * Ensure cooperation of rail companies (i.e. Amtrak, Metro North) who operate high-speed trains in the daily removal of carrion from RR tracks and the recovery of bald eagles and other raptors killed by such trains.

Recommended Actions

- * Ensure that essential wintering and breeding habitats are adequately posted and patrolled, as needed: hire seasonals to be on site monitors when necessary, as at major wintering locations where human disturbance is a serious issue.
- * Ensure that all essential bald eagle habitat information is submitted to and included within the Natural Heritage/BCD database and updated annually.

Other management plan:

- * Prepare individual site management plans for each bald eagle breeding territory and major wintering habitat.

Population monitoring:

- * Annually monitor and determine the number of wintering bald eagles in NYS.
- * Annually monitor and determine the number of breeding bald eagles and their reproductive outcome.
- * Conduct live-capture radio telemetry studies, as well as through field observations, to delineate essential bald eagle breeding and wintering habitats.
- * Periodically sample NYS bald eagles for contaminant lodes (eggs, blood, carcasses); collect injured or dead eagles and determine causes of morbidity and mortality.

Private fee acquisition:

- * Pursue conservation easements or outright fee-acquisition of essential bald eagle habitats.

State fee acquisition:

- * Pursue conservation easements or outright fee-acquisition of essential bald eagle habitats.

State land unit management plan:

- * Ensure needs of bald eagles are incorporated into all UMPs.

Statewide baseline survey:

- * Initiate comprehensive, statewide survey of landscape level habitat characteristics and trends across NYS; updating at least every 5 years. (this in order to monitor overall habitat loss/alteration trends).
- * Annually monitor numbers and distribution of breeding and wintering bald eagles in NYS.

References

see extensive bibliography within, especially, : New York State Bald Eagle Recovery Plan, Nye, 1987 and US Northern States Bald Eagle Recovery Plan, Grier et al 1983 and Nye et al 1998, as well as other numerous references available from Nye-DEC, 625 Broadway, Albany, NY 12233-4754.

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Taxa Group: Bird

Species Group: Barn owl

Threats:

Factors that contribute to species population decline in New York State include:

- 1) Changes in agricultural practices, i.e. “lessened availability of open farm structures for nesting and roosting and the decline in agricultural lands that support sufficiently high densities of small mammals” (Poole 1992). Screening used to keep Rock Dove (*Columba livia*) out of farm structures have deterred use by Barn Owls (NYSDEC 1994).
- 2) Lack of foraging habitat (NYSDEC 1994).
- 3) Competition for nest sites with other cavity nesters such as Wood Duck (*Aix sponsa*) and raccoon (*Procyon lotor*) (NYSDEC 1994).
- 4) Avian and mammalian predators of eggs and nestlings (NYSDEC 1994).
- 5) Automotive collisions also contribute to barn owl mortality (Poole 1992), probably due to their adaptability to and association with human developments.
- 6) A secondary factor may include occasional poisoning due to the use of pesticides in and around farmlands and structures (Poole 1992).

Limiting Factors: Presence of foraging and nesting habitat.

Although species can be migratory, cold winter temperatures seem to determine its northern breeding range.

Trends:

Historic distribution and abundance. Historically (prior to late 1960s) in Long and Staten Islands, Finger Lakes region, Hudson and Genesee Valleys, in Wayne and Monroe Counties along Lake Ontario and in lowlands of lakes Erie and Ontario (NYSDEC 1994).

Current distribution and abundance. Locally resident and migratory. “Very rare upstate to fairly common along the coast” (Bull 1998). Well-represented in Long and Staten Islands, Finger Lakes region, Hudson and Genesee Valleys, and in agricultural lands of northwestern Livingston County in western NY (NYSDEC 1994).

NYS Breeding Bird Atlas data shows alarming differences from the 1980-1985 to the 2000-2004 atlases, with far fewer blocks containing confirmed breeding pairs of Barn Owls in the most recent atlas.

No Breeding Bird Survey data is available for this species.

SEQR - No Action Alternative:

If no action is taken on the part of the Barn Owl, it is likely that its numbers will continue to drop, although not totally. The Barn owl is able to adapt to human-induced changes in the environment. However, foraging habitat such as large open grassland is becoming more scarce in this state and will ultimately impact the number of breeding Barn Owls.

Species in the Group and their Management Status

Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Barn owl (<i>Tyto alba</i>)			S1S2		P	Resident

Species Distribution - Watershed Basin

Species	Historical	Current	Stability
Barn owl (Tyto alba)	SW Lake Ontario	Upper Hudson	Unknown
	Upper Hudson	Lower Hudson - Long Island Bays	Unknown
	Susquehanna		
	NE Lake Ontario - St. Lawrence		
	Lower Hudson - Long Island Bays		
	Delaware		
	SE Lake Ontario		

Species Distribution - Ecoregion

Species	Historical	Current	Stability
Barn owl (Tyto alba)	St. Lawrence-Lake Champlain Valley	Lower New England Piedmont	Decreasing
	Lower New England Piedmont	North Atlantic Coast	Unknown
	North Atlantic Coast		
	Great Lakes		
	High Allegheny Plateau		

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Barn owl (Tyto alba)	all	Terrestrial	coastal	other
	all	Terrestrial	open upland	grasslands
	Roosting/Congregating	Terrestrial	forested	southern coniferous

Recommended Actions

Captive breeding:

- * 3) Especially in upstate regions, investigate feasibility of nest box programs and/or releases of captive-raised owls to restore local populations.

Habitat management:

- * 2) Maintain and expand foraging habitats (e.g. dense grasslands) used by Barn Owls in southern New York, and protect occupied nest sites.

Habitat monitoring:

- * 1) Document nesting locations, productivity, and foraging areas of Barn Owls in New York.

Other action:

- * 4) Determine whether pesticide use poses a threat to Barn Owls in New York. Monitor rodent populations (e.g. meadow vole) in conjunction with owl populations since Barn Owls seem to take up residence wherever prey abundance is high and suitable nesting habitat is present (NYSDEC 1994).
- * 5) Cooperate with NYS farmers and grassland owners to establish best possible nesting and foraging opportunities for the Barn Owl, especially in areas where they are already known to breed.

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Taxa Group: Bird

Species Group: Beach and Island ground-nesting birds

Threats:

Habitat loss due to the prevention of storm-induced overwash events, the use of suitable nesting areas for beach-related recreational activities, and development on and adjacent to nesting and foraging habitat. In-season habitat disturbance by beach grooming operations, beach driving, boat landing and flooding prevent the establishment of nests and reduce the viability of established nests. Nest predation can be very high, particularly from fox, crow, raccoon, opossum, Norway rat and most recently, American oystercatcher. Predation of chicks by cat, gull, raccoon, fox and crow limits productivity of successfully nesting birds. Ghost crabs have also recently appeared on the South Shore of Long Island and have been suspected of taking chicks and/or eggs from shorebird nests. Other threats to island-nesting birds include rising sea level and erosion, which has reduced the area available for nesting in locations such as Jamaica Bay and Shinnecock Bay. Roseate terns have only two active breeding colonies and Caspian terns have only one active breeding colony in New York. Any severe storm or major disturbance/predator event at one of these three colonies during the breeding season would be disastrous.

Trends:

For piping plover, steadily increasing over past two decades, partially due to increased survey intensity during years immediately following Federal and State listing combined with protective efforts on public beaches. The number of active plover nesting sites has been increasing. Least and Common Terns have been decreasing over the past five years. Black skimmers and American oystercatchers have highly variable populations, partially due to less accurate censuses. Roseate terns have been fairly stable for the past five years, though the number of breeding locations has declined in recent years, with Great Gull Island and Fort Tyler (Gardiners Point Island) as the only stable breeding locations in all of New York. Caspian tern are restricted to a single breeding colony on Little Galoo Island, where there numbers have been trending upwards.

SEQR - No Action Alternative:

Without active management, piping plover, black skimmer and least tern populations would decline. Allowing uncontrolled access by vehicles, beach grooming and sand moving equipment would essentially remove all plover and tern nesting from recreational beaches. Plover would be restricted to smaller private beaches and least terns would largely be confined to isolated bay island breeding locations. Common terns could remain stable as long as marsh islands remain high enough above sea level to provide nesting substrate. As sea level continues to rise and erosion of historical breeding islands continues, suitable nesting sites of both Common and Roseate terns are likely to decrease, exposing both species to a higher likelihood of drastic population declines as the few remaining breeding locations contain a higher proportion of the entire population. A single predator at Great Gull Island could effectively impact over 60% of the entire Long Island breeding population of Common terns and over 95% of the breeding population of Roseate terns in New York. American oystercatchers have managed to maintain and/or expand their numbers with minimal protection or management on their behalf.

Species in the Group and their Management Status

Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Caspian tern (<i>Sterna caspia</i>)			S1	G5	P	Migratory
Black skimmer (<i>Rynchops niger</i>)			S2	G5	P SC	Migratory

Least tern (<i>Sterna antillarum</i>)	X	S3B	G4	T	Migratory
Common tern (<i>Sterna hirundo</i>)	X	S3B	G5	T	Migratory
Roseate tern (<i>Sterna dougallii</i>)	E	S1B	G4	E	Migratory
American oystercatcher (<i>Haematopus palliatus</i>)		S3	G5	P	Migratory
Piping plover (<i>Charadrius melodus</i>)	T	S3B	G3	E	Migratory

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Piping plover (<i>Charadrius melodus</i>)	SE Lake Ontario	Atlantic Ocean - NY Bight	Increasing
	Atlantic Ocean - NY Bight	Lower Hudson - Long Island Bays	Increasing
	Lower Hudson - Long Island Bays		
American oystercatcher (<i>Haematopus palliatus</i>)	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Stable
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Increasing
Roseate tern (<i>Sterna dougallii</i>)	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Decreasing
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
Common tern (<i>Sterna hirundo</i>)	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Decreasing
	Lake Erie	Lake Erie	Unknown
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Unknown
Least tern (<i>Sterna antillarum</i>)	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Decreasing
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
Black skimmer (<i>Rynchops niger</i>)	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Stable
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Stable
Caspian tern (<i>Sterna caspia</i>)	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Increasing

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Piping plover (<i>Charadrius melodus</i>)	Great Lakes	North Atlantic Coast	Increasing
	North Atlantic Coast		
American oystercatcher (<i>Haematopus palliatus</i>)	North Atlantic Coast	North Atlantic Coast	Stable
		Lower New England Piedmont	Increasing
Roseate tern (<i>Sterna dougallii</i>)	North Atlantic Coast	North Atlantic Coast	Decreasing
Common tern (<i>Sterna hirundo</i>)	Great Lakes	Great Lakes	Unknown
	North Atlantic Coast	North Atlantic Coast	Decreasing
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Unknown
Least tern (<i>Sterna antillarum</i>)	North Atlantic Coast	North Atlantic Coast	Decreasing
Black skimmer (<i>Rynchops niger</i>)	North Atlantic Coast	North Atlantic Coast	Stable
Caspian tern (<i>Sterna caspia</i>)	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Increasing

Critical Habitats for Species in the Group				
Species	Life Stage or Use	System	SubSystem	Habitat
Piping plover (<i>Charadrius melodus</i>)	Breeding	Terrestrial	coastal	beach/shoreline
	Breeding	Terrestrial	maritime	beach/shoreline
	Feeding	Estuarine	intertidal	mudflats
	Feeding	Estuarine	intertidal	sand/gravel
	Feeding	Marine	intertidal	sand/gravel
	Feeding	Marine	intertidal	shoreline
	Feeding	Terrestrial	maritime	beach/shoreline
American oystercatcher (<i>Haematopus palliatus</i>)	Breeding	Terrestrial	coastal	beach/shoreline

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
American oystercatcher (<i>Haematopus palliatus</i>)	Breeding	Terrestrial	maritime	beach/shoreline
	Feeding	Marine	intertidal	mudflats
	Feeding	Marine	intertidal	sand/gravel
	Feeding	Terrestrial	maritime	beach/shoreline
Roseate tern (<i>Sterna dougallii</i>)	Breeding	Terrestrial	maritime	beach/shoreline
	Breeding	Terrestrial	maritime	cultural
	Feeding	Marine	shallow subtidal	pelagic
Common tern (<i>Sterna hirundo</i>)	Breeding	Terrestrial	coastal	beach/shoreline
	Breeding	Terrestrial	maritime	beach/shoreline
	Feeding	Lacustrine	cold water shallow	pelagic
	Feeding	Marine	shallow subtidal	pelagic
Least tern (<i>Sterna antillarum</i>)	Breeding	Terrestrial	coastal	beach/shoreline
	Breeding	Terrestrial	maritime	beach/shoreline
	Feeding	Estuarine	shallow subtidal	pelagic
	Feeding	Marine	shallow subtidal	pelagic
Black skimmer (<i>Rynchops niger</i>)	Breeding	Terrestrial	coastal	beach/shoreline
	Breeding	Terrestrial	maritime	beach/shoreline
	Feeding	Estuarine	shallow subtidal	pelagic
	Feeding	Marine	shallow subtidal	pelagic
Caspian tern (<i>Sterna caspia</i>)	Breeding	Terrestrial	coastal	beach/shoreline

Goal and Objectives for Beach and Island ground-nesting birds

Goal: Increase numbers and annual productivity of rare beach-nesting species and maintain populations of all beach-nesting species at or near population objectives.

Objective 1 : Increase or maintain number of breeding locations for each species

Measure: *Through annual surveys of breeding habitat, determine number of active breeding locations for each species*

Objective 2 : Protect beach-nesting bird habitats

Measure: *Through review of project proposals, work to establish a goal of no net loss of beach-nesting bird habitat*

Objective 3 : Raise awareness of habitat needs of beach breeding species

Measure: *Increase number of local cooperators assisting in management of beach breeding species.*

Objective 4 : Reduce predation at breeding locations

Measure: *Through annual assessment of productivity, achieve an increase in the 5 year average of productivity for each species that is currently declining.*

Recommended Actions

Easement acquisition:

- * Protect nesting and foraging habitat and associated upland buffers through acquisition, easement and through regulatory constraints on development.

Educational signs:

- * Post interpretive signage at all public nesting locations.

Fact sheet:

- * Update Endangered Species fact sheets to reflect current status of species in New York.

Habitat management:

- * Encourage the establishment of nesting and foraging populations by protecting newly created suitable habitat produced as a result of overwash and/or breaches with symbolic fencing and posting.
- * Encourage and support a "no net increase" in shoreline armoring along Long Island bays and harbors.
- * Encourage compliance with the recommendations for habitat and recreation management contained within Federal and State Recovery Plans for beach-nesting species.
- * Encourage landowners to control predators that represent significant threats to the viability of species at risk. Options to be considered include control of predators through contact with a licensed nuisance wildlife control person, allowing hunting and/or trapping during legally specified seasons and habitat modification to remove roosting or denning sites of nest predators. It is recommended that the mechanism for predator control by landowners be done in consultation with DEC.
- * Where possible, protect nesting areas from human disturbance by posting, electric fencing and symbolic fencing. Also, control density and composition of vegetation at breeding sites to maintain suitability for nesting. Accomplished through planting of fresh spoil sites with desired species and grading and/or spoil deposition at sites where vegetation has become to dense.

Recommended Actions

Habitat research:

- * Support and encourage habitat research projects that would help define preferred habitat in order to guide restoration efforts and focus habitat protection efforts.
- * Assess beach driving activities, locations and impacts.

Habitat restoration:

- * Encourage the reestablishment of roseate tern colonies at suitable and historic sites throughout Long Island.
- * Encourage and support policies that purchase storm-damaged homes within the coastal erosion hazard area for the purposes of beach and dune habitat restoration.
- * Where possible, reestablish high quality foraging habitats by either manufacturing sand flats, mudflats or overwash fans or allowing such formations to build naturally. Also, ephemeral pool creation adjacent to beach nesting habitat will be pursued. Where possible, nesting habitat will be expanded to create new nesting opportunities for species. This will be accomplished through dredge spoil management, input into beach renourishment projects and de-vegetation of formally suitable sites.

Life history research:

- * Support research that addresses priorities established in species Recovery Plans (Piping plover and Roseate tern), the Tern Management Handbook (Kress and Hall, 2002) and similar planning documents currently being prepared through interstate and interagency working groups.

Other action:

- * Minimize and mitigate habitat impacts from development and public works projects by pursuing a goal of no net loss of habitat at a project location.
- * Establish and /or maintain enforcement of no-work windows within breeding habitats during the breeding season (April 1 - September 1 on Long Island).
- * Educate the public on the impacts of domestic cats on birds and encourage landowners to keep their cats indoors.
- * Secure funding to initiate new beach-dependent species programs.

Population monitoring:

- * Annual surveys will track population status at known breeding locations.

Regional management plan:

- * Develop a long term management plan that establishes population objectives for all beach-dependent breeding birds and management recommendations to achieve them.

References

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Taxa Group: Bird

Species Group: Boreal forest birds

Threats:

Boreal forest species of concern include: spruce grouse (*Falcapennis canadensis*), American three-toed woodpecker (*Picoides tridactylus*), olive-sided flycatcher (*Contopus cooperi*), bay breasted warbler (*Dendroica castanea*), rusty blackbird (*Euphagus carolinus*), Cape May warbler (*Dendroica tigrina*), Tennessee warbler (*Vermivora peregrina*).

The spruce grouse is endangered in NY and Bicknell's thrush is special concern.

In NY threats include: lack of forest management and forest structural diversity on Forest Preserve lands, loss of boreal/conifer habitats, insect and disease outbreaks, acid rain and global warming.

When looking at this diverse list of species, it would appear to be a daunting task to do research or manage for all of these species. A more workable approach is to select "focus" species to be the primary driving force, while trying not to forget the diversity of the group as a whole. To do this, a number of factors need to be considered.

Focus species include spruce grouse and olive-sided flycatcher.

Spruce grouse populations in NYS have declined to a very low level and long term viability of the population is in question. One primary factor in declines is the maturation of the forest, in particular in the Forest Preserve where forest management is prohibited. Spruce grouse prefer a mixture of older and younger coniferous forest. Without forest management to simulate this habitat type this species habitat has become spotty and patchy leading to isolation and eventual extirpation of local populations. Acid rain could also be playing a role by stressing coniferous forests.

Olive-sided flycatchers are declining by - 6.3%/year (1966-2002) in New York. This is a very dramatic decline. This species is also declining by - 3.4 %/year across its range. Olive-sided flycatchers prefer openings in conifer stands with residual standing snags for singing perches. One primary factor in declines is the maturation of the forest, in particular in the Forest Preserve where forest management is prohibited. Without forest management to create openings, their habitat is decreasing. The range wide decline suggests there are other factors involved, such as acid rain, or pesticide use. Causes for declines need to be determined.

The effects of deforestation of conifer forests is beginning to subside as NY's forests, and in particular NY Forest Preserve lands mature. Conifer forests (outside of plantations) are still probably not as extensive as in pre-European times. Acid rain could be having serious impacts on conifer forests in areas where soils have low buffering ability and at higher elevations in the Adirondacks. Global warming could also have a detrimental impact on NY's boreal and conifer forests over time. Fire suppression could be a factor limiting some habitat types.

The setting aside of over 3.2 million acres in Forest Preserve should help many of the species in this suite as these forests mature and change back to more natural communities. Species that prefer openings or disturbance will not benefit from mature preserve forests and will need natural disturbance, or will be more abundant on private lands open to forest management.

With the maturing of NY's forests, it is understandable why species that rely on early successional boreal forests are declining. Intermediate forest conditions seem to be doing quite well. Mature forest boreal species is the most puzzling result. With over 3 million acres in forest preserve (which can not be cut), and many older plantations, it is puzzling why mature boreal forest species would be declining more in NY than in other areas of the Northeast that undergo more extensive softwood harvesting.

Trends:

Historic distribution and abundance.

The historic range and distribution of the species in this suite is not as well known as the other suites due to the remoteness of many of their core habitats. Some of the species in this suite were probably more common prior to the extensive logging of the conifer forests in the 1800's and early 1900's. Construction of hydroelectric power and flood control dams that flooded large tracts of lowland spruce/fir forest also likely played a role (BB Atlas). Planting of plantations of pine and spruce during the early to mid 1900's probably provided new habitat for those species able to make use of these forest types.

Current distribution and abundance.

The current distribution is probably beginning to return to historic levels. As forests mature some species will be favored as others that prefer openings or gaps continue to decline. As forest structure in Forest Preserve lands returns to the form it had prior to extensive unregulated logging, the distribution of these species should continue to return to a more natural state. This could mean that some species, especially those that prefer early successional conifer forests, will become even rarer, or be extirpated without active intervention. Extensive conifer plantations offer a new habitat type and may have widened the distribution of some species. Effects of acid rain may be starting to negatively influence distribution and abundance.

Post (2004) completed an analysis of Breeding Bird Survey (BBS) data (Table 1). For boreal species, the trend was less consistent than for the other habitat suites. Six of the 14 species (43 %) were declining in NY (only 2 species showed positive trends and 6 showed no significant trend). In contrast, 8 species showed increasing trends in USFWS Region 5, and 6 species survey-wide. Only 16 % (3/16) of the species were declining in USFWS Region 5, while 31 % (5/16) were declining survey-wide. There is much greater between-geographic-area variation in the percent of declining species and numbers of increasing species for this suite than any other. The majority of species show no significant declines. A closer look at what is happening in NY appears warranted.

A closer look at these boreal species shows that when species favoring early successional boreal forests are examined separately, 60 % (3/5) of the species in NY are declining, with 33 % of the species declining in USFWS Region 5 and survey-wide. None of the intermediate/general species in NY and USFWS Region 5 were declining (0/6), but 33 % (2/6) were declining survey-wide. All (3/3) of the mature boreal forest species were declining in NY, but only 25 % (1/4) were declining in USFWS Region 5 and survey-wide.

Some of these differences are surprising. NY has over 3.2 million acres of Forest Preserve (no forestry allowed) in the Adirondacks, yet all the mature forest boreal species are declining. Logging in much of the northern forest outside of New York is more intensive than in NY. This would seem to suggest that NY's "mature" forest species should be doing well in comparison, yet they are not. Why NY has such a high percent of species declining when compared to the entire USFWS Region 5 is unexplained, perhaps influences of acid rain are more profound in NY, or it may be an artifact of inadequate monitoring across all habitats. It's also possible that our understanding of the forest structure preferred by some of these species is not precise.

Boreal forest species population trends as a whole show less consistency within the suite than the other habitat suites. In NY, 43% of the boreal forest species (6/14) are declining (Post 2004). Only 16 % are declining in USFWS Region 5 and 31 % are declining range wide. The other species suites do not show these substantial discrepancies between regions. Further, 60 % (3/5) of the boreal species that show a preference for early successional habitats are declining in NY, 100 % (3/3) of the species preferring mature forest are declining, and none (0/6) of the species that prefer an intermediate stage are declining. Some of these apparent declines may be due in part to insufficient BBS routes to precisely determine trends. Only 8 of the 16 species assessed showed significant trends (Post 2004). This means 8 species had no significant

trend (a much higher percent than for other habitat suites), and therefore may have somewhat biased the percent species declining towards a lower number. More intensive monitoring is needed to determine the actual trend of these species.

Of these species in the boreal species suite, several are sufficiently rare that their current status is uncertain. These include: spruce grouse, A. three-toed woodpecker, black-backed woodpecker, bay breasted warbler, rusty blackbird, as well as a species that did not make the BCR lists but appears to be of concern in NY: gray jay (-40 %/ yr 1966-2002).

Most of the species in this suite appear to be increasing or stable. Those that are declining tend to be declining at a very rapid rate (see Table 1.)

Table 1
BBS TREND DATA FOR BOREAL FOREST BIRDS
(1966-2002, % change per year)

Species	Total percent decline in NY, 1966-2002	NY	USFWS Region 5	Survey Wide
Boreal chickadee		- 6 (ns)	+ 6	-2 (ns)
Ruby-crowned kinglet	88%	- 6.4	- 1.8 (ns)	- 0.9
Gray jay	>99%	- 40 (ns, p= .11)*	+ 10 (ns)	+ 4.8 (ns)
Cape May warbler	95%	- 8.8 (ns, p=0.11)*	- 7.1	+ 0.8 (ns)
Bay-breasted warbler	99%	- 13.6	+ 0.1 (ns)	- 2.6 (ns)
Lincoln sparrow	75%	- 4	+5.8 (ns, p=0.12)**	+ 1.9
Rusty blackbird		+ 4 (ns)	+ 9 (ns)	- 10.1
Olive-sided flycatcher	90%	- 6.3	- 2.6	- 3.4
White-throated sparrow		- 1.1 (ns)	- 1.9	- 1.8
Yellow-bellied flycatcher		+ 6.4	+ 5.6	+ 2.1
Palm warbler		NA	+ 29 (ns, p=0.14)**	+ 3.9
Pine siskin		0.1 (ns)	+ 1.1 (ns)	- 1.8
Red crossbill		NA	+ 11.2	- 0.7 (ns)
Winter wren		+ 2.5 (ns)	+ 1.8	+ 2.7
Magnolia warbler		+ 2	+ 3.5	+ 1.4
Northern parula		+ 3.4 (ns)	+ 2.1	+ 0.8
Species with positive trend		2	8	6
Species with negative trend		6	3	5
Species with ns trend		6	5	5
% of species in decline*		43 ** (6/14)	16 *** (3/16)	31 (5/16)

NA = no BBS trend data available

ns = not a statistically significant ($p < 0.1$) trend (includes abundant species whose trend estimate is close to 0, and species which have larger trend estimates, but which are not detected by BBS in sufficient numbers to determine a significant trend).

* calculated as: number of species declining ÷ total number of species.

** percent includes 2 species with $p= 0.11$

*** percent includes 1 species with $p= 0.14$ and 1 with $p=0.12$

Percent Boreal Species Declining by Habitat

	NY	USFWS Region 5	Survey wide
Early successional	60 (3/5)	33 (2/6)	33 (2/6)

General/Intermediate	0 (0/6)	0 (0/6)	33 (2/6)
Mature forest	100 (3/3)	25 (1/4)	25 (1/4)

SEQR - No Action Alternative:

If no action is taken, it is probable that species such as Olive-sided Flycatcher, and Spruce Grouse will decline in areas where logging is prohibited (Forest Preserve), due to their preference of regenerating and young coniferous forest, and forest openings. Spruce grouse is likely to be extirpated within the next 20 years without active intervention and management. Other populations of species that prefer mature boreal forest will likely remain stable, although the effects of acid rain could negatively impact them.

Species in the Group and their Management Status						
Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Cape May warbler (<i>Dendroica tigrina</i>)			S2		P	Migratory
Tennessee warbler (<i>Vermivora peregrina</i>)			S2		P	Migratory
Rusty blackbird (<i>Euphagus carolinus</i>)			S3	G5	P	Resident
Bay-breasted warbler (<i>Dendroica castanea</i>)			S2	G5	P	Resident
Olive-sided flycatcher (<i>Contopus borealis</i>)					P	Migratory
Three-toed woodpecker (<i>Picoides tridactylus</i>)			S2	G5	P	Resident
Spruce grouse (<i>Falcapennis canadensis</i>)			S2	G5	E	Resident

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Spruce grouse (<i>Falcapennis canadensis</i>)	Unknown	Lake Champlain	Decreasing
		NE Lake Ontario - St. Lawrence	Decreasing
		Upper Hudson	Decreasing
Three-toed woodpecker (<i>Picoides tridactylus</i>)	Unknown	Lake Champlain	Unknown
		NE Lake Ontario - St. Lawrence	Unknown
		Upper Hudson	Unknown
Olive-sided flycatcher (<i>Contopus borealis</i>)	Unknown	Lake Champlain	Decreasing
		NE Lake Ontario - St. Lawrence	Decreasing
		Upper Hudson	Decreasing

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Bay-breasted warbler (<i>Dendroica castanea</i>)	Unknown	NE Lake Ontario - St. Lawrence	Decreasing
		Lake Champlain	Decreasing
		Unknown	Decreasing
Rusty blackbird (<i>Euphagus carolinus</i>)	Unknown	Lake Champlain	Unknown
		NE Lake Ontario - St. Lawrence	Unknown
		Upper Hudson	Unknown
Tennessee warbler (<i>Vermivora peregrina</i>)		NE Lake Ontario - St. Lawrence	Unknown
		Upper Hudson	Unknown
		Lake Champlain	Unknown
Cape May warbler (<i>Dendroica tigrina</i>)		Lake Champlain	Unknown
		NE Lake Ontario - St. Lawrence	Unknown
		Upper Hudson	Unknown

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Spruce grouse (<i>Falcapennis canadensis</i>)	Unknown	Northern Appalachian/Boreal Forest	Decreasing
Three-toed woodpecker (<i>Picoides tridactylus</i>)	Unknown	Northern Appalachian/Boreal Forest	Unknown
Olive-sided flycatcher (<i>Contopus borealis</i>)	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Decreasing
Bay-breasted warbler (<i>Dendroica castanea</i>)	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Decreasing
Rusty blackbird (<i>Euphagus carolinus</i>)	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Unknown

Species Distribution - Ecoregion

Species	Historical	Current	Stability
Tennessee warbler (<i>Vermivora peregrina</i>)		Northern Appalachian/Boreal Forest	Unknown
Cape May warbler (<i>Dendroica tigrina</i>)	Unknown	Northern Appalachian/Boreal Forest	Unknown

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Spruce grouse (<i>Falcapennis canadensis</i>)	Breeding	Terrestrial	forested	northern coniferous
Three-toed woodpecker (<i>Picoides tridactylus</i>)	all	Terrestrial	forested	northern coniferous
Olive-sided flycatcher (<i>Contopus borealis</i>)	Breeding	Terrestrial	forested	northern coniferous
Bay-breasted warbler (<i>Dendroica castanea</i>)	Breeding	Terrestrial	forested	mixed deciduous/coniferous
	Breeding	Terrestrial	forested	northern coniferous
Rusty blackbird (<i>Euphagus carolinus</i>)	Breeding	Palustrine	mineral soil wetland	shrub swamp
	Breeding	Terrestrial	forested	northern coniferous
Tennessee warbler (<i>Vermivora peregrina</i>)	Breeding	Terrestrial	forested	mixed deciduous/coniferous
	Breeding	Terrestrial	forested	northern coniferous
Cape May warbler (<i>Dendroica tigrina</i>)	Breeding	Terrestrial	forested	mixed deciduous/coniferous
	Breeding	Terrestrial	forested	northern coniferous

Goal and Objectives for Boreal forest birds

Goal: Maintain the greatest diversity possible of viable populations of boreal forest birds.

Objective 1 : Complete an inventory and analysis of the distribution and abundance of boreal species.

Measure: *Inventory and analysis of the distribution and abundance of boreal species completed.*

Objective 2 : Determine causes for declines for species known to be declining.

Measure: *Plan for research completed and causes determined.*

Objective 3 : Determine management options for stabilizing declining species.

Measure: *Management plan completed.*

Objective 4 : Develop a long term monitoring program to determine population trends and distributions of boreal species.

Measure: *Monitoring program implemented.*

Recommended Actions

Habitat management:

- * Cooperate with private landowners to encourage land management strategies that favor spruce grouse, olive-sided flycatcher and other species dependent on early successional boreal forests.

Habitat monitoring:

- * Conduct field studies to determine causes for declines of species known to be declining.

Habitat research:

- * Complete an inventory and analysis of the distribution and abundance of boreal species.

Population monitoring:

- * Develop a long term monitoring program to determine population trends of boreal forest birds.

State land unit management plan:

- * Review Department wildfire management for Forest Preserve lands.

References

The Atlas of Breeding Birds in NYS. Andrle and Carroll, editors. Cornell University Press.

Bull's Birds of NYS. 1998. Emanuel Levine, editor. Comstock Publishing.

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Taxa Group: Bird

Species Group: Breeding waterfowl

Threats:

Viable breeding populations of these species occur in limited areas of New York State, and available data suggest changing or uncertain distributions during the past 20 years. However, available data are inadequate to reliably assess population status and/or limiting factors.

Black ducks have a relatively wide distribution in New York, but their numbers have declined dramatically (probably >90% for breeding populations) over the past 50 years. The principal potential threats are interactions with mallards (e.g., competition, displacement, inter-breeding or hybridization) and over harvest. Potential impacts of mallards may be most important but least understood, although most of the effect may have occurred decades ago. Mallard stocking by DEC in the 1950s may have contributed to the black duck decline, and continued releases of captive-reared mallards by shooting preserves, game bird breeders and others may affect prospects for recovery in New York. Breeding habitat loss is not currently known to be a problem in upstate New York, but continued loss or degradation of coastal marshes on Long Island may contribute to further decline of this species.

Common goldeneye is an uncommon cavity-nesting species whose apparent range (based on Breeding Bird Atlas data) seems to have shifted since the 1980s for unknown reasons. They occur only in the Adirondacks and on Lake Champlain, but documented breeding locations are limited. This species could be affected by clearing of mature forest near lakes and ponds in the Adirondacks, by intensive recreational activity near nesting areas, or by contaminants (e.g., mercury) in their diet, either locally or in migration and wintering areas.

Blue-winged teal typically nest in grasslands and open fields near wetlands, with highest densities in the St. Lawrence Valley and Great Lakes Plains of New York. Agricultural practices that affect availability and use of grasslands for nesting is likely the principal factor affecting this species in New York. Predation during the nesting season may also be limiting reproductive success of this species in New York. Harvest of blue-winged teal is typically very low because most migrate south before duck hunting seasons open.

Ruddy ducks are an uncommon breeding species in New York, with Jamaica Bay and Montezuma being the principal breeding locations known for many years. Recent breeding bird atlas data suggest expanding distribution upstate, but disappearance or decline on Long Island. Causes of the decline on LI are unknown, but may include loss or degradation of emergent marsh habitat due to various factors.

Trends:

Breeding Bird Survey data suggest an annual decline of -4.4%/year for black duck abundance in New York, and an annual decline of -5.2% for blue-winged teal, between 1966 and 2003, whereas mallards increased +14.4%/year over the same period. BBS data are not available for common goldeneye or ruddy duck. Breeding waterfowl surveys conducted in New York since 1989 show no clear trend for black ducks or blue-winged teal, but estimates are imprecise (e.g., ranging from 2,500-11,000 pairs of black ducks annually) and average approximately 5,500 pairs of black ducks and less than 5,000 pairs of blue-winged teal statewide. Population estimates are not available for common goldeneye or ruddy ducks breeding in New York. Breeding Bird Atlas data suggest that distribution of black ducks and blue-winged teal is more limited now than 20 years ago, while the number of goldeneye breeding locations has remained about the same and ruddy ducks appear much more common. Winter counts of black ducks and common goldeneye in New York and the Atlantic Flyway indicate lower numbers of both species than in the 1950s, but relatively stable numbers during the past 30 years. Winter counts of ruddy ducks in NY have increased during the past 30 years. However, winter counts include many birds from more northern breeding areas and may not be a good indicator of nesting populations in New York.

SEQR - No Action Alternative:

Without the above actions, the status of black duck, blue-winged teal and common goldeneye will remain uncertain at best and in jeopardy of further decline or disappearance over the long term. Ruddy ducks seem secure at a statewide level but it's future on Long Island is uncertain without knowledge of factors causing their decline in that region, and actions to address potential threats.

Species in the Group and their Management Status						
Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Ruddy duck (<i>Oxyura jamaicensis</i>)			S1		P	Migratory
Blue-winged teal (<i>Anas discors</i>)					P	Migratory
Common goldeneye (<i>Bucephala clangula</i>)			S2	G5	G	Migratory
American black duck (<i>Anas rubripes</i>)			S4	G5	G	Migratory

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
American black duck (<i>Anas rubripes</i>)	Allegheny	Lake Champlain	Decreasing
	Delaware	NE Lake Ontario - St. Lawrence	Decreasing
	Lake Champlain	Upper Hudson	Decreasing
	Lake Erie	Lower Hudson - Long Island Bays	Unknown
	Lower Hudson - Long Island Bays		
	NE Lake Ontario - St. Lawrence		
	SE Lake Ontario		
	Susquehanna		
	SW Lake Ontario		
	Upper Hudson		
Common goldeneye (<i>Bucephala clangula</i>)	Lake Champlain	Lake Champlain	Unknown
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Unknown

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Blue-winged teal (<i>Anas discors</i>)	Allegheny	SW Lake Ontario	Decreasing
	Delaware	Lake Erie	Decreasing
	Lake Champlain	SE Lake Ontario	Decreasing
	Lake Erie	Allegheny	Decreasing
	Lower Hudson - Long Island Bays	NE Lake Ontario - St. Lawrence	Decreasing
	NE Lake Ontario - St. Lawrence	Lake Champlain	Decreasing
	SE Lake Ontario		
	Susquehanna		
	SW Lake Ontario		
	Upper Hudson		
Ruddy duck (<i>Oxyura jamaicensis</i>)	SE Lake Ontario	SW Lake Ontario	Increasing
	Lower Hudson - Long Island Bays	SE Lake Ontario	Increasing
		Lower Hudson - Long Island Bays	Unknown

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
American black duck (<i>Anas rubripes</i>)	Great Lakes	Northern Appalachian/Boreal Forest	Decreasing
	High Allegheny Plateau	St. Lawrence-Lake Champlain Valley	Decreasing
	Lower New England Piedmont	Lower New England Piedmont	Decreasing
	North Atlantic Coast	North Atlantic Coast	Unknown
	Northern Appalachian/Boreal Forest		
	St. Lawrence-Lake Champlain Valley		
	Western Allegheny Plateau		
Common goldeneye (<i>Bucephala clangula</i>)	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Unknown

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Blue-winged teal (<i>Anas discors</i>)	Great Lakes	St. Lawrence-Lake Champlain Valley	Decreasing
	High Allegheny Plateau	Western Allegheny Plateau	Decreasing
	Lower New England Piedmont	Great Lakes	Decreasing
	North Atlantic Coast		
	Northern Appalachian/Boreal Forest		
	St. Lawrence-Lake Champlain Valley		
	Western Allegheny Plateau		
Ruddy duck (<i>Oxyura jamaicensis</i>)	North Atlantic Coast	Great Lakes	Increasing
	Great Lakes	North Atlantic Coast	Unknown

Critical Habitats for Species in the Group				
Species	Life Stage or Use	System	SubSystem	Habitat
American black duck (<i>Anas rubripes</i>)	Breeding	Estuarine	intertidal	emergent marsh
	Breeding	Lacustrine	warm water shallow	pond/lake shore
	Breeding	Palustrine	mineral soil wetland	emergent marsh
	Breeding	Riverine	warmwater stream	marsh
Common goldeneye (<i>Bucephala clangula</i>)	Breeding	Lacustrine	unknown	unknown
Blue-winged teal (<i>Anas discors</i>)	Breeding	Palustrine	mineral soil wetland	emergent marsh
	Breeding	Terrestrial	open upland	grasslands
Ruddy duck (<i>Oxyura jamaicensis</i>)	Breeding	Estuarine	intertidal	emergent marsh
	Breeding	Palustrine	mineral soil wetland	emergent marsh

Goal and Objectives for Breeding waterfowl

Goal: Maintain viable breeding populations of all native waterfowl species that have historically nested in New York on a regular basis.

Objective 1 : Maintain viable breeding populations of black ducks in New York, with a minimum of 1,000 pairs nesting on Long Island and 4,000 pairs nesting in the Adirondacks.

Measure: *Breeding pair estimates in the Adirondack and Long Island regions of New York.*

Objective 2 : Maintain viable breeding populations of blue-winged teal in New York, with a minimum of 5,000 pairs nesting in the St Lawrence Valley and Lake Plains regions of New York.

Measure: *Breeding pair estimates in the St Lawrence Valley and Great Lakes Plains regions of New York.*

Objective 3 : Maintain viable breeding populations of common goldeneye in New York, with a minimum of 100 pairs nesting in the Adirondacks, and 50 pairs in the Champlain Valley.

Measure: *Breeding pair estimates in the Adirondack and Champlain Valley regions of New York.*

Recommended Actions

Habitat management:

- * Encourage land use practices, including small wetland protection/restoration and maintenance of grassland habitats for nesting blue-winged teal in the St. Lawrence Valley and Lake Plains regions of New York.
- * Install nest boxes to increase populations or productivity of common goldeneye in appropriate locations in the Adirondacks or Champlain Valley.
- * Maintain or increase abundance and suitability of emergent marsh habitats for breeding black ducks in the Adirondack region of the NE Lake Ontario-St. Lawrence, Lake Champlain, and Upper Hudson watersheds.
- * Maintain or enhance approximately 25,000 acres of potential black duck breeding habitat in coastal areas of Lower Hudson/Long Island watershed, including protection and management of upland buffer areas.

Habitat research:

- * Conduct field studies to document critical habitats for black ducks breeding in the Lower Hudson/Long Island watershed.

Life history research:

- * Investigate potential impacts of captive-reared mallard releases by shooting preserves and game bird breeders on black duck populations.
- * Conduct field studies to document life history and habitat use by blue-winged teal breeding in the St. Lawrence Valley and Great Lakes Plains regions of New York.

Recommended Actions

Modify regulation:

- * Establish hunting regulations that will not adversely affect long-term status of waterfowl species breeding in New York.

Population monitoring:

- * Conduct annual statewide breeding waterfowl surveys to derive breeding pair estimates ($\pm 25\%$) for black ducks, blue-winged teal and other more common breeding waterfowl species.

Statewide baseline survey:

- * Conduct more intensive surveys for common goldeneye in the Adirondacks and Champlain Valley to estimate overall abundance, document habitat use and design a long-term monitoring program (e.g., every 5 years).
- * Conduct more intensive surveys for breeding black ducks and blue-winged teal in appropriate regions of New York to estimate overall abundance, document habitat use and design a long-term monitoring program (e.g., every 5 years).

References

North American Waterfowl Management Plan (2004 Update) and draft focus area plans for Great Lakes - St.Lawrence Valley and Atlantic Coast regions.

Breeding waterfowl population estimates for 1989-2004 - unpublished data in DEC files (B. Swift)

Breeding Bird Survey - data at <http://www.mbr-pwrc.usgs.gov/bbs/>

NYS Breeding Bird Atlas (1980-85 and 2000-2004) - data at <http://www.dec.state.ny.us/apps/bba/results/index.cfm>

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Taxa Group: Bird

Species Group: Colonial-nesting herons

Threats:

Loss of foraging and breeding habitat due to human activity is the most critical threat for these species. Loss or modification of wetland habitat affects breeding and foraging for all species throughout the state. On Long Island, loss of maritime shrub and grassland habitat is an additional threat. Many species (Snowy Egret, Little Blue Heron, Tricolored Heron, Yellow-crowned Night Heron, Glossy Ibis) nest exclusively or almost entirely in the Lower Hudson-Long Island Bay Basins of the North Atlantic Coast Ecoregion. Only the Great Egret and Black-crowned Night Heron have substantial breeding populations in upstate New York. Competition for nesting habitat with other waterbird species has the potential to alter colony species composition and locations. Further, of the species breeding in the North Atlantic Coast Ecoregion, the Tricolored Heron, Yellow-crowned Night Heron and the Glossy Ibis are at or close the northern limit of their breeding ranges. Detailed information on the breeding biology and foraging ecology of all of these species for New York State is incomplete or unavailable, particularly for Little Blue Heron, Tricolored Heron and Snowy Egret. Such information is important for population management efforts, and especially so for species whose numbers appear to be declining or that are breeding near range limits.

Trends:

Population trends (numbers of colonies, colony size, colony distribution) vary significantly among species of colonially nesting herons and egrets. The Long Island Colonial Waterbird Survey of the New York State Department of Environmental Conservation and the New York City Audubon Society's Harbor Herons Nesting Survey collectively provide the longest-term population information from which trends can be deduced. These data have permitted the assessment of trends for this study over the interval 1985 – 2004. An interesting characteristics of all of these species is the generally high level of variation in nesting numbers among years, providing additional evidence that the long-term population dynamics of herons are complexly non-linear (see McCrimmon et al. 1997). There is also evidence (Erwin 1979, Erwin and Korschgen 1979) of historically (e.g., 1970s) higher breeding numbers of some of these species (e.g., Black-crowned Night Herons, Snowy Egret; Parsons Pers. Comm.) in the North Atlantic Coast Ecoregion than is currently the case, though the length of time prior to the 1970 those numbers had been higher is difficult to determine.

Great Egret: 1988 BBA (Breeding Bird Atlas) assessment suggested a stable population statewide (Peterson in Andrlé and Carroll 1988). Species has extended its range upstate to the Niagara and Lake Champlain Basins, where they have bred in small but increasing numbers (NYSDEC 2004a, Griffith in Levine 1998, Kandel Pers. Comm.). Data from Long Island/Metropolitan New York shows that the species has increased significantly in that region since 1985, though with greater variability in breeding numbers in recent years (Sommers et al. 2002, Kerlinger 2004, NYSDEC 2004b).

Snowy Egret: Long Island and New York Harbor populations have declined significantly since 1985 (Sommers et al. 2002, Kerlinger 2004, NYSDEC 2004b) consistent with declines reported in the mid-1990s (Griffith in Levine 1998). Interim 2000-2003 BBA data indicates possible expansion of breeding range to the Niagara Basin (NYSDEC 2004a).

Little Blue Heron: Although some have claimed a stable population downstate (Lauro in Levine 1998), since 1985 the species has declined significantly in the region (Sommers et al. 2002, Kerlinger 2004, NYSDEC 2004b). Species bred in small numbers on islands on northeastern side of Staten Island in mid-1990's (NYC Audubon Society). 2000-2003 BBA data indicates possible breeding range expansion into Tompkins County upstate (NYSDEC 2004a).

Tricolored Heron: On Long Island and Metropolitan New York, populations may be stable (Lauro in Levine 1998). This is generally confirmed with data from 1985 onwards (Sommers et al. 2002, Kerlinger 2004, NYSDEC 2004b) but the number of breeding birds is extremely small, generally less than 20 pairs and as low as 3 pair in 2004, as the species is at the northern portion of its breeding range.

Black-crowned Night Heron: In mid-20th Century, loss of wetlands, intentional colony destruction, and pesticide contamination greatly reduced the breeding population in downstate New York (Marcotte 1998). In the mid-1990s, more than 50 percent of the State's population nested on the Harbor Herons complex of islands northwest of Staten Island (NYC Audubon Society). Colonies upstate along the upper and lower Hudson Valley, the Lake Champlain Valley, eastern Lake Ontario, throughout Central New York and along the Niagara River had declined significantly by the 1970s, attributed to the loss of wetland habitat (Levine in Andrlé and Carroll 1988). Compared to the mid-1980s, currently numbers of colonies appear to be stable in the Lake Champlain Basin, increasing in the NE Lake Ontario - St. Lawrence and Lake Erie Basins, and decreasing in the SE and SW Lake Ontario, Lake Erie and Lower Hudson - Long Island Bays Basins (Sommers et al. 2002, Kandel Pers. Comm. Kerlinger 2004, NYSDEC 2004a,b).

Yellow-crowned Night Heron: Breeding entirely confined to the Lower Hudson - Long Island Bays Basin. Compared with the mid 1980s, new colonies of this species were established on the Hudson River and islands northwest of Staten Island (NYSDEC 2004a). Although the population appears to be stable, with small numbers of breeding birds, which appears to have been the case since the late 1930s (Peterson in Andrlé and Carroll 1988), the species could rapidly disappear if the availability of crustaceans on which it forages is reduced. Recent substantial population fluctuations culminated in the known breeding population being sharply reduced to seven pair in 2004 (from an average of 21 pairs since 1985).

Glossy Ibis: The nesting range of this species may have expanded recently to include Lake Champlain and the Upper Hudson River (NYSDEC 2004a). It is difficult to ascertain the exact status of this species due to local and regional shifts in breeding locations in response to human and natural disturbances (Spahn in Levine 1998). Long Island colonies showed significant declines from the mid-1980s through 2004 (Sommers 1996 reported by Spahn in Levine 1998, Sommers et al. 2002, Kerlinger 2004, NYSDEC 2004b) though Peterson (in Andrlé and Carroll 1988) suggests that the State's Glossy Ibis population for approximately the same period might be increasing.

Cattle Egret: Currently breeds in NYC area and two upstate location, Lake Champlain and Eastern Lake Ontario basin. Old world species, which came to North America via South America, it was first reported in NY in 1970 on Gardiners Island, Suffolk County. The first upstate breeding record was of several pairs and one active nest on Four Brothers Island in Lake Champlain, Essex County in 1973. In the early 1980s the two upstate colonies showed a downward trend, and the coastal colonies continued to increase to about 351 pairs in 1985. Since that time those colonies have also decreased or in some cases disappeared (Chamberlaine in Levine 1998).

SEQR - No Action Alternative:

Under protection, populations of herons and egrets have recovered nationwide and particularly in the Eastern United States since the low points reached due to human depredation in the early 20th century. Wetland conservation has risen in importance as well, at national, regional, state and local levels. Naturally occurring processes such as increased abundance of beaver flowages has enhanced the availability of foraging and even breeding locations for many herons and egrets. Nesting of species such as Snowy Egrets have been reported in for VT and Canada (Griffith in Levine 1998). It is possible that there will be additional range expansion and confirmed inland and upstate nesting of this and some other species (i.e., Great Egrets, Little Blue Herons and Black-crowned Night Herons) in the future.

Human disturbance of heron nesting sites and human induced alteration of breeding and foraging habitat generally poses the most important threat to stability of regional populations of these birds. The human population of New York State grew at less than half the national rate in the 1990s (5.5 percent versus 13.2 percent), though this was more than double the 2.5 percent growth rate of the 1980s. Two decades of population growth for the state as a whole continued the rebound from the state's population decline of the 1970s (Wing 2003). The population of New York City increased 9.4 percent, while the rest of the state grew only 2.8 percent (Wing 2003). Upstate, rural human populations declined more than urban populations. The implications of this bifurcated growth pattern suggest that conservation efforts for herons and egrets

should be focused principally in downstate regions, especially in the North Atlantic Coast Ecoregion. Because heronry sites are characterized by relatively high turnover over intervals of one or more decades, conservation efforts should focus on protection of current nesting locations from human disturbance and protection of foraging areas.

Species in the Group and their Management Status						
Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Cattle egret (<i>Bubulcus ibis</i>)			S2		P	Migratory
Glossy ibis (<i>Plegadis falcinellus</i>)			S2	G5	P	Migratory
Yellow-crowned night-heron (<i>Nyctanassa violacea</i>)			S2	G5	P	Migratory
Black-crowned night-heron (<i>Nycticorax nycticorax</i>)			S3	G5	P	Migratory
Tricolored heron (<i>Egretta tricolor</i>)			S2	G5	P	Migratory
Little blue heron (<i>Egretta caerulea</i>)			S2	G5	P	Migratory
Snowy egret (<i>Egretta thula</i>)			S2S3	G5	P	Migratory
Great egret (<i>Ardea alba</i>)			S2	G5	P	Migratory

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Great egret (<i>Ardea alba</i>)	Lower Hudson - Long Island Bays	Lake Champlain	Unknown
		Lake Erie	Increasing
		Lower Hudson - Long Island Bays	Increasing
Snowy egret (<i>Egretta thula</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
Little blue heron (<i>Egretta caerulea</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
Tricolored heron (<i>Egretta tricolor</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Stable

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Black-crowned night-heron (<i>Nycticorax nycticorax</i>)	Lake Champlain	Lake Champlain	Stable
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Increasing
	SE Lake Ontario	SE Lake Ontario	Decreasing
	SW Lake Ontario	SW Lake Ontario	Decreasing
	Lower Hudson - Long Island Bays	Lake Erie Lower Hudson - Long Island Bays	Decreasing Stable
Yellow-crowned night-heron (<i>Nyctanassa violacea</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
Glossy ibis (<i>Plegadis falcinellus</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
Cattle egret (<i>Bubulcus ibis</i>)	Unknown	Lower Hudson - Long Island Bays	Decreasing
		Lake Champlain	Decreasing
		NE Lake Ontario - St. Lawrence	Decreasing

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Great egret (<i>Ardea alba</i>)	North Atlantic Coast	St. Lawrence-Lake Champlain Valley	Unknown
		Great Lakes	Increasing
		North Atlantic Coast	Increasing
Snowy egret (<i>Egretta thula</i>)	North Atlantic Coast	North Atlantic Coast	Decreasing
Little blue heron (<i>Egretta caerulea</i>)	North Atlantic Coast	North Atlantic Coast	Decreasing
Tricolored heron (<i>Egretta tricolor</i>)	North Atlantic Coast	North Atlantic Coast	Stable

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Black-crowned night-heron (<i>Nycticorax nycticorax</i>)	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Increasing
	Great Lakes	Great Lakes	Decreasing
	North Atlantic Coast	Lower New England Piedmont	Increasing
		North Atlantic Coast	Stable
Yellow-crowned night-heron (<i>Nyctanassa violacea</i>)	North Atlantic Coast	North Atlantic Coast	Decreasing
Glossy ibis (<i>Plegadis falcinellus</i>)	North Atlantic Coast	North Atlantic Coast	Decreasing
Cattle egret (<i>Bubulcus ibis</i>)	Unknown	St. Lawrence-Lake Champlain Valley	Decreasing
		North Atlantic Coast	Decreasing

Critical Habitats for Species in the Group				
Species	Life Stage or Use	System	SubSystem	Habitat
Great egret (<i>Ardea alba</i>)	Breeding	Terrestrial	forested	southern deciduous
	Breeding	Terrestrial	maritime	shrublands
	Feeding	Estuarine	intertidal	emergent marsh
	Feeding	Lacustrine	warm water shallow	mud bottom
	Feeding	Palustrine	mineral soil wetland	pond/lake shore
	Feeding	Riverine	warmwater stream	mud bottom
	Feeding	Terrestrial	open upland	grasslands
	Roosting/Congregating	Terrestrial	forested	northern deciduous
	Roosting/Congregating	Terrestrial	maritime	shrublands
Snowy egret (<i>Egretta thula</i>)	Breeding	Terrestrial	maritime	shrublands
	Feeding	Estuarine	intertidal	emergent marsh
	Feeding	Estuarine	intertidal	mudflats
	Feeding	Estuarine	intertidal	shoreline
	Feeding	Palustrine	mineral soil wetland	pond/lake shore
	Feeding	Riverine	coastal plain stream	marsh
	Roosting/Congregating	Terrestrial	maritime	shrublands
Little blue heron (<i>Egretta caerulea</i>)				

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Little blue heron (<i>Egretta caerulea</i>)	Breeding	Terrestrial	maritime	shrublands
	Feeding	Estuarine	intertidal	emergent marsh
	Feeding	Lacustrine	warm water shallow	mud bottom
	Feeding	Riverine	coastal plain stream	mud bottom
	Roosting/Congregating	Terrestrial	maritime	shrublands
Tricolored heron (<i>Egretta tricolor</i>)	Breeding	Terrestrial	maritime	shrublands
	Feeding	Estuarine	intertidal	emergent marsh
	Feeding	Riverine	coastal plain stream	marsh
	Roosting/Congregating	Terrestrial	maritime	shrublands
Black-crowned night-heron (<i>Nycticorax nycticorax</i>)	Breeding	Terrestrial	forested	northern coniferous
	Breeding	Terrestrial	forested	northern deciduous
	Breeding	Terrestrial	forested	southern coniferous
	Breeding	Terrestrial	forested	southern deciduous
	Breeding	Terrestrial	maritime	shrublands
	Feeding	Estuarine	intertidal	emergent marsh
	Feeding	Estuarine	intertidal	mudflats
	Feeding	Lacustrine	warm water shallow	mud bottom
	Feeding	Palustrine	mineral soil wetland	pond/lake shore
	Feeding	Riverine	coastal plain stream	marsh
	Roosting/Congregating	Terrestrial	forested	northern coniferous
	Roosting/Congregating	Terrestrial	forested	northern deciduous
	Roosting/Congregating	Terrestrial	forested	southern coniferous
Roosting/Congregating	Terrestrial	forested	southern deciduous	
Roosting/Congregating	Terrestrial	maritime	shrublands	
Yellow-crowned night-heron (<i>Nyctanassa violacea</i>)	Breeding	Terrestrial	maritime	shrublands
	Feeding	Estuarine	intertidal	emergent marsh
	Feeding	Estuarine	shallow subtidal	mud
	Roosting/Congregating	Terrestrial	maritime	shrublands
Glossy ibis (<i>Plegadis falcinellus</i>)	Breeding	Terrestrial	maritime	grasslands
	Breeding	Terrestrial	maritime	shrublands
	Feeding	Estuarine	intertidal	emergent marsh
	Feeding	Palustrine	mineral soil wetland	pond/lake shore
	Feeding	Palustrine	mineral soil wetland	shrub swamp
	Feeding	Terrestrial	coastal	beach/shoreline
	Feeding	Terrestrial	open upland	grasslands
Roosting/Congregating	Terrestrial	maritime	shrublands	

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Glossy ibis (<i>Plegadis falcinellus</i>)				
Cattle egret (<i>Bubulcus ibis</i>)	Breeding	Terrestrial	maritime	shrublands
	Feeding	Terrestrial	open upland	cultural
	Feeding	Terrestrial	open upland	grasslands
	Roosting/Congregating	Terrestrial	maritime	shrublands

Goal and Objectives for Colonial-nesting herons

Goal: Maintain breeding populations at or above current levels

Objective 1 : Identify important breeding and foraging areas for each species

Measure: *Location, habitat characteristics, disturbance*

Objective 2 : Apply appropriate conservation efforts as indicated under SEQR No Action Taken and Objectives 1-6 of this section.

Measure: *Regional, State and Federal conservation actions*

Objective 3 : Compare NYS trends with regional trends to investigate pop. dynamics of herons and egrets over large geographic and multiyear scales

Measure: *State, Federal and NGO surveys and censuses*

Objective 4 : Develop a banding program to provide information about basic population distributions of these ciconiiformes both upstate and downstate

Measure: *adult/juvenile mortality, recruitment, movement*

Objective 5 : Develop a systematic, long-term, comprehensive monitoring program for both upstate and downstate breeding populations

Measure: *Colony sizes, distribution, turnover rates*

Objective 6 : Investigate external threats in addition to human disturbance such as pathogens, invasive species or other factors with a focus on quantification of impact and feasibility of control.

Measure: *Mortality, recruitment, movement*

Objective 7 : Study basic foraging ecology in New York State

Measure: *location and habitat, prey, bioenergetics*

Objective 8 : Study basic reproductive ecology in New York State

Measure: *Physiology, pathology, productivity, gene flow*

Recommended Actions

Habitat management:

- * Integrate bird conservation interests in agency planning, management, and research projects, within the context of agency missions. Watersheds 1, 5 and 10 have the highest priority with Watershed 10 the highest of those. Priority action 4.
- * Develop coordinated and specific management and habitat restoration projects for identified focus areas that can then be submitted as grant proposals. Watersheds 1, 5 and 10 have the highest priority with Watershed 10 the highest of those. Priority action 3.

Habitat research:

- * Identify habitat research projects for heron and egret species that can then be submitted as grant proposals.

Habitat restoration:

- * Work with State, Federal and NGOs to identify wetlands and fund their restoration. Develop coordinated and specific habitat restoration projects for identified focus areas that can then be submitted as grant proposals.

Life history research:

- * Identify research needs for New York populations dealing with habitat, food habits, behavior, breeding, and reproductive success for heron and egret species that can then be submitted as grant proposals.

Population monitoring:

- * Initiate statewide, comprehensive colonial nesting heron survey. Resurvey every five years after initial survey. Watersheds 1, 5 and 10 have the highest priority with Watershed 10 the highest of those. Priority action 1.

Statewide management plan:

- * Develop coordinated, statewide management plan that takes into consideration differences in colony sizes, species distribution, habitat characteristics and human populations for upstate and downstate regions, particularly Long Island. Watersheds 1, 5 and 10 have the highest priority with Watershed 10 the highest of those. Priority action 2.

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Taxa Group: Bird

Species Group: Common loon

Threats:

Common Loons are susceptible to human disturbance at breeding lakes (via development of shoreline areas and aquatic recreational activities), acid rain alterations of lake ecosystems, and mercury poisoning. Also, loons may be jeopardized in some areas by fluctuating water levels at the nest site and by increased numbers of predators such as raccoons, otters and eagles.

Habitat Loss And Degradation:

- Direct and indirect effects of shoreline development may reduce the suitability of lakes for nesting. Researchers have observed reduced hatching success of loons nesting within 150 meters of developed shorelines compared to nests on less developed lakes.
- Loon nests located along island shorelines or on small hummocks may be affected by fluctuating water levels, adults may abandon nests and nests become more susceptible to predation. Fluctuations also stir sediments, releasing mercury trapped in the sediments and enhancing its conversion to methyl mercury.

Human Disturbance And Hunting:

- During the breeding season, human disturbance may reach levels that will cause nests to fail or result in the death of chicks or adults. Paddlers, campers, boaters, and jet-skiers all can contribute to disturbance of loons on nests and interrupt incubation, resulting in nest failure or abandonment. The illegal shooting of loons, along the Atlantic coast and elsewhere, is a known mortality factor potentially affecting Adirondack Common Loon populations.

Competition:

- Intraspecific competition may limit productivity.

Entanglement:

- Mortality is known to occur from entanglement in monofilament sports fishing line and in commercial nets.

Environmental Pollutants:

- Organochlorines and their residues have been detected in eggs and carcasses and may have adverse, sub lethal effects.
- Mercury (Hg) levels in freshwater and marine fish in North America are at levels that pose significant health risks to wildlife that consume fish. Mercury levels in loons generally increase from west to east across North America, with the highest levels occurring in birds breeding in New England and eastern Canada. High levels of mercury are correlated with behavior changes that lead to decreased reproductive success, decreased survival of juvenile and adult loons, and increased susceptibility to other diseases. Preliminary results indicate that 17% of the birds sampled in the Adirondacks from 1998-2000 have mercury levels high enough to result in behavioral changes or decreased reproductive success. Other heavy metals, such as cadmium, selenium and lead are potential hazards.
- The poor buffering capability of the thin, acidic soils and nutrient-poor water bodies in the Adirondack Park make lakes and ponds within the Park susceptible to acidification. Acid deposition, resulting from emissions of sulfur dioxide and nitrogen oxide compounds by a variety of sources leads to decreased prey diversity and abundance. Acid deposition also contributes to increased availability of methyl mercury in affected water bodies, leading to greater bioaccumulation of methyl mercury in the food chain.
- Ingestion of lead (Pb) fishing tackle by loons causes lead poisoning and eventually death when the acidic environment of the bird's stomach breaks down the metal weights or lures. Loons ingest lead tackle while they are feeding, or when they pick up small stones, which aid in grinding food in the gizzard. Ingestion of fish hooks and entanglement in fishing line can cause permanent injury or death.
- Oil spills pose a serious, although localized, threat to habitat. Exposure to oil, primarily on the wintering grounds or

during migration, contaminates and reduces the water repellency of feathers. Ingested petroleum acts as a laxative.

Predation:

-Loon eggs are susceptible to loss by both mammalian and avian predators, including ravens, raccoons, otters, mink, and gulls. Loon chicks often fall prey to eagles, snapping turtles, large fish, and other loons. Adult loons are also susceptible to harassment or predation by species such as otters and eagles, particularly if already compromised by another problem. In addition, intraspecific competition can lead to nest failure or abandonment, chick mortality, and trauma or death of adult birds.

Diseases And Parasites:

-Common Loons are susceptible to a variety of diseases and parasites including aspergillosis, air sacculitis, peritonitis, umbilical infections in chicks and cancer. Though they may not always result in mortality, diseases and parasites may weaken a bird's immune system, making it susceptible to other factors, including attack by other loons.
-Loons are susceptible to epidemics of both type C and type E botulism. Since 1999, an outbreak of Type E botulism, *Clostridium botulinum*, has occurred annually on Lake Erie. Outbreaks on Lake Ontario were documented beginning in 2002. Two invasive exotic species, the round goby and quagga mussels appear to play a role in the transmission of the type E toxin to waterbirds utilizing these lakes during migration.

Trends:

Large declines in breeding populations were recorded in the northeastern US over the past several decades prior to the 1990s. A northward range constriction has been documented within the last 100-150 years, and several states that once supported breeding loons have lost them. More recently, North American Breeding Bird Survey (BBS) data indicate a significant 2.2% annual increase in North America, 1966-89.

The ability to habituate to moderate levels of lakeshore and recreational use indicates that populations may continue to survive if suitable breeding, staging, stopover and wintering habitats are available. Loons are currently increasing in Vermont, New Hampshire and Massachusetts, and populations appear to be stable in New York and Maine. Just as human induced habitat changes and recreational pressures probably caused the widespread declines noted prior to the 1970s, integrated management programs have contributed to the recovery in much of their northeastern US breeding range. The potential for continued recovery is favorable.

Common Loons are listed as a Species of Special Concern by the Department. This designation reflects the fact that, although loons are not endangered or threatened, there is concern for the continued welfare of the loon population summering and wintering in New York. Common Loons, their feathers, eggs, and nests are also protected by federal law under the Migratory Bird Treaty Act.

A survey of the breeding population of Common Loons in the Adirondack Park was conducted during the summer of 1977 and 1978. Observations on 301 lakes throughout the Park indicated that the population was low in density, but high in productivity (estimated at 0.83 chicks fledged/pair of breeding adults) In the summers of 1984 and 1985, NYS DEC conducted a second survey of breeding loons in the Adirondack Park, finding 157 breeding pairs and 196 chicks on 500 lakes and ponds. Two hundred and forty-seven non-breeding adult loons were also counted. It was estimated that 200-250 breeding pairs, and a total of 800-1000 adult loons inhabited the water bodies of the Adirondacks. Compared to the earlier survey, the 1984-85 survey indicated that the population of breeding loons in the Park appeared stable or possibly increasing.

An index of the summer loon population in the Adirondack Park is obtained through an annual loon census, conducted by volunteers on the third Saturday in July. Adirondack Cooperative Loon Program (ACLP) staff hope to be able to determine trends in the Adirondack breeding loon population over time through repeated observations on the same lakes in the Park. Census results are coordinated with similar loon censuses in other states in the Northeast to provide an indication of change and trends in the regional population.

SEQR - No Action Alternative:

With no action Common Loon would, for the foreseeable future, continue to breed in suitable habitats within the Adirondack Park and St. Lawrence River regions. Productivity, though, may be poor in regions with contamination problems, such as mercury, or high levels of human disturbance. Loons would also continue to utilize Lake Ontario and Lake Erie, as well as other large water bodies as resting and re-fueling stops during migration. The impact of disease, such as Type E botulism, may cause the number of loons utilizing these waters annually to decline over time, thus negatively impacting loon productivity in Canadian provinces.

Species in the Group and their Management Status						
Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Common loon (<i>Gavia immer</i>)			S3	G5	P SC	Migratory

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Common loon (<i>Gavia immer</i>)	SE Lake Ontario	SE Lake Ontario	Unknown
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Increasing
	Lake Champlain	Lake Champlain	Increasing
	Upper Hudson	Upper Hudson	Increasing
	SW Lake Ontario	SW Lake Ontario	Unknown
	Lake Erie	Lake Erie	Unknown
	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Unknown

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Common loon (<i>Gavia immer</i>)	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Increasing
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Increasing
	Great Lakes	Great Lakes	Unknown
	North Atlantic Coast	North Atlantic Coast	Unknown

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Common loon (<i>Gavia immer</i>)	Breeding	Lacustrine	cold water deep	sand/gravel bottom
	Breeding	Riverine	deepwater river	sand/gravel bottom
	Feeding	Lacustrine	cold water deep	sand/gravel bottom
	Feeding	Lacustrine	cold water shallow	sand/gravel bottom
	Feeding	Marine	deep subtidal	pelagic
	Nursery/Juvenile	Lacustrine	cold water deep	sand/gravel bottom
	Nursery/Juvenile	Lacustrine	cold water shallow	sand/gravel bottom
	Nursery/Juvenile	Marine	deep subtidal	pelagic
	Roosting/Congregating	Lacustrine	cold water deep	sand/gravel bottom
	Roosting/Congregating	Marine	deep subtidal	pelagic

Goal and Objectives for Common loon

Goal: Maintain breeding and migrating populations at or above current levels

Objective 1 : Assess known threats and stressors and identify sub-populations at risk

Measure: *List threats and stressors, statistically evaluate productivity of populations impacted vs. control populations, delineate geographic regions and populations at risk*

Objective 2 : Develop a systematic long term monitoring program at a state and regional scale to document population trends and productivity

Measure: *Distribution, number of breeding pair, productivity, recruitment, movement, mortality, physiology, pathology, gene flow*

Objective 3 : Identify and protect known breeding, migration stopover, and wintering habitats for New York State breeding population

Measure: *Locations, habitat characteristics, timing*

Objective 4 : Increase public awareness of loon conservation needs

Measure: *Brochures, signage, web sites, kiosks, presentations*

Objective 5 : Reduce contaminant (i.e.. mercury Mg, lead Pb, and type E botulism toxin) levels in the environment

Measure: *Blood levels, feather levels, egg levels*

Objective 6 : Research the life history of juveniles between fledging and their return to New York State and other northern lakes.

Measure: *Distribution, status, mortality, timing, geographic regions*

Recommended Actions

Educational signs:

- * Improve public understanding of loon conservation issues. Post interpretive signs at boat ramps, beaches, campgrounds and other public access points. Produce and distribute informational brochures, posters, press releases and other educational materials. Provide educational programs to schools, lake associations and other groups.

Habitat management:

- * Identify and protect known nesting areas. Protect small islands <5 ha and dead waters from development. Establish 150m buffer zones on either side of mainland nests. Shoreline areas adjacent to known nursery sites should be protected, and 150 buffers established.
- * Protect coastal wintering areas from the damages of oil spills.
- * Maintain constant water levels during peak nesting period.
- * Use artificial nesting platforms to improve nesting success on lakes that lack natural islands and have poor shoreline nesting habitat, fluctuating water levels, or a history of low productivity.

Habitat monitoring:

- * Continue aerial and beach transect surveys during the fall to determine impacts of Type E botulism on water birds utilizing the Great Lakes as stop-over sites during migration.
- * Monitor lake pH levels in lakes within the Adirondack Park, survey forage base, and research the effects of lake acidification on breeding loons.

Habitat research:

- * Research migration routes and staging areas of Adirondack population.
- * Research the causes of type E botulism and how outbreaks can be prevented or minimized.

Life history research:

- * Research wintering distribution and ecology of Adirondack population.
- * Research the life history of juveniles between fledging and their return to northern lakes.
- * Research the energetic requirements of adults and young, recruitment patterns of young and non-breeders into breeding populations, effects of intra-specific competition on breeding status and success, site fidelity and territory turnover patterns, duration of pair bonds, and pattern of lake colonization or recolonization.
- * Determine the biological consequences of chemical and heavy metal toxicity

Recommended Actions

Modify regulation:

- * Reduce human disturbance near nest sites and nursery areas during the nesting and chick-rearing period. Limit boat engine horsepower and establish speed limits on smaller breeding lakes or in designated areas of larger lakes.
- * Reduce mortality on the Great Lakes from commercial fishing operations by encouraging the use of fish traps that open at the top to allow loons to escape.

Population monitoring:

- * Monitor breeding population trends and productivity. Census adult population using repeated standardized surveys. Survey a specified sample of lakes annually, or every few years to document population trend. Verify breeding by the presence of recently used nest or flightless young. Determine breeding chronology and outcome (chicks not considered fledged until at least 4 weeks old). Utilizing volunteer observers, implement simultaneous counts to provide an index of lake occupancy and productivity and refine statewide population totals.
- * Monitor chemical contaminants and heavy metals in adults and eggs on a regular basis.
- * Continue the banding and marking of individual birds to determine loon movement patterns, behavioral ecology, and demography.
- * Research and utilize radio transmitter technology on loons to determine chick survival, juvenile movement patterns and behavior, and identify migration patterns, stopover sites, and wintering habitats.
- * Monitor migratory trends in distribution and abundance utilizing Christmas Bird Counts and coastal/Great Lakes fall/winter loon watches.

Regional management plan:

- * Genotype breeding, wintering, and migratory populations using newly developed genetic techniques in an effort to map subpopulations throughout the Northeast.
- * Collaborate with existing planning initiative such as the North American Waterbird Plan, Bird Conservation Regional Plans and other regional efforts.

Relocation/reintroduction:

- * Reduce predator caused breeding failure, where problematic, by increasing hunting or trapping opportunities.

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Taxa Group: Bird

Species Group: Common nighthawk

Threats:

Common nighthawk is a special concern species in NY.

Historically nested on barren ground in open areas in NY. Probably utilized fire dominated communities. May have nested in large clear cuts and close cropped pasture lands occupied by larger herds of sheep (in 19th century). Probably benefited from flat gravel roof construction, which they utilize for nesting.

Threats include: reforestation, wildfire suppression and more intensive agriculture which result un loss of breeding habitat. Reductions in large moth populations (a favored food) due to pesticide use and other human factors may also be influencing populations. Fire suppression could also be causing habitat to become unfavorable. Gravel roof construction method is no longer in favor. This results in reduced nesting habitat available.

The most pressing need is for better monitoring to determine precise population trends. If the declines are significant then research to determine causes of declines is needed. It is unlikely that we can influence changes in roof construction, so it would be important to determine if there are other limiting factors which could be positively influenced.

Trends:

Common nighthawk is a species about which we have relatively little information. BBS trends show very steep declines, although the data is statistically very questionable (insufficient routes with detections). BBS routes are unlikely to be an effective means of monitoring this nocturnal/crepuscular species.

Historic distribution and abundance.

Historically nested on barren ground in open areas in NY. Probably utilized fire dominated communities. May have nested in large clear-cuts and close cropped pasture lands occupied by larger herds of sheep (in 19th century). Distribution is uncertain, likely never to have been very common in most of state. Probably benefited from flat gravel roof construction.

Current distribution and abundance.

Common nighthawk is an uncommon and extremely local breeder (BBA). Preliminary BBA 2000 data suggests it has disappeared from many former locations. This is a species which has been influenced by humans. They are known to nest on flat gravel roofs, which provide the preferred substrate with minimal human disturbance. BBA data appear to indicate that the species concentrations showed some correlation with towns and cities.

Current trend not known, BBS does not detect on sufficient routes to determine a precise trend. Suggestions of rapid decline, including preliminary BBA data.

SEQR - No Action Alternative:

Species continues to decline with probable extirpation in future.

Species in the Group and their Management Status

Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Common nighthawk (<i>Chordeiles minor</i>)			S4	G5	P SC	Migratory

Species Distribution - Watershed Basin

Species	Historical	Current	Stability
Common nighthawk (<i>Chordeiles minor</i>)	Unknown	Allegheny	Decreasing
		Delaware	Decreasing
		Lake Champlain	Decreasing
		Lake Erie	Decreasing
		Lower Hudson - Long Island Bays	Decreasing
		NE Lake Ontario - St. Lawrence	Decreasing
		SE Lake Ontario	Decreasing
		Susquehanna	Decreasing
		SW Lake Ontario	Decreasing
		Upper Hudson	Decreasing

Species Distribution - Ecoregion

Species	Historical	Current	Stability
Common nighthawk (<i>Chordeiles minor</i>)	Unknown	Great Lakes	Decreasing
		High Allegheny Plateau	Decreasing
		Lower New England Piedmont	Decreasing
		North Atlantic Coast	Decreasing
		Northern Appalachian/Boreal Forest	Decreasing
		St. Lawrence-Lake Champlain Valley	Decreasing
		Western Allegheny Plateau	Decreasing

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Common nighthawk (Chordeiles minor)	Breeding	Terrestrial	open upland	cultural
	Breeding	Terrestrial	open upland	grasslands
	Breeding	Terrestrial	open upland	other

Goal and Objectives for Common nighthawk

Goal: Maintain a viable breeding population of common nighthawk.

Objective 1 : Determine population status.

Measure: *Breeding locations and population trends are documented.*

Objective 2 : Determine/confirm causes for declines.

Measure: *Causes for declines are determined.*

Objective 3 : Develop management plan with potential conservation actions and strategies for increasing populations..

Measure: *Plan completed.*

Recommended Actions

Habitat management:

- * Develop management plan with potential conservation actions and strategies.
- * Increase use of prescribed fire in natural fire adapted communities.

Habitat restoration:

- * Evaluate feasibility of artificial nesting structures on roof tops.

Population monitoring:

- * Develop survey methodology to determine population trend.

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Taxa Group: Bird

Species Group: Deciduous/mixed forest breeding birds

Threats:

This species suite contains those species often thought of as "forest interior" species that prefer "mature" forests. As a whole this species suite is doing relatively well, and is less threatened than the other bird species suites.

Species of interest include: red-headed woodpecker (*Melanerpes erythrocephalus*), wood thrush (*Hylocichla mustelina*), cerulean warbler (*Dendroica cerulea*), worm-eating warbler (*Helmitheros vermivorus*), Louisiana water thrush (*Seiurus aurocapillus*), black-throated blue warbler (*Dendroica caerulescens*), Kentucky warbler (*Oporornis formosus*), prothonotary warbler (*protonotaria citrea*), and scarlet tanager (*Piranga olivacea*).

Cerulean warbler, and red-headed woodpecker are special concern species in NY.

In NY threats include: in more heavily developed portions of the state- human development, in Adirondacks - acid rain, in lake plain - human development in riparian areas (cerulean warblers). Some species appear to have serious issues on their winter grounds.

A wide variety of other forest species will benefit from the conservation efforts to benefit this species suite. Some are considered to be of very high conservation concern by experts throughout the Northeast, including: Eastern wood pewee and rose-breasted grosbeak.

When looking at this diverse list of species, it would appear to be a daunting task to do research or manage for all of these species. A more workable approach is to select "focus" species to be the primary driving force, while trying not to forget the diversity of the group as a whole.

Focus species include wood thrush and cerulean warbler.

Wood thrush is declining by - 2.1%/yr since 1966. This is thought to be due in part due to acid rain and loss of shrub layer in forest due to forest maturation and potentially deer over browsing in some areas. Acid rain may be impacting on prey availability, in particular on snails that provide calcium for egg laying. It is unlikely that bird conservationists can have any influence over acid rain, hopefully higher levels of government can help address this issue. Winter habitat loss is an issue.

Presumed threats in NY include acid rain, deer over browsing, lack of shrub cover (potentially due to insufficient forest management).

Research on exact causes for declines and potential management techniques to increase productivity of habitat is needed.

Research on exact causes for declines and potential management techniques to increase productivity of habitat is needed.

Cerulean warbler is increasing in NY by 9 %/yr since 1966. This is based on a limited number of routes with detections, so caution should be used; however, the species appears to be doing fairly well. This species will utilize a variety of habitats in different parts of the country. In NY it appears to favor riparian corridors, and hillsides and mountains in the lower Hudson Valley and Southern Tier (including forested drumlins). Riparian habitats favored appear to include at least some very large "super canopy" trees. Winter habitat loss is a concern.

The species is not doing well in the core of its range (- 4%/yr). NY is at the more northern end of the species range. There

are indications that the species range within NY expanded in the decades prior to recent times.

Threats in NY include loss and degradation of nesting habitat in the lake plain. Cerulean habitats in the lake plain tend to be in relatively fragmented landscapes. Human development in these areas could result in loss, degradation and fragmentation of habitats over time.

One frequently mentioned concern for forest species is fragmentation. Most avian experts do not include properly planned forest management at relatively small scales in heavily forested areas to be "fragmentation". For the purposes of this plan fragmentation is defined as loss of habitat due to human development. Most studies in heavily forested areas show that some level of forest management is beneficial to most forest breeding birds. Much research has been done on the effects of forest fragmentation on forest birds. Much of this research has centered on areas where the forests are already highly fragmented due to agriculture and/or human development (e.g., Maryland, Ohio), and was confined to nest productivity alone. While this research in these areas has shown that further fragmentation can sometimes be a serious issue, research in more heavily forested areas has not shown the same effects. Audubon's studies in NY and Pennsylvania show that many species thought of by many as "forest interior" breeders will breed in moderate to heavy cut areas, and some even breed in clear cuts. Further, recent studies (even in states with relatively fragmented forests such as Ohio) show that "forest interior" breeding species heavily utilize even age and other heavily harvested areas post breeding for foraging and cover (M. Reynolds, personal communication).

While fragmentation due to development is a concern in already fragmented landscapes, and may be a concern in more heavily forested areas, the effects of forest management will vary with the amount of forest cover and specifics of the harvest. Some research suggests forest management has no effect, or a positive impact on forest species, while other research appears to show there may be a negative impact. There are a tremendous number of variables that could influence the effects of forest management on bird productivity. Most older studies just looked at productivity through fledging by looking at nesting success. More recent studies have indicated that is only part of the picture as post-nesting success may be enhanced by having even aged or heavy cuts which provide soft mast and insects for food, and the thick growth provide cover for forest species after nesting and to some degree during nesting.

Acid rain could be a threat to forest health and therefore this species suite.

Lack of forestry or natural events like fire and wind throw to open the canopy and generate herbaceous and shrub growth could have serious detrimental impacts on ground and shrub nesters (see Table 2). The erroneous public perception that forest management is bad for most wildlife may be the greatest overall threat.

Conservation for this species suite should include maintaining large blocks of forest in relatively unfragmented form. Low levels of forest management that include patches of light harvesting will benefit ground and shrub nesting species which tend to be the species in this suite that are declining. Some areas of moderate or even aged management would also be beneficial to many species by providing food and cover, although the majority of the forest needs to be in a relatively mature state.

Overall, this species suite rates a lower priority than other landbird suites.

Trends:

Historic distribution and abundance.

Many of these species were probably abundant prior to European settlement. With the deforestation of large areas of forest with no consideration to the consequences in the 1800's and early 1900's, many of these species likely declined.

Current distribution and abundance.

In the last (20th) century, the amount of forest cover has more than doubled, and the majority of the species in this suite have greatly increased, and are now stable. Distributions in portions of the state that have large amounts of human influence (development, agriculture) probably have not returned to pre-settlement conditions, but more heavily forested areas are doing well.

Post (2004) completed an analysis of Breeding Bird Survey (BBS) data (see Table 1). In the general/intermediate suite none (0 %) of the species were declining in NY (8 species showed positive trends and 6 showed no significant trend). Twenty one percent (3/14) of the species were declining in USFWS Region 5 and survey-wide, with 7 and 8 species showing increasing trends in USFWS Region 5 and survey-wide, respectively. The majority of the species in this suite are increasing or showed no significant trend.

The mature forest bird suite includes 23 species. Eleven species showed increasing trends in NY, 14 species in USFWS Region 5, and 13 species survey-wide. Eight species showed no significant trend in NY, 6 survey-wide, and 4 species in USFWS Region 5. In NY and survey-wide 17 % (4/23) of the species were declining, with 22 % declining in USFWS Region 5. The majority of species in this suite were increasing.

Table 1
BBS TREND DATA FOR MATURE FOREST BIRDS

Species	NY	USFWS Region 5	Survey Wide
Barred owl**	ns (1.9)	+ 4.4	+ 2.7
Blackburnian warbler*	ns (+.2)	ns (+.2)	+ 0.9
Black-capped chickadee*	+ 1.9	+ 1.5	+ 1.3
Black-throat. blue warbler*	ns (-1.2)	ns (+1)	ns (+.8)
Black-thro. green warbler*	ns (-.8)	+1.3	ns (+.5)
Blue-headed vireo**	+ 3.0	+ 4.1	+ 4.8
Broad-winged hawk**	+ 3.8	ns (+1)	ns (+1.1)
Cerulean warbler**	+ 9.0	- 3.4	- 4
Cooper's hawk**	ns (-3)	+ 4.3	+ 5.1
E. wood pewee*	- 2	- 2.4	- 1.7
Golden-crowned kinglet*	+ 3.3	+ 3.7	ns (-.2)
Hairy woodpecker*	+ 2.2	+ 1.0	+ 1.8
Hermit thrush*	+ 5.1	+ 3.5	+ 1.6
Least flycatcher*	- 1.8	- 1.6	- 1.0
Louisiana water thrush**	ns (-2.2)	ns (+.2)	+ 0.8
Ovenbird*	+ 2.2	+ 1.8	+ 0.6
Red-eyed vireo*	+ 2.2	+ 1.3	+ 1.3
Scarlet tanager*	- 1.5	- 0.5	ns (-.1)
Sharp-shinned hawk**	+ 6.8	+ 3.8	+ 4.6
White-breasted nuthatch*	ns (+1)	+ 2.2	+ 2.1
Winter wren*	ns (+2.3)	+ 1.7	+ 2.3
Wood thrush*	- 2.1	- 2.2	- 1.7
Yellow-bellied sapsucker*	+ 3.5	+ 5.4	ns (-.02)
Species with positive trend	11	14	13
Species with negative trend	4	5	4
Species with ns trend	8	4	6
% species in decline***	17 (4/23)	22 (5/23)	17 (4/23)

BBS TREND DATA FOR GENERAL/ INTERMEDIATE FOREST BIRDS

(1966-2002, % change per year)

Species	NY	USFWS Region 5	Survey Wide
Dark-eyed junco**	ns (+.06)	ns (+.1)	- 1.3
Downy woodpecker*	ns (-.5)	ns (-.4)	ns (+.1)
Great-crested flycatcher*	ns (-.4)	ns (.2)	ns (0)
Hooded warbler**	+ 3.7	+ 1.8	ns (+.7)
Magnolia warbler*	+ 2	+ 3.5	+ 1.4
Nashville warbler**	ns (-1)	- 0.3	+ 1.0
Pine warbler**	+ 6.1	+1.9	+1.2
Pileated woodpecker**	+ 4.1	+ 3.5	+ 1.8
Prairie warbler**	+ 4.3	- 1.5	- 2.1
Purple finch*	ns (-.5)	- 0.9	- 1.6
Red-breasted nuthatch**	+ 2.5	+ 1.8	+ 1.5
Warbling vireo**	+ 1.8	+ 1.9	+ 1.2
Yellow-rumped warbler**	+ 2.7	+ 3.5	+ 0.6
Yellow-throated vireo**	ns (-1.6)	ns (-.5)	+ 1.1
Species with positive trend	8	7	8
Species with negative trend	0	3	3
Species with ns trend	6	4	3
% species in decline***	0 (0/14)	21 (3/14)	21 (3/14)

ns = not a statistically significant ($p < 0.1$) trend (includes abundant species whose trend estimate is close to 0, and species which have larger trend estimates, but which are not detected by BBS in sufficient numbers to determine a significant trend).

* assemblages based on Audubon NY review of several studies in northern hardwood forests in relatively heavily forested areas

** species from BBS species suite listings that were not found in Audubon’s study

*** calculated as: number of species declining ÷ total number of species.

SEQR - No Action Alternative:

If no action is taken, it is likely that most of the mature deciduous forest species populations will remain stable, or continue to increase. Due to the massive amount of reforestation throughout the state over the past several decades, with 70% of the state now forested, this species suite is doing relatively well as a whole. The species populations that are likely to suffer if no action is taken are those that prefer deciduous forest habitats with heavy understory tree and shrub layers. This type of habitat requires forest management that opens the canopy allowing herbaceous and shrub/sapling growth, and in some places control of deer populations. Cerulean warbler populations in the lake plain may decline if not protected from human development.

Species in the Group and their Management Status

Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Kentucky warbler (<i>Oporornis formosus</i>)			S2			Migratory
Prothonotary warbler (<i>Protonotaria citrea</i>)			S2			Migratory
Black-throated blue warbler (<i>Dendroica caerulesce</i>)					P	Migratory

Scarlet tanager (Piranga olivacea)				P	Migratory
Louisiana waterthrush (Seiurus motacilla)	X			P	Migratory
Worm-eating warbler (Helmitheros vermivorum)				P	Migratory
Cerulean warbler (Dendroica cerulea)	X	S4B	G4	P SC	Migratory
Wood thrush (Hylocichla mustelina)		S5	G5	P	Migratory
Red-headed woodpecker (Melanerpes erythroceph)		S4	G5	P SC	Migratory

Species Distribution - Watershed Basin

Species	Historical	Current	Stability
Red-headed woodpecker (Melanerpes erythrocephalus)	Allegheny	Allegheny	Decreasing
	Delaware	Delaware	Decreasing
	Lake Champlain	Lake Champlain	Decreasing
	Lake Erie	Lake Erie	Decreasing
	Lower Hudson - Long Island Bays	NE Lake Ontario - St. Lawrence	Decreasing
	NE Lake Ontario - St. Lawrence	Lower Hudson - Long Island Bays	Decreasing
	SE Lake Ontario	SE Lake Ontario	Decreasing
	Susquehanna	Susquehanna	Decreasing
	SW Lake Ontario	SW Lake Ontario	Decreasing
	Upper Hudson	Upper Hudson	Decreasing

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Wood thrush (<i>Hylocichla mustelina</i>)	Allegheny	Allegheny	Decreasing
	Delaware	Delaware	Decreasing
	Lake Champlain	Lake Champlain	Decreasing
	Lake Erie	Lake Erie	Decreasing
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Decreasing
	SE Lake Ontario	SE Lake Ontario	Decreasing
	Susquehanna	Susquehanna	Decreasing
	SW Lake Ontario	SW Lake Ontario	Decreasing
	Upper Hudson	Upper Hudson	Decreasing
Cerulean warbler (<i>Dendroica cerulea</i>)	Allegheny	Allegheny	Increasing
	Delaware	Delaware	Increasing
	Lake Champlain	Lake Champlain	Increasing
	Lake Erie	Lake Erie	Increasing
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Increasing
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Increasing
	SE Lake Ontario	SE Lake Ontario	Increasing
	Susquehanna	Susquehanna	Increasing
	SW Lake Ontario	SW Lake Ontario	Increasing
	Upper Hudson	Upper Hudson	Increasing
Worm-eating warbler (<i>Helmitheros vermivorum</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
		Upper Hudson	Decreasing
		Susquehanna	Unknown

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Louisiana waterthrush (<i>Seiurus motacilla</i>)	Allegheny	Allegheny	Unknown
	Delaware	Delaware	Unknown
	Lake Champlain	Lake Champlain	Unknown
	Lake Erie	Lake Erie	Unknown
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Unknown
	SE Lake Ontario	SE Lake Ontario	Unknown
	Susquehanna	Susquehanna	Unknown
	SW Lake Ontario	SW Lake Ontario	Unknown
	Upper Hudson	Upper Hudson	Unknown
Scarlet tanager (<i>Piranga olivacea</i>)	Allegheny	Allegheny	Decreasing
	Delaware	Delaware	Decreasing
	Lake Champlain	Lake Champlain	Decreasing
	Lake Erie	Lake Erie	Decreasing
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Decreasing
	SE Lake Ontario	SE Lake Ontario	Decreasing
	Susquehanna	Susquehanna	Decreasing
	SW Lake Ontario	SW Lake Ontario	Decreasing
	Upper Hudson	Upper Hudson	Decreasing

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Black-throated blue warbler (<i>Dendroica caerulescens</i>)	Allegheny	Allegheny	Stable
	Delaware	Delaware	Stable
	Lake Champlain	Lake Champlain	Stable
	Lake Erie	Lake Erie	Stable
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Stable
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Stable
	SE Lake Ontario	SE Lake Ontario	Stable
	Susquehanna	Susquehanna	Stable
	SW Lake Ontario	SW Lake Ontario	Stable
Prothonotary warbler (<i>Protonotaria citrea</i>)		Allegheny	Unknown
		Delaware	Unknown
		Lake Erie	Unknown
		Lower Hudson - Long Island Bays	Unknown
		NE Lake Ontario - St. Lawrence	Unknown
		SE Lake Ontario	Unknown
		Susquehanna	Unknown
		SW Lake Ontario	Unknown
	Kentucky warbler (<i>Oporornis formosus</i>)		Lower Hudson - Long Island Bays
		SE Lake Ontario	Unknown
		Susquehanna	Unknown
		SW Lake Ontario	Unknown

Species Distribution - Ecoregion			
Species	Historical	Current	Stability

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Red-headed woodpecker (<i>Melanerpes erythrocephalus</i>)	Great Lakes	Great Lakes	Decreasing
	High Allegheny Plateau	High Allegheny Plateau	Decreasing
	Lower New England Piedmont	Lower New England Piedmont	Decreasing
	North Atlantic Coast	North Atlantic Coast	Decreasing
	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Decreasing
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Decreasing
	Western Allegheny Plateau	Western Allegheny Plateau	Decreasing
Wood thrush (<i>Hylocichla mustelina</i>)	Great Lakes	Great Lakes	Decreasing
	High Allegheny Plateau	High Allegheny Plateau	Decreasing
	Lower New England Piedmont	Lower New England Piedmont	Decreasing
	North Atlantic Coast	North Atlantic Coast	Decreasing
	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Decreasing
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Decreasing
	Western Allegheny Plateau	Western Allegheny Plateau	Decreasing
Cerulean warbler (<i>Dendroica cerulea</i>)	Great Lakes	Great Lakes	Increasing
	High Allegheny Plateau	High Allegheny Plateau	Increasing
	Lower New England Piedmont	Lower New England Piedmont	Increasing
	North Atlantic Coast	North Atlantic Coast	Increasing
	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Increasing
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Increasing
	Western Allegheny Plateau	Western Allegheny Plateau	Increasing

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Worm-eating warbler (<i>Helmitheros vermivorum</i>)	Lower New England Piedmont	Lower New England Piedmont	Decreasing
	North Atlantic Coast	North Atlantic Coast	Decreasing
		High Allegheny Plateau	Unknown
Louisiana waterthrush (<i>Seiurus motacilla</i>)	Great Lakes	Great Lakes	Unknown
	High Allegheny Plateau	High Allegheny Plateau	Unknown
	Lower New England Piedmont	Lower New England Piedmont	Unknown
	North Atlantic Coast	North Atlantic Coast	Unknown
	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Unknown
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Unknown
	Western Allegheny Plateau	Western Allegheny Plateau	Unknown
Scarlet tanager (<i>Piranga olivacea</i>)	Great Lakes	Great Lakes	Decreasing
	High Allegheny Plateau	High Allegheny Plateau	Decreasing
	Lower New England Piedmont	Lower New England Piedmont	Decreasing
	North Atlantic Coast	North Atlantic Coast	Decreasing
	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Decreasing
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Decreasing
	Western Allegheny Plateau	Western Allegheny Plateau	Decreasing

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Black-throated blue warbler (<i>Dendroica caerulescens</i>)	Great Lakes	Western Allegheny Plateau	Stable
	High Allegheny Plateau	St. Lawrence-Lake Champlain Valley	Stable
	Lower New England Piedmont	Northern Appalachian/Boreal Forest	Stable
	North Atlantic Coast	North Atlantic Coast	Stable
	Northern Appalachian/Boreal Forest	Lower New England Piedmont	Stable
	St. Lawrence-Lake Champlain Valley	High Allegheny Plateau	Stable
	Western Allegheny Plateau	Great Lakes	Stable
Prothonotary warbler (<i>Protonotaria citrea</i>)		Great Lakes	Unknown
		High Allegheny Plateau	Unknown
		Lower New England Piedmont	Unknown
		North Atlantic Coast	Stable
		St. Lawrence-Lake Champlain Valley	Stable
Kentucky warbler (<i>Oporornis formosus</i>)		Western Allegheny Plateau	Unknown
		Lower New England Piedmont	Unknown
		North Atlantic Coast	Unknown
		High Allegheny Plateau	Unknown

Critical Habitats for Species in the Group				
Species	Life Stage or Use	System	SubSystem	Habitat
Red-headed woodpecker (<i>Melanerpes erythrocephalus</i>)	Breeding	Terrestrial	forested	northern deciduous
	Breeding	Terrestrial	open upland	cultural
	Breeding	Terrestrial	open upland	other
Wood thrush (<i>Hylocichla mustelina</i>)	Breeding	Terrestrial	forested	mixed deciduous/coniferous
	Breeding	Terrestrial	forested	northern deciduous

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Wood thrush (<i>Hylocichla mustelina</i>)	Breeding	Terrestrial	forested	southern deciduous
Cerulean warbler (<i>Dendroica cerulea</i>)	Breeding	Terrestrial	forested	mixed deciduous/coniferous
	Breeding	Terrestrial	forested	northern deciduous
	Breeding	Terrestrial	forested	other
	Breeding	Terrestrial	forested	southern deciduous
Worm-eating warbler (<i>Helmitheros vermivorum</i>)	Breeding	Terrestrial	forested	northern deciduous
	Breeding	Terrestrial	forested	other
Louisiana waterthrush (<i>Seiurus motacilla</i>)	Breeding	Terrestrial	forested	mixed deciduous/coniferous
	Breeding	Terrestrial	forested	northern deciduous
	Breeding	Terrestrial	forested	other
Scarlet tanager (<i>Piranga olivacea</i>)	Breeding	Terrestrial	forested	mixed deciduous/coniferous
	Breeding	Terrestrial	forested	northern deciduous
Black-throated blue warbler (<i>Dendroica caerulescens</i>)	Breeding	Terrestrial	forested	mixed deciduous/coniferous
	Breeding	Terrestrial	forested	northern deciduous
Prothonotary warbler (<i>Protonotaria citrea</i>)	Breeding	Palustrine	mineral soil wetland	mixed deciduous/coniferous
Kentucky warbler (<i>Oporornis formosus</i>)	Breeding	Terrestrial	forested	southern deciduous

Goal and Objectives for Deciduous/mixed forest breeding birds

Goal: Manage forest habitat to benefit the greatest diversity of bird species, and stabilize populations of forest bird species that are declining.

Objective 1 : Determine causes for declines in wood thrush, and develop management actions to halt declines.

Measure: Causes determined and management recommendations developed.

Objective 2 : Determine causes of declines for red-headed woodpecker.

Measure: *Causes determined.*

Objective 3 : Determine the major threats to forest bird habitat, including excessive deer browse, fragmentation by development, pests and diseases, invasive plants, and atmospheric deposition.

Measure: *Threats determined and conservation recommendations derived.*

Objective 4 : Develop a management plan to provide a shifting mosaic of forest types and structures that will benefit and sustain the greatest diversity of species.

Measure: *plan completed*

Recommended Actions

Habitat management:

- * Identify critical cerulean warbler focus areas and enhance populations.
- * Minimize the effects of fragmentation of habitats due to human development.
- * Maintain habitat conditions for Louisiana waterthrush.
- * Implement population control of whitetail deer in areas where deer populations are affecting forest regeneration and species composition.

Habitat research:

- * Habitat research to study area sensitivity and habitat requirements of cerulean warblers.
- * Research effects of logging on "forest interior" birds.
- * Initiate research to investigate factors affecting habitat use and productivity in wood thrush.
- * Identify the critical core areas for cerulean warblers in the lake plain and protect them from human development.

Other action:

- * Educate the public on the benefits and need for forest management to enhance populations of ground and shrub nesting forest breeding birds on public and private lands.
- * Educate the public on the benefits and need for forest management on public and private lands.

Population monitoring:

- * BBS appears adequate for most species. Cerulean warblers need targeted monitoring to determine precise trends.

References

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Bull's Birds of NYS. 1998. Emanuel Levine, editor. Comstock Publishing.

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Taxa Group: Bird

Species Group: Early successional forest/shrubland birds

Threats:

Shrubland and early successional forest species of concern include: American woodcock (*Scolopax minor*), whip-poor-will (*Caprimulgus vociferus*), willow flycatcher (*Empidonax traillii*), golden-winged warbler (*Vermivora chrysoptera*), blue-winged warbler (*Vermivora pinus*), Canada warbler (*Wilsonia canadensis*), black billed cuckoo (*Coccyzus erythrophthalmus*), brown thrasher (*Toxostoma rufum*), N. bobwhite (*Colinus virginianus*), ruffed grouse (*Bonasa umbellus*), and yellow-breasted chat (*Icteria virens*)

The legal status of these species is: Golden-winged warbler, yellow-breasted chat, and whip-poor-will are NYS special concern. American woodcock, Northern bobwhite quail, and ruffed grouse are game species with open seasons in NY.

Conservation efforts to benefit this species suite will also help to benefit many other species, including several that experts throughout the Northeast consider to be very high concern, including: field sparrow, chestnut-sided warbler, veery, E. towhee, black and white warbler, and N. flicker.

In NY threats include: reversion of shrublands to forest; loss of small dairy farms; fire suppression; more intensive agriculture that results in loss of hedgerows, shrubs, and shrub wetlands; reversion of young forest habitat to mature forest; inadequate amounts of forest management that includes even aged and heavy partial removal; and the erroneous public perception that forest management is harmful to birds. Some species appear to have wintering ground issues (e.g., American woodcock, Canada warbler).

When looking at this diverse list of species, it would appear to be a daunting task to do research or manage for all of these species. A more workable approach is to select "focus" species to be the primary driving force, while trying not to forget the diversity of the group as a whole. To do this, a number of factors need to be considered.

Focus species include: American woodcock, golden-winged warbler, whip-poor-will, brown thrasher, Canada warbler and ruffed grouse.

This species suite includes species with fairly substantial variability in their habitat preferences. The focal species generally fall into 3 major habitat categories: shrub, pine barren, and early successional forest.

Key habitats and communities

Shrubland : Brown thrashers tend to prefer open shrublands, and dense thickets; golden-winged warblers prefer shrublands with herbaceous ground cover, and a nearby forest edge; N. bobwhites prefer a combination of shrubland, grassland and agriculture (in NY populations are largely confined to Long Island).

Pine barrens: whip-poor-will.

Early successional forest: ruffed grouse, Canada warbler, woodcock . Woodcock need young thickets, moist productive soils, openings for singing and night roosting, second growth for nesting.

It will take a variety of habitats and management techniques to address the needs of this suite. One thing that most species in this suite do have in common is that they are in widespread decline due to widespread land use changes and negative societal perceptions of forest management.

American woodcock is the focus of an international assessment and planning effort. BCR Woodcock plans are currently being prepared. This species needs a mosaic of habitat types that includes shrublands or young forests with moist productive soils (high biomass of worms), second growth hardwoods for nesting, and openings or fields for singing grounds and night roosting. Singing ground surveys indicate this species has declined by 2.3 % per year since the 1960's.

Article 24 of the NYS ECL provides some measure of protection for wetland habitats some of which are prime woodcock habitat. However, the inadequacies of the wetland maps at protecting linear (stream corridor) wetlands is apparent. These stream corridor wetlands are often critical breeding and migration habitats, for a variety of species such as woodcock. Article 24 also only protects wetlands larger than 12.4 acres, which means many small or linear wetlands are not protected (may be protected by Army Corp). Of course, Article 24 also makes even-aged management more complicated since it is likely to mean a permit is needed.

Loss of small dairy farms, and more intensive agriculture also do not favor woodcock.

Management in riparian areas may be critical to success. Small strip or block clear-cut or heavy patch cuts provide good habitat, but many private landowners believe such management is bad for wildlife. Seeding in log landings with clover or legumes will provide open areas for singing grounds.

Ruffed grouse have many of the same needs as woodcock, except they don't need the moist soils, or openings for singing grounds. Rotational cutting that provides a mosaic of forest conditions is optimal management.

Brown thrasher has declined by - 5.8%/yr since 1966. It prefers dryer, open shrublands, especially with thorny thickets and tall saplings. It is normally confined to lower altitudes. It is widespread outside of Adirondacks and Catskills, though not very common. It may be one of the first species to appear when farmlands revert to shrublands (Rosche 1967). Changing land use patterns are the primary cause of the declines for this species. Systematic removal of shrubs (including exotic invasives such as multiflora rose and tartarian honeysuckle) from pastures and hedgerows may be a contributing factor to recent declines. Thrashers will tolerate human development if preferred habitat is available.

It will be harder to manage for this species since it prefers open shrublands, which are somewhat expensive to maintain. Brushhogging is likely the most effective means of maintaining habitat over time, but that is expensive in terms of time and money. Brush hogging should leave areas of brush interspersed with open ground. Subsidies to farmers to leave some brush in pastures and grasslands would benefit this species. Low elevation suburban developments should be encouraged to maintain shrubby thickets and hedgerows.

Golden-winged warbler has declined at - 5.8%/ yr since 1966. Loss of habitat to forest maturation and competition and inbreeding with blue-winged warblers are serious concerns. Golden-wings prefer shrubby openings near tree lines or with scattered trees with herbaceous ground cover. Their distribution is changing fairly rapidly expanding to the north and contracting at the southern edge. This is believed to be largely due to the results of inbreeding with blue-winged warblers. Once blue-wings enter an area, golden-wings usually begin to decline and eventually are extirpated. There are exceptions to this, such as Sterling Forest where the species have co-existed for decades.

John Confer (Ithaca College) is currently researching the interactions of blue-wings and golden-wings at Sterling Forest. There are reports that blue-winged males pursue females of a golden-wing pair more than a male golden-wing pursues females of a blue-wing pair. His research indicates that the male blue- golden-wings are more aggressive at breeding with female golden-wings than vice versa. Thus, inferentially suggesting that hybridization by extra-species, extra-pair fertilization may occur at a significant rate for golden-wing pairs. Further, male golden-wings accept hybrid females more frequently than male blue-wings. Therefore, golden-wings are breeding themselves out of existence as males continue to inbreed with blue-wings resulting in hybrids rather than pure golden-wings. Confer's research has indicated that there may

be some habitat segregation occurring at Sterling Forest, and that a management protocol that favors golden-wings over blue-wings might be developed. His ongoing research is testing this approach by attempting to alter habitat to favor golden-wings over blue-wings.

Utility right of ways can and do provide quality habitat if properly managed. Management that leaves shrubs and encourages herbaceous ground cover are beneficial. Clear-cut provide excellent habitat in the Midwest, but this habitat has not been proven to support substantial populations of golden-wings in NY. Research is needed on how to manage for golden-wings in a way that will allow them to coexist with blue wings (Confer is looking at this issue currently).

Canada warbler has declined by - 4.4%/yr since 1966. It is most common in the Adirondacks and Tug Hill plateau, Catskills, and the Eastern Appalachian plateau. Habitats are variable but tend to include higher elevations, or cool damp areas at lower elevations. Thick ground cover is almost always a requirement. This could be in a heavy cutting, forest edge, stream bank, or bog.

Forest maturation is a possible reason for declines. These areas of mature forest do not tend to provide the thick ground cover preferred. Over browsing by deer may be a concern in some areas since it removes much of the shrub layer.

Since Canada warblers will breed in a variety of habitats, the exact causes for declines are not known. Research into causes for declines and potential for forestry to be beneficial by opening up the canopy and promoting ground growth and thickets is needed.

Condition of key habitats and communities

Shrubland and early successional forest species are in widespread decline in NY and throughout the Northeast. Habitat loss to development and maturation of forests are two primary reasons. An analysis of forest inventory data shows that the amount of early successional habitat in BCR 13 (St. Lawrence Valley) declined by 57 % during the period from the early 1970's to 2002 (Post 2003, BCR 13 Woodcock Plan, in progress).

Overall, maturation of NY's forests, and increasing habitat loss to human development are serious threats. Human efforts to control wildfire (especially in pine barren type habitats adapted to fire), insect outbreaks, and beaver control contribute to declining or reduced habitats (although high populations of beaver do still provide large areas of habitat). Perhaps the most serious threat is the erroneous public perception that forest management harms all wildlife, and that mature forests are always preferred. A smaller component to this is the movement towards no forest management in riparian areas, which could have serious consequences on woodcock and potentially grouse. Riparian habitats need periodic regeneration to provide optimal habitat, especially to keep alders, willows and other shrubs present and vigorous. Such shrubs tend to become decadent with time and die off or revert to mature forest.

Mature forests do not provide optimal habitat for these species, and very few will be found there in any significant number. Increasing the amount of forest management that incorporates even-aged management, and moderate to heavy partial cutting (uneven-age) is critical to stopping the declining populations.

Trends:

In NY, 92% of the species in this suite are in significant decline. This is the highest percentage of species in decline of any land bird species suite. According to Breeding Bird Survey data during the period from 1966-2002, in NY, several early successional forest/shrub species exhibited precipitous declines, such as: golden-winged warbler 88%, brown thrasher 88 %, Eastern towhee 87%, ruffed grouse 82%, Canada warbler 80%, Northern flicker 80%, field sparrow 75%. and American woodcock 64%.

Post (2004) completed an analysis of Breeding Bird Survey (BBS) data. The early successional forest/shrub bird suite included 24 species. Only 2 species showed increasing trends in NY and survey-wide, with 3 species in USFWS Region

5. Six species showed no significant trend in NY and survey-wide, with 5 species in USFWS Region 5. All three geographic scales showed 67 % (16/24) of the species in this suite were declining. The vast majority of the species in this suite have been declining at significant levels since 1966.

An analysis of the just the species in this habitat suite (CWCS) is provided in Table 1.

Table 1

SHRUB BIRDS Species	Total percent loss in NY, 1966-2002	BBS TREND DATA FOR EARLY SUCCESSIONAL FOREST AND		
		(1966-2002, % change per year)		
		NY	USFWS Region 5	Survey Wide
Alder/Willow flycatcher*		+ 1.1	+ 1	ns (-.1)
American woodcock***	64%	- 2.8	- 2.3	- 2.3
Black and white warbler*	46%	- 1.7	- 2	ns (-.1)
Blue-winged warbler		ns	ns	ns
Brown thrasher**	88%	- 5.8	- 2.9	- 1.2
Canada warbler*	80%	- 4.4	- 2.5	- 1.6
Chestnut-sided warbler*	30%	- 0.9	- 0.6	- 0.6
Eastern towhee*	87%	- 5.7	- 3.1	- 1.8
Field sparrow*	75%	- 4	- 3.8	- 3.1
Golden-winged warbler**	88%	- 5.8	- 7.2	- 2.1
Northern flicker*	80%	-4.3	- 3.3	- 2.5
Ruffed grouse*	82%	-4.7	- 3.8	ns (-1)
Rose-breasted grosbeak*	35%	- 1.2	ns (-.6)	- 0.7
Veery*	35%	- 1.2	- 1.0	- 1.3
Species with positive trend, or no trend (stable)		1	1	0
Species with negative trend		12	11	10
Species with ns trend		0	1	3
% species in decline****		92	87	77

ns = not a statistically significant (p < 0.1) trend (includes abundant species whose trend estimate is close to 0, and species which have larger trend estimates, but which are not detected by BBS in sufficient numbers to determine a significant trend).

* assemblages based on Audubon NY review of several studies in northern hardwood forests in relatively heavily forested areas

** species from BBS species suite listings that were not found in Audubon’s study

*** singing ground surveys 1968 - 2003

**** calculated as: number of species declining ÷ total number of species.

Historic distribution and abundance.

Most of the species in this suite were common residents of NY historically. Natural communities such as pine barrens, beaver meadows, and shrub swamps were augmented by American Indian activities which produced large openings in particular along river valleys and lakes. Natural disturbance in the form of fire, wind storms, and insect/disease outbreaks

also created large areas of habitat for early successional species. As early human (European) influence expanded more habitat was created. In the first half of the 1900's farmland abandonment created large areas of habitat in parts of NY.

Current distribution and abundance.

As abandoned farms reverted to forest, and increasing habitat loss to human development increased, the amount of habitat declined. More recently the amount of early successional habitat has declined dramatically. In Biological Conservation Region 13, only 43 % of the habitat that was present in the 1970's (Post unpublished) remains today.

SEQR - No Action Alternative:

Species in this group will continue to decline over time as habitat degrades and disappears. Likely that most species will persist in relatively low numbers in future.

Loss of valuable hunting opportunities for grouse and woodcock will be apparent as populations continue to decline. This will lead to further loss of hunters from an already dwindling number.

Species in the Group and their Management Status						
Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Prairie warbler (<i>Dendroica discolor</i>)						Migratory
Canada warbler (<i>Wilsonia canadensis</i>)		X			P	Migratory
Ruffed grouse (<i>Bonasa umbellus</i>)					G	Resident
Northern bobwhite (<i>Colinus virginianus</i>)					G	Resident
Brown thrasher (<i>Toxostoma rufum</i>)					P	Migratory
Black-billed cuckoo (<i>Coccyzus erythrophthalmus</i>)					P	Migratory
Yellow-breasted chat (<i>Icteria virens</i>)					SC	Migratory
Golden-winged warbler (<i>Vermivora chrysoptera</i>)		X	S4	G4	P SC	Migratory
Blue-winged warbler (<i>Vermivora pinus</i>)			S5	G5	P	Migratory
Willow flycatcher (<i>Empidonax traillii</i>)			S5	G5	P	Migratory
Whip-poor-will (<i>Caprimulgus vociferus</i>)		X	S4	G5	P SC	Migratory
American woodcock (<i>Scolopax minor</i>)			S5	G5	G	Migratory

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
American woodcock (<i>Scolopax minor</i>)	Allegheny	Allegheny	Decreasing
	Delaware	Delaware	Decreasing
	Lake Champlain	Lake Champlain	Decreasing
	Lake Erie	Lake Erie	Decreasing
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Decreasing
	SE Lake Ontario	SE Lake Ontario	Decreasing
	Susquehanna	Susquehanna	Decreasing
	SW Lake Ontario	SW Lake Ontario	Decreasing
	Upper Hudson	Upper Hudson	Decreasing
Whip-poor-will (<i>Caprimulgus vociferus</i>)	Allegheny	Allegheny	Decreasing
	Delaware	Lake Champlain	Decreasing
	Lake Champlain	Delaware	Decreasing
	Lake Erie	Lake Erie	Decreasing
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Decreasing
	SE Lake Ontario	SE Lake Ontario	Decreasing
	Susquehanna	Susquehanna	Decreasing
	SW Lake Ontario	SW Lake Ontario	Decreasing
	Upper Hudson	Upper Hudson	Decreasing

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Willow flycatcher (<i>Empidonax traillii</i>)	Allegheny	Allegheny	Decreasing
	Delaware	Delaware	Decreasing
	Lake Champlain	Lake Champlain	Decreasing
	Lake Erie	Lake Erie	Decreasing
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Decreasing
	SE Lake Ontario	SE Lake Ontario	Decreasing
	Susquehanna	Susquehanna	Decreasing
	SW Lake Ontario	SW Lake Ontario	Decreasing
	Upper Hudson	Upper Hudson	Decreasing
Blue-winged warbler (<i>Vermivora pinus</i>)	Allegheny	Allegheny	Decreasing
	Delaware	Delaware	Decreasing
	Lake Champlain	Lake Champlain	Decreasing
	Lake Erie	Lake Erie	Decreasing
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Decreasing
	SE Lake Ontario	SE Lake Ontario	Decreasing
	Susquehanna	Susquehanna	Decreasing
	SW Lake Ontario	SW Lake Ontario	Decreasing
	Upper Hudson	Upper Hudson	Decreasing

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Golden-winged warbler (<i>Vermivora chrysoptera</i>)	Allegheny	Allegheny	Decreasing
	Delaware	Delaware	Decreasing
	Lake Champlain	Lake Champlain	Decreasing
	Lake Erie	Lake Erie	Decreasing
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Decreasing
	SE Lake Ontario	SE Lake Ontario	Decreasing
	Susquehanna	Susquehanna	Decreasing
	SW Lake Ontario	SW Lake Ontario	Decreasing
	Upper Hudson	Upper Hudson	Decreasing
Yellow-breasted chat (<i>Icteria virens</i>)	Unknown	Allegheny	Unknown
		Delaware	Unknown
		Lower Hudson - Long Island Bays	Unknown
		SW Lake Ontario	Unknown
		Susquehanna	Stable
		SE Lake Ontario	Unknown
Black-billed cuckoo (<i>Coccyzus erythrophthalmus</i>)	Allegheny	Allegheny	Decreasing
	Delaware	Lake Champlain	Decreasing
	Lake Champlain	Delaware	Decreasing
	Lake Erie	Lake Erie	Decreasing
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Decreasing
	SE Lake Ontario	SE Lake Ontario	Decreasing
	Susquehanna	Susquehanna	Decreasing
	SW Lake Ontario	SW Lake Ontario	Decreasing
	Upper Hudson	Upper Hudson	Decreasing

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Brown thrasher (<i>Toxostoma rufum</i>)	Allegheny	Allegheny	Decreasing
	Delaware	Delaware	Decreasing
	Lake Champlain	Lake Champlain	Decreasing
	Lake Erie	Lake Erie	Decreasing
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Decreasing
	SE Lake Ontario	SE Lake Ontario	Decreasing
	Susquehanna	Susquehanna	Decreasing
	SW Lake Ontario	SW Lake Ontario	Decreasing
	Upper Hudson	Upper Hudson	Decreasing
Northern bobwhite (<i>Colinus virginianus</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
Ruffed grouse (<i>Bonasa umbellus</i>)	Allegheny	Allegheny	Decreasing
	Delaware	Delaware	Decreasing
	Lake Champlain	Lake Champlain	Decreasing
	Lake Erie	Lake Erie	Decreasing
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Decreasing
	SE Lake Ontario	SE Lake Ontario	Decreasing
	Susquehanna	Susquehanna	Decreasing
	SW Lake Ontario	SW Lake Ontario	Decreasing
	Upper Hudson	Upper Hudson	Decreasing

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Canada warbler (<i>Wilsonia canadensis</i>)	Allegheny	Allegheny	Decreasing
	Delaware	Delaware	Decreasing
	Lake Champlain	Lake Champlain	Decreasing
	Lake Erie	Lake Erie	Decreasing
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Decreasing
	SE Lake Ontario	SE Lake Ontario	Decreasing
	Susquehanna	Susquehanna	Decreasing
	SW Lake Ontario	SW Lake Ontario	Decreasing
	Upper Hudson	Upper Hudson	Decreasing
Prairie warbler (<i>Dendroica discolor</i>)		Allegheny	Increasing
		Delaware	Increasing
		Lake Champlain	Increasing
		Lake Erie	Increasing
		Lower Hudson - Long Island Bays	Increasing
		NE Lake Ontario - St. Lawrence	Increasing
		SE Lake Ontario	Increasing
		Susquehanna	Increasing
		SW Lake Ontario	Increasing
		Upper Hudson	Increasing

Species Distribution - Ecoregion			
Species	Historical	Current	Stability

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
American woodcock (<i>Scolopax minor</i>)	Great Lakes	Great Lakes	Decreasing
	High Allegheny Plateau	High Allegheny Plateau	Decreasing
	Lower New England Piedmont	Lower New England Piedmont	Decreasing
	North Atlantic Coast	North Atlantic Coast	Decreasing
	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Decreasing
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Decreasing
	Western Allegheny Plateau	Western Allegheny Plateau	Decreasing
Whip-poor-will (<i>Caprimulgus vociferus</i>)	Great Lakes	Great Lakes	Unknown
	High Allegheny Plateau	High Allegheny Plateau	Unknown
	Lower New England Piedmont	Lower New England Piedmont	Unknown
	North Atlantic Coast	North Atlantic Coast	Unknown
	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Unknown
	St. Lawrence-Lake Champlain Valley	Northern Appalachian/Boreal Forest	Unknown
	Western Allegheny Plateau	Western Allegheny Plateau	Unknown
Willow flycatcher (<i>Empidonax traillii</i>)	Great Lakes	Great Lakes	Decreasing
	High Allegheny Plateau	High Allegheny Plateau	Decreasing
	Lower New England Piedmont	Lower New England Piedmont	Decreasing
	North Atlantic Coast	Lower New England Piedmont	Decreasing
	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Decreasing
	St. Lawrence-Lake Champlain Valley	Northern Appalachian/Boreal Forest	Decreasing
	Western Allegheny Plateau	Western Allegheny Plateau	Decreasing

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Blue-winged warbler (<i>Vermivora pinus</i>)	Great Lakes	Great Lakes	Decreasing
	High Allegheny Plateau	Lower New England Piedmont	Decreasing
	Lower New England Piedmont	High Allegheny Plateau	Decreasing
	North Atlantic Coast	North Atlantic Coast	Decreasing
	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Decreasing
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Decreasing
	Western Allegheny Plateau	Western Allegheny Plateau	Decreasing
Golden-winged warbler (<i>Vermivora chrysoptera</i>)	Great Lakes	Great Lakes	Decreasing
	High Allegheny Plateau	High Allegheny Plateau	Decreasing
	Lower New England Piedmont	Lower New England Piedmont	Decreasing
	North Atlantic Coast	North Atlantic Coast	Decreasing
	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Decreasing
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Decreasing
	Western Allegheny Plateau	Western Allegheny Plateau	Decreasing
Yellow-breasted chat (<i>Icteria virens</i>)	Unknown	Great Lakes	Unknown
		High Allegheny Plateau	Unknown
		Western Allegheny Plateau	Unknown
		North Atlantic Coast	Unknown
		Lower New England Piedmont	Unknown

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Black-billed cuckoo (<i>Coccyzus erythrophthalmus</i>)	Great Lakes	Great Lakes	Decreasing
	High Allegheny Plateau	High Allegheny Plateau	Decreasing
	Lower New England Piedmont	Lower New England Piedmont	Decreasing
	North Atlantic Coast	North Atlantic Coast	Decreasing
	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Decreasing
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Decreasing
	Western Allegheny Plateau	Western Allegheny Plateau	Decreasing
Brown thrasher (<i>Toxostoma rufum</i>)	Great Lakes	Great Lakes	Decreasing
	High Allegheny Plateau	High Allegheny Plateau	Decreasing
	Lower New England Piedmont	Lower New England Piedmont	Decreasing
	North Atlantic Coast	North Atlantic Coast	Decreasing
	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Decreasing
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Decreasing
	Western Allegheny Plateau	Western Allegheny Plateau	Decreasing
Northern bobwhite (<i>Colinus virginianus</i>)	North Atlantic Coast	North Atlantic Coast	Decreasing
Ruffed grouse (<i>Bonasa umbellus</i>)	Great Lakes	Great Lakes	Decreasing
	High Allegheny Plateau	High Allegheny Plateau	Decreasing
	Lower New England Piedmont	Lower New England Piedmont	Decreasing
	North Atlantic Coast	North Atlantic Coast	Decreasing
	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Decreasing
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Decreasing
	Western Allegheny Plateau	Western Allegheny Plateau	Decreasing

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Canada warbler (<i>Wilsonia canadensis</i>)	Great Lakes	Great Lakes	Decreasing
	High Allegheny Plateau	High Allegheny Plateau	Decreasing
	Lower New England Piedmont	Lower New England Piedmont	Decreasing
	North Atlantic Coast	Lower New England Piedmont	Decreasing
	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Decreasing
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Decreasing
	Western Allegheny Plateau	Western Allegheny Plateau	Decreasing
Prairie warbler (<i>Dendroica discolor</i>)		Great Lakes	Increasing
		High Allegheny Plateau	Increasing
		Lower New England Piedmont	Increasing
		North Atlantic Coast	Increasing
		Northern Appalachian/Boreal Forest	Increasing
		St. Lawrence-Lake Champlain Valley	Increasing
		Western Allegheny Plateau	Increasing

Critical Habitats for Species in the Group				
Species	Life Stage or Use	System	SubSystem	Habitat
American woodcock (<i>Scolopax minor</i>)	Breeding	Terrestrial	forested	other
	Breeding	Terrestrial	open upland	grasslands
	Feeding	Terrestrial	forested	other
	Roosting/Congregating	Terrestrial	forested	other
	Roosting/Congregating	Terrestrial	open upland	grasslands
Whip-poor-will (<i>Caprimulgus vociferus</i>)	Breeding	Terrestrial	barrens/woodlands	other
Willow flycatcher (<i>Empidonax traillii</i>)	Breeding	Terrestrial	open upland	other

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Willow flycatcher (<i>Empidonax traillii</i>)	Roosting/Congregating	Terrestrial	open upland	other
Blue-winged warbler (<i>Vermivora pinus</i>)	Breeding	Terrestrial	open upland	other
	Roosting/Congregating	Terrestrial	open upland	other
Golden-winged warbler (<i>Vermivora chrysoptera</i>)	Breeding	Palustrine	mineral soil wetland	other
	Breeding	Terrestrial	open upland	other
	Roosting/Congregating	Terrestrial	open upland	other
Yellow-breasted chat (<i>Icteria virens</i>)	Breeding	Terrestrial	open upland	other
Black-billed cuckoo (<i>Coccyzus erythrophthalmus</i>)	Breeding	Terrestrial	forested	other
Brown thrasher (<i>Toxostoma rufum</i>)	Breeding	Terrestrial	forested	other
	Breeding	Terrestrial	open upland	other
Northern bobwhite (<i>Colinus virginianus</i>)	Breeding	Terrestrial	barrens/woodlands	shrublands
	Breeding	Terrestrial	open upland	cultural
	Breeding	Terrestrial	open upland	grasslands
	Feeding	Terrestrial	open upland	cultural
Ruffed grouse (<i>Bonasa umbellus</i>)	Breeding	Terrestrial	forested	mixed deciduous/coniferous
	Breeding	Terrestrial	forested	northern deciduous
	Breeding	Terrestrial	forested	other
	Breeding	Terrestrial	forested	southern deciduous
	Feeding	Terrestrial	forested	other
	Hibernating/Overwintering	Terrestrial	forested	northern coniferous
Canada warbler (<i>Wilsonia canadensis</i>)	Nursery/Juvenile	Terrestrial	forested	other
	Breeding	Terrestrial	forested	mixed deciduous/coniferous
	Breeding	Terrestrial	forested	northern coniferous
Prairie warbler (<i>Dendroica discolor</i>)	Breeding	Terrestrial	forested	cultural
	Breeding	Terrestrial	forested	other

Goal and Objectives for Early successional forest/shrubland birds

Goal: Halt declines of early successional forest/shrub land bird species, maintain or increase populations of species where possible.

Objective 1 : Develop a management conservation plan for golden-winged warblers, including research to help determine management actions that will benefit this species over blue-winged warblers.

Measure: *Management plan prepared.*

Objective 2 : Develop a management plan that provides guidance on maintaining, enhancing and restoring early successional forest/shrub bird species.

Measure: *Plan completed.*

Objective 3 : Halt declines of all species.

Measure: *BBS trends stabilized.*

Objective 4 : Identify the causes for the decline in Canada warblers and develop a management strategy to halt declines.

Measure: *Research and management plan completed.*

Objective 5 : Implement an outreach program to educate the public and land managers to the benefits and need for early successional habitat including even-aged management.

Measure: *Outreach program implemented.*

Objective 6 : Increase the amount of early successional forest and shrub habitat on public and private land through sound planned management.

Measure: *Acreage of early successional habitats increases over the next 20 years.*

Objective 7 : Precisely monitor trends of all early successional species, in particular those that are not currently adequately monitored.

Measure: *Monitoring protocols developed and implemented.*

Objective 8 : Restore populations of ruffed grouse and American woodcock to 1966 levels.

Measure: *Populations restored to 1966 levels.*

Recommended Actions

Curriculum development:

- * Educate public to the benefits and need for early successional habitat including even-aged management.

Easement acquisition:

- * Implement a Landowner Incentive Project for early successional birds that will direct \$600,000 per year at conserving and creating habitat for early successional forest/shrub birds.

Habitat management:

- * Work with Utilities to manage ROWs in a manner that will provide for maximum benefit to early successional species.
- * Double the amount of early successional forest and shrub habitat on public and private land through sound planned management.
- * Increase early successional management on public and private lands.
- * Maintain, restore, and enhance fire adapted ecosystems. Increase use of prescribed fire in fire adapted ecosystems.
- * Promote management of Utility ROWs that will provide the maximum benefit to shrub bird species.

Habitat monitoring:

- * Precisely monitor trends of all species, in particular those that are not currently adequately monitored.
- * Monitor status and trends of golden-winged warblers in areas where they are common, and in particular, along the "front" of blue-winged warbler invasion northward.
- * Complete an inventory and analysis for high priority focus species that identifies core habitats (highest abundance) and geographic areas (where appropriate).

Habitat research:

- * Determine effects of viburnum leaf beetle on early successional forest/shrub habitats and species utilizing them.
- * Develop guidelines for habitat management for golden-winged warblers. Continue to fund John Confers work on this subject and expand to areas north of the blue-wing invasion front.
- * Determine if there are management techniques that can favor golden-wings over blue-wings, and in a way where pure golden-wings can be maintained, and implement this management public, private land and on ROWs. Continue to fund John Confers' work on this subject and expand to areas north of the blue-wing invasion front.
- * Research into causes for declines of Canada Warbler and potential for forestry to be beneficial by opening up the canopy and promoting ground growth and thickets is needed.

Habitat restoration:

- * Restore populations of ruffed grouse and American woodcock to 1966 levels.

Recommended Actions

Other action:

- * Develop better mechanisms for directing federal (NRCS and USFWS) funding programs into early successional forest/shrub habitats.
- * Develop BMPs for forest management in riparian areas that recognize the critical need maintain, enhance and restore early successional forest/shrub habitat in these areas.

Population monitoring:

- * Encourage full completion of BBS routes.
- * Develop a long term monitoring program for golden-winged warblers.
- * Monitor status and trends of golden-winged warblers in areas where they are common, and in particular, along the “front” of blue-winged warbler invasion northward.

Statewide management plan:

- * Develop a management plan that provides guidance on maintaining, enhancing and restoring early successional forest/shrub bird species.
- * Identify the causes for the decline in Canada warblers and develop a management strategy to halt declines.
- * Develop guidelines for habitat management for golden-winged warblers.

References

- Bull's Birds of NYS. 1998. Emanuel Levine, editor. Comstock Publishing.
- Post, T.J. 2004. Analysis of Breeding Bird Survey Trends for Landbirds by Species Suite. NYSDEC.
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Taxa Group: Bird

Species Group: Forest breeding raptors

Threats:

The Long-eared Owl, which appears to be rare, is most likely to be threatened during the breeding season. It needs both open land (grassland) for hunting and adjacent forest land for breeding (particularly conifer stands). Loss of either of these components will restrict its breeding success.

The Golden Eagle is extirpated as a breeder in this state but is a regular migrant and to some extent, an over-wintering resident.

Threats faced by golden eagles in NY include:

- collision with wind turbines, cell-towers or utility poles
- road-kill or train-kill while scavenging carrion
- the potential for disturbance at cliff-nesting sites by rock climbers, should a nest become established
- death/injury due to intentional or accidental shooting, trapping, lead poisoning or from other contaminants.

For the other species the major threat is the potential loss of relatively large blocks of forest land which are crucial for breeding by all four species. The Red-shouldered, Cooper's and Goshawk all use deciduous or mixed deciduous/coniferous woods; the Sharp-shinned and sometimes the Goshawk use pure conifer whether natural or in plantations. The major cause of contiguous forest loss comes from certain types of timber harvest (ex. clear-cutting). Disturbance around nest sites during the breeding season can also cause nest failure at certain stages of the nest cycle. Illegal collection of eggs and/or young by falconers or traffickers could also be a problem. In the 1960's and 1970's pesticide uptake was suggested as one of the reasons that both Red-shouldered Hawk and Cooper's Hawk populations declined. At present pesticide contamination does not appear to be a problem except possibly in Sharp-shinned Hawks.

Trends:

Because so little is known about Long-eared Owls in NY, there is no trend information available. All forest raptors have increased in most areas as agricultural land has reverted to forest except the Red-shouldered Hawk which continues to be rare along Lakes Erie and Ontario. Conversely the increase in forest land probably caused the elimination of the Golden Eagle as a breeder in the last place it bred in NY, namely the Adirondack Mountains. There has also been a decrease in the occurrence of DDT and its metabolites in the environment that may have assisted in the increasing occurrence of the Cooper's Hawk and the Red-shouldered Hawk.

Golden eagles, although never common as a breeder in NYS, have completely disappeared as a nesting species in NY, to the best of our knowledge, although occasional reports of summer goldens are received and it is possible a nest lurks somewhere in the Adks yet to be found.

Migrant golden eagles are more regularly being reported throughout much of NYS, at hawk-watches and by others. A recent satellite telemetry study of golden eagle fledglings from Labrador, as well as a previous satellite study of young from the Hudson Bay area, revealed extensive through-NYS use/flight-paths of these golden eagles. A well-documented over-wintering site for a pair of adult goldens has been confirmed in Dutchess County, used for more than two decades. Also, within the last two years, DEC has confirmed another annual over-wintering site for a pair of adult golden eagles in Delaware County, one of which was captured and radio-tagged. This bird was found to nest in northern Quebec, returning annually to the same Delaware County, NY wintering area. Use of NYS by wintering and migrant goldens may be on the increase, but it certainly is something we know little about and need to find out more about. The Basins and Ecoregions chosen for this species represent not only breeding areas, but areas known to host migrant and over-wintering goldens.

SEQR - No Action Alternative:

In the case of the Long-eared Owl the No Action Alternative would mean that we would learn nothing more about its

occurrence in NY than we know now and that we would not be able to assess its need for being on the Special Concern list Without surveying for forest raptors and developing timber management techniques to benefit their nesting efforts we would likely see a reduction in most of these species numbers over time as large contiguous blocks of necessary habitat become smaller fragmented woodlots that may not be suitable for successful breeding.

In the case of golden eagles, the no-action alternative would be to fail to understand how this rare New York bird is currently using NYS and what we can potentially do to ensure it's future presence here.

Species in the Group and their Management Status						
Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Long-eared owl (<i>Asio otus</i>)		X	S3	G5	P	Unknown
Golden eagle (<i>Aquila chrysaetos</i>)		X	SHB,S1N	G5	E	Migratory
Red-shouldered hawk (<i>Buteo lineatus</i>)			S4B	G5	P SC	Migratory
Northern goshawk (<i>Accipiter gentilis</i>)			S4B,S3N	G5	P SC	Resident
Cooper's hawk (<i>Accipiter cooperii</i>)			S4	G5	P SC	Migratory
Sharp-shinned hawk (<i>Accipiter striatus</i>)			S4	G5	P SC	Migratory

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Sharp-shinned hawk (<i>Accipiter striatus</i>)	Allegheny	Allegheny	Increasing
	Delaware	Delaware	Increasing
	Lake Champlain	Lake Champlain	Increasing
	Lake Erie	Lake Erie	Increasing
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Stable
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Increasing
	SE Lake Ontario	SE Lake Ontario	Increasing
	Susquehanna	Susquehanna	Increasing
	SW Lake Ontario	SW Lake Ontario	Increasing
	Upper Hudson	Upper Hudson	Increasing

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Cooper's hawk (<i>Accipiter cooperii</i>)	Allegheny	Delaware	Increasing
	Delaware	Lake Champlain	Stable
	Lake Champlain	Lake Erie	Increasing
	Lake Erie	Lower Hudson - Long Island Bays	Increasing
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Increasing
	Lower Hudson - Long Island Bays	SE Lake Ontario	Increasing
	SE Lake Ontario	Susquehanna	Stable
	Susquehanna	SW Lake Ontario	Increasing
	SW Lake Ontario	Upper Hudson	Increasing
	Upper Hudson		
Northern goshawk (<i>Accipiter gentilis</i>)	NE Lake Ontario - St. Lawrence	Delaware	Increasing
	Lake Champlain	Lake Champlain	Increasing
	Upper Hudson	Lake Erie	Increasing
		NE Lake Ontario - St. Lawrence	Increasing
		SE Lake Ontario	Increasing
		Susquehanna	Increasing
		SW Lake Ontario	Increasing
		Upper Hudson	Increasing
Red-shouldered hawk (<i>Buteo lineatus</i>)	Allegheny	SE Lake Ontario	Decreasing
	Lake Erie	SW Lake Ontario	Decreasing
	SE Lake Ontario	NE Lake Ontario - St. Lawrence	Increasing
	Lower Hudson - Long Island Bays	Lake Champlain	Increasing
	SW Lake Ontario	Upper Hudson	Increasing
	Susquehanna	Delaware	Increasing
	Upper Hudson	Susquehanna	Increasing
	Delaware	Lake Erie	Decreasing
	Lower Hudson - Long Island Bays	Decreasing	

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Golden eagle (<i>Aquila chrysaetos</i>)	Upper Hudson	Lake Erie	Unknown
	Delaware	SW Lake Ontario	Unknown
	Lake Champlain	SE Lake Ontario	Unknown
	NE Lake Ontario - St. Lawrence	Susquehanna	Unknown
	Susquehanna	Delaware	Unknown
	SE Lake Ontario	NE Lake Ontario - St. Lawrence	Decreasing
	SW Lake Ontario	Lake Champlain	Decreasing
	Lake Erie	Upper Hudson	Decreasing
	Allegheny	Lower Hudson - Long Island Bays	Unknown
	Lower Hudson - Long Island Bays		
Long-eared owl (<i>Asio otus</i>)	Allegheny	Allegheny	Unknown
	Delaware	Delaware	Unknown
	Lake Champlain	Lake Champlain	Unknown
	Lake Erie	Lake Erie	Unknown
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Unknown
	SE Lake Ontario	SE Lake Ontario	Unknown
	Susquehanna	Susquehanna	Unknown
	SW Lake Ontario	SW Lake Ontario	Unknown
	Upper Hudson	Upper Hudson	Unknown

Species Distribution - Ecoregion			
Species	Historical	Current	Stability

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Sharp-shinned hawk (<i>Accipiter striatus</i>)	Great Lakes	Great Lakes	Increasing
	High Allegheny Plateau	High Allegheny Plateau	Increasing
	Lower New England Piedmont	Lower New England Piedmont	Increasing
	North Atlantic Coast	North Atlantic Coast	Increasing
	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Increasing
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Increasing
	Western Allegheny Plateau	Western Allegheny Plateau	Increasing
Cooper's hawk (<i>Accipiter cooperii</i>)	Great Lakes	Great Lakes	Increasing
	High Allegheny Plateau	High Allegheny Plateau	Increasing
	Lower New England Piedmont	Lower New England Piedmont	Increasing
	Northern Appalachian/Boreal Forest	North Atlantic Coast	Increasing
	St. Lawrence-Lake Champlain Valley	Northern Appalachian/Boreal Forest	Increasing
	Western Allegheny Plateau	Northern Appalachian/Boreal Forest	Increasing
		Western Allegheny Plateau	Increasing
Northern goshawk (<i>Accipiter gentilis</i>)	Northern Appalachian/Boreal Forest	Great Lakes	Increasing
	St. Lawrence-Lake Champlain Valley	High Allegheny Plateau	Increasing
	Lower New England Piedmont	Lower New England Piedmont	Increasing
		Northern Appalachian/Boreal Forest	Increasing
		St. Lawrence-Lake Champlain Valley	Increasing
	Western Allegheny Plateau	Increasing	

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Red-shouldered hawk (<i>Buteo lineatus</i>)	Western Allegheny Plateau	Great Lakes	Decreasing
	High Allegheny Plateau	High Allegheny Plateau	Increasing
	Lower New England Piedmont	Lower New England Piedmont	Increasing
	Western Allegheny Plateau	North Atlantic Coast	Increasing
		Northern Appalachian/Boreal Forest	Increasing
		St. Lawrence-Lake Champlain Valley	Increasing
		Western Allegheny Plateau	Increasing
Golden eagle (<i>Aquila chrysaetos</i>)	Northern Appalachian/Boreal Forest	Western Allegheny Plateau	Unknown
	High Allegheny Plateau	High Allegheny Plateau	Unknown
	St. Lawrence-Lake Champlain Valley	Great Lakes	Unknown
	Great Lakes	St. Lawrence-Lake Champlain Valley	Unknown
	Western Allegheny Plateau	Northern Appalachian/Boreal Forest	Decreasing
	Lower New England Piedmont	Lower New England Piedmont	Unknown
Long-eared owl (<i>Asio otus</i>)	Great Lakes	Great Lakes	Unknown
	High Allegheny Plateau	Lower New England Piedmont	Unknown
	Lower New England Piedmont	High Allegheny Plateau	Unknown
	North Atlantic Coast	North Atlantic Coast	Unknown
	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Unknown
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Unknown
	Western Allegheny Plateau	Western Allegheny Plateau	Unknown

Critical Habitats for Species in the Group				
Species	Life Stage or Use	System	SubSystem	Habitat

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Sharp-shinned hawk (<i>Accipiter striatus</i>)	Breeding	Terrestrial	forested	northern coniferous
	Feeding	Terrestrial	forested	cultural
	Feeding	Terrestrial	forested	northern coniferous
	Feeding	Terrestrial	forested	northern deciduous
	Hibernating/Overwintering	Terrestrial	forested	cultural
	Hibernating/Overwintering	Terrestrial	forested	northern coniferous
	Hibernating/Overwintering	Terrestrial	forested	northern deciduous
	Hibernating/Overwintering	Terrestrial	forested	southern coniferous
Cooper's hawk (<i>Accipiter cooperii</i>)	Breeding	Terrestrial	forested	mixed deciduous/coniferous
	Breeding	Terrestrial	forested	northern coniferous
	Breeding	Terrestrial	forested	northern deciduous
	Breeding	Terrestrial	forested	southern coniferous
	Breeding	Terrestrial	forested	southern deciduous
	Hibernating/Overwintering	Terrestrial	forested	cultural
	Hibernating/Overwintering	Terrestrial	forested	mixed deciduous/coniferous
	Hibernating/Overwintering	Terrestrial	forested	southern coniferous
Northern goshawk (<i>Accipiter gentilis</i>)	Breeding	Terrestrial	alpine/mountain	northern deciduous
	Breeding	Terrestrial	forested	mixed deciduous/coniferous
	Breeding	Terrestrial	forested	northern coniferous
	Breeding	Terrestrial	forested	northern deciduous
	Hibernating/Overwintering	Terrestrial	forested	cultural
	Hibernating/Overwintering	Terrestrial	forested	mixed deciduous/coniferous
	Hibernating/Overwintering	Terrestrial	forested	northern coniferous
	Hibernating/Overwintering	Terrestrial	forested	northern deciduous
Red-shouldered hawk (<i>Buteo lineatus</i>)	Breeding	Palustrine	mineral soil wetland	deciduous forested
	Breeding	Palustrine	mineral soil wetland	mixed deciduous/coniferous
	Breeding	Terrestrial	forested	mixed deciduous/coniferous
	Breeding	Terrestrial	forested	northern deciduous
	Breeding	Terrestrial	forested	northern deciduous
Golden eagle (<i>Aquila chrysaetos</i>)	Breeding	Terrestrial	alpine/mountain	cliffs & open talus
	Breeding	Terrestrial	forested	mixed deciduous/coniferous
	Feeding	Terrestrial	open upland	grasslands

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Golden eagle (Aquila chrysaetos)	Hibernating/Overwintering	Terrestrial	forested	mixed deciduous/coniferous
	Hibernating/Overwintering	Terrestrial	open upland	grasslands
Long-eared owl (Asio otus)	Breeding	Terrestrial	forested	northern coniferous
	Breeding	Terrestrial	open upland	grasslands
	Feeding	Terrestrial	open upland	grasslands
	Hibernating/Overwintering	Terrestrial	forested	northern coniferous
	Hibernating/Overwintering	Terrestrial	forested	southern coniferous
	Roosting/Congregating	Terrestrial	forested	northern coniferous
	Roosting/Congregating	Terrestrial	forested	southern coniferous

Goal and Objectives for Forest breeding raptors

Goal: Ensure viable breeding, migratory and over-wintering populations of all species of "forest dwelling raptors" statewide.

Objective 1 : Build database sufficient to more accurately estimate the statewide population of Long-eared Owls.

Measure: *At least 50 % of the adults and all young will be banded at each nest site.*

Objective 2 : Conduct research on the breeding biology of Goshawks in both conifer plantations and non-plantation conifer stands.

Measure: *Over a 5 year period compare the reproductive success and habitat use of 10 Goshawk nests in both conifer plantations and non-plantation conifer forests.*

Objective 3 : Conduct research on the breeding biology of Sharp-shinned Hawks.

Measure: *Over a five year period locate 10 active nests and follow the nesting cycle from courtship to fall migration.*

Objective 4 : Conduct research on the population biology of the Long-eared Owl using a minimum of 20 nests, over a five year period.

Measure: *Data will be collected that show the habitat type used for nesting and the number of young fledged per nest of all nests found.*

Objective 5 : Conduct taped call surveys for woodland nesting raptors on all N.Y.S.D.E.C. land over a 10 year period.

Measure: *ten percent of forested N.Y.S.D.E.C. land will be surveyed each year using taped calls.*

Objective 6 : Determine migration pathways, site-fidelity, and essential habitats of over-wintering NYS golden eagles.

Measure: *Up to ten golden eagles are captured and satellite-tagged over a ten-year period, and movements compiled and mapped out for use by land managers and biologists.*

Objective 7 : Develop forest cutting strategies that will benefit breeding raptors over a ten year period.

Measure: *Test different cutting regimes and buffers on nests of each raptor species at a minimum of 10 nest sites per species over a 10 year period.*

Objective 8 : Maintain appropriate breeding habitat for Long-eared Owls around the discovered nests sites.

Measure: *At 50 % of the known nest sites conduct active management to maintain both grasslands and adjacent woodland at a stage that is appropriate for successful breeding over a five year period after the initial breeding biology research.*

Objective 9 : Monitor Wind Farms for raptor mortality especially Golden Eagles over a ten year period.

Measure: *Check each wind farm on a yearly basis to record any mortality to raptors.*

Objective 10 : Monitor/investigate the occurrence of Golden Eagles in NY over a ten year period.

Measure: *Compile migration count data from the Hawk migration sites around NY, compile sightings, and monitor known and suspected over-wintering areas on a yearly basis, and investigate any breeding season sightings of birds.*

Objective 11 : Using both Department staff and interested birders, survey appropriate habitat for breeding and overwintering Long-eared Owls across the state over a 10 year period.

Measure: *Within each watershed approximately 10% of the potential habitat will be surveyed each year.*

Recommended Actions

Recommended Actions

Habitat management:

- * Habitat management for all these species (except the Golden Eagle which is effectively extirpated as a breeder) is largely unknown it is therefore important that we experiment with different management techniques in order to find out what will work. This means trying different cutting regimes and different buffer distances (and potentially fire management where appropriate). We should do this in both hardwoods and conifers (plantations and native). At the moment we have an opportunity to experiment with Goshawk habitat on some Region 7 State Forests where timber harvest of red pine stands is planned and where we know that some Goshawk nests occur.

Life history research:

- * Initiate a live-trapping/radio-tagging program for golden eagles in NYS to determine migratory pathways, site fidelity, and essential habitats.

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Taxa Group: Bird

Species Group: Freshwater marsh nesting birds

Threats:

Loss, degradation, isolation, and fragmentation of habitat via drainage for agriculture or development are the main factors cited as causes for marshbird population declines. Habitat loss has left many localized marshes that were too small by themselves, or were not part of larger marsh complexes, unsuitable for marshbirds. Human disturbance is often cited as a potential threat, which can expose marshbird chicks to adverse weather or destroy nests. Marshbirds sometimes die of botulism, but this disease or the various parasites harbored by these species do not seem to be major causes of mortality. Current federal and state regulations appear to provide marshbirds, themselves, adequate protection throughout their breeding ranges, though habitat protection is more varied and questionable. The species are protected under the Migratory Bird Treaty Act in the US, the Migratory Bird Convention Act in Canada, and the Convention for the Protection of Migratory Birds and Game Mammals in Mexico. Section 404 of the Clean Water Act and the Swampbuster provisions of the Food Security Act of 1985, as well as the New York State Wetlands Law of 1974 provide some protection for marshbird breeding habitats, although these are not adequate to prevent all wetland losses. Siltation and runoff from development and agriculture may negatively impact prey species. Water level management on Lake Ontario and other larger water bodies can alter marsh habitat and decrease the quality of historically utilized sites. In other cases, lack of stochastic events which produce a flushing effect may negatively impact marshbirds by promoting large monotypic stands of emergent vegetation. In such cases active management of water levels may benefit species. Contaminant levels appear to have declined noticeably from those found in the 1970s and early 1980s. Direct chemical toxicity is generally not a problem, but may reduce favored insect/fish foods. While generally not a serious concern, a large oil spill where numbers of individuals congregate during migration or wintering might have serious consequences. Small, localized breeding populations are extremely vulnerable to stochastic events, such as storms, habitat loss, or human disturbance. Invasive exotic plants, such as purple loosestrife crowd out native emergents and form stands too dense for nesting marshbirds. An increase in feral Mute Swan populations may negatively impact Black Tern and other marshbirds. Introduction of piscivorous predatory fish to rivers and lakes in Panama and other locations in the late 1960s may reduce populations of small fish prey. Current regulatory mechanisms are inadequate to protect the species that migrate to central and south America and their habitats on the wintering range.

Trends:

Although the Black Tern and other marsh birds appear to have sharply declined in numbers in North America since the beginning of the BBS in 1966, many populations appear to have leveled off or risen slightly in the 1990s. The highly secretive nature of many marsh birds makes detection difficult when utilizing standard BBS survey methodology. Standardized marshbird specific methodologies must be developed and implemented regionally and continentally. Marshbird species still occupy most of their former range continent-wide. Nevertheless, because of the severity of the earlier declines, these species still warrant serious concern. Specifically, conservation efforts should be undertaken to monitor current and historic populations and to continue to reverse declines.

Pied-billed Grebe: Rare to uncommon local breeder; fairly common migrant, more numerous in fall. This species appears to have seriously declined in numbers, potentially due to wetland habitat loss and degradation. The Breeding Bird Atlas project found it to be a locally rare to uncommon breeder in relatively few, but widely distributed blocks in all regions of the state. BBS data indicate an -2.0 annual trend between 1980 and 2002, $p=.62$. MMP in the Great Lakes region documented a year-to-year variation of -15.9, $p=.0000$, 1995-2001.

American Bittern: Uncommon and declining breeder throughout NYS. The Atlas project showed this species to be widely distributed in the state, though missing from most blocks in the Appalachian Plateau and scarce west of the Finger Lakes. A significant population decline, attributed to habitat loss, was documented between 1940 and 1970 in the Cayuga basin. BBS data indicate an -0.4 annual trend between 1980 and 2002, $p=.79$. MMP in the Great Lakes region documented a

year-to year variation of -10.0, p=.0094, 1995-2001.

Least Bittern: Uncommon to rare breeder of spotty distribution. The Atlas reported its nesting abundance as only uncommon to rare but did find it more widely distributed than described earlier.

King Rail: Vary rare and local breeder in fresh and brackish marshes south of the Adirondacks. During the past 30 years, the King Rail has declined alarmingly, especially in the northern part of its range. New York, at the northern periphery of its breeding range, has witnessed this decline. It formerly bred at several localities on Long Island.

Black Tern: Very local breeder, nearly all extant colonies located on the Great Lakes Plain. A serious decline in the number of active sites and number of breeding pairs has been documented statewide between 1989 and 2004. Statewide breeding pair census documented at a high of 284 in 1991 and a low of 155 in 2001 (surveys conducted in 1989, 1990, 1991, 1994, 1998, 2001). MMP in the Great Lakes region documented a year-to year variation of -18.7, p=.0000, 1995-2001.

Yellow Rail: A rare but probably regular fall migrant, undoubtedly overlooked, and very rare spring migrant. Casual winter visitant. It is significant that breeding bird atlas work in nearby MI and ON, within the primary breeding range for this species, produced relatively few records, fewer yet of confirmed breeding. It is truly an elusive species whose real status remains very little known in NYS.

SEQR - No Action Alternative:

If no action is taken to reduce wetland habitat loss and degradation the negative population trends documented for many marsh-nesting species will continue. Large wetland complexes will likely become fragmented and cease to support viable breeding populations. Invasive species, such as purple loosestrife, will continue to degrade marsh habitats and alter vegetative communities.

Species in the Group and their Management Status						
Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Yellow rail (<i>Coturnicops noveboracensis</i>)						Migratory
Black tern (<i>Chlidonias niger</i>)		X	S2B	G4	E	Migratory
King rail (<i>Rallus elegans</i>)			S1B,SZN	G4G5	T	Migratory
Least bittern (<i>Ixobrychus exilis</i>)			S3B,S1N	G5	T	Migratory
American bittern (<i>Botaurus lentiginosus</i>)		X	S4	G4	P SC	Migratory
Pied-billed grebe (<i>Podilymbus podiceps</i>)		X	S3B,S1N	G5	T	Migratory

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Pied-billed grebe (<i>Podilymbus podiceps</i>)	Allegheny	Upper Hudson	Decreasing
	Delaware	SW Lake Ontario	Decreasing
	Lake Champlain	Susquehanna	Decreasing
	Lake Erie	SE Lake Ontario	Decreasing
	Lower Hudson - Long Island Bays	NE Lake Ontario - St. Lawrence	Decreasing
	NE Lake Ontario - St. Lawrence	Lower Hudson - Long Island Bays	Decreasing
	SE Lake Ontario	Lake Erie	Decreasing
	Susquehanna	Lake Champlain	Decreasing
	SW Lake Ontario	Delaware	Decreasing
	Upper Hudson	Allegheny	Decreasing
American bittern (<i>Botaurus lentiginosus</i>)	Upper Hudson	Upper Hudson	Decreasing
	SW Lake Ontario	SW Lake Ontario	Decreasing
	Susquehanna	Susquehanna	Decreasing
	SE Lake Ontario	SE Lake Ontario	Decreasing
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Decreasing
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
	Lake Erie	Lake Erie	Decreasing
	Lake Champlain	Lake Champlain	Decreasing
	Delaware	Delaware	Decreasing
	Allegheny	Allegheny	Decreasing
Least bittern (<i>Ixobrychus exilis</i>)	Lake Erie	Lake Erie	Stable
	SW Lake Ontario	SW Lake Ontario	Stable
	SE Lake Ontario	SE Lake Ontario	Stable
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Stable
	Upper Hudson	Upper Hudson	Stable
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Stable

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
King rail (<i>Rallus elegans</i>)	Lake Erie	Lake Erie	Decreasing
	SE Lake Ontario	SE Lake Ontario	Decreasing
	Upper Hudson	Upper Hudson	Decreasing
	SW Lake Ontario	SW Lake Ontario	Decreasing
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
Black tern (<i>Chlidonias niger</i>)	Lake Erie	Lake Erie	Decreasing
	SW Lake Ontario	SW Lake Ontario	Decreasing
	SE Lake Ontario	SE Lake Ontario	Decreasing
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Decreasing
		Lake Champlain	Decreasing
Yellow rail (<i>Coturnicops noveboracensis</i>)	SE Lake Ontario	SE Lake Ontario	Unknown
	Upper Hudson	Upper Hudson	Unknown
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown
	Lake Erie	Lake Erie	Unknown
	SW Lake Ontario	SW Lake Ontario	Unknown

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Pied-billed grebe (<i>Podilymbus podiceps</i>)	High Allegheny Plateau	Great Lakes	Decreasing
	Great Lakes	High Allegheny Plateau	Decreasing
	Lower New England Piedmont	Lower New England Piedmont	Decreasing
	North Atlantic Coast	North Atlantic Coast	Decreasing
	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Decreasing
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Decreasing
	Western Allegheny Plateau	Western Allegheny Plateau	Decreasing

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
American bittern (<i>Botaurus lentiginosus</i>)	Great Lakes	Western Allegheny Plateau	Decreasing
	High Allegheny Plateau	St. Lawrence-Lake Champlain Valley	Decreasing
	Lower New England Piedmont	Northern Appalachian/Boreal Forest	Decreasing
	North Atlantic Coast	North Atlantic Coast	Decreasing
	Northern Appalachian/Boreal Forest	Lower New England Piedmont	Decreasing
	St. Lawrence-Lake Champlain Valley	High Allegheny Plateau	Decreasing
	Western Allegheny Plateau	Great Lakes	Decreasing
Least bittern (<i>Ixobrychus exilis</i>)	Great Lakes	Great Lakes	Stable
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Stable
	Lower New England Piedmont	Lower New England Piedmont	Stable
	North Atlantic Coast	North Atlantic Coast	Stable
King rail (<i>Rallus elegans</i>)	Great Lakes	North Atlantic Coast	Decreasing
	Lower New England Piedmont	Great Lakes	Decreasing
	North Atlantic Coast	Lower New England Piedmont	Decreasing
Black tern (<i>Chlidonias niger</i>)	Great Lakes	Great Lakes	Decreasing
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Decreasing
Yellow rail (<i>Coturnicops noveboracensis</i>)	Great Lakes	Lower New England Piedmont	Unknown
	St. Lawrence-Lake Champlain Valley	North Atlantic Coast	Unknown
	North Atlantic Coast	Great Lakes	Unknown
	Lower New England Piedmont	St. Lawrence-Lake Champlain Valley	Unknown

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Pied-billed grebe (<i>Podilymbus podiceps</i>)	Breeding	Palustrine	mineral soil wetland	emergent marsh
	Feeding	Palustrine	mineral soil wetland	emergent marsh
	Hibernating/Overwintering	Lacustrine	cold water deep	structure
American bittern (<i>Botaurus lentiginosus</i>)	Breeding	Palustrine	mineral soil wetland	emergent marsh
	Breeding	Riverine	coastal plain stream	marsh
	Breeding	Terrestrial	open upland	grasslands
	Hibernating/Overwintering	Estuarine	intertidal	emergent marsh
	Nursery/Juvenile	Palustrine	mineral soil wetland	emergent marsh
Least bittern (<i>Ixobrychus exilis</i>)	Breeding	Estuarine	intertidal	emergent marsh
	Breeding	Palustrine	mineral soil wetland	emergent marsh
	Feeding	Palustrine	mineral soil wetland	emergent marsh
	Nursery/Juvenile	Palustrine	mineral soil wetland	emergent marsh
King rail (<i>Rallus elegans</i>)	Breeding	Palustrine	mineral soil wetland	emergent marsh
	Feeding	Palustrine	mineral soil wetland	emergent marsh
	Hibernating/Overwintering	Estuarine	intertidal	emergent marsh
	Nursery/Juvenile	Palustrine	mineral soil wetland	emergent marsh
Black tern (<i>Chlidonias niger</i>)	Breeding	Palustrine	mineral soil wetland	emergent marsh
	Feeding	Palustrine	mineral soil wetland	emergent marsh
	Roosting/Congregating	Lacustrine	cold water deep	sand/gravel bottom
Yellow rail (<i>Coturnicops noveboracensis</i>)	Breeding	Palustrine	mineral soil wetland	emergent marsh
	Feeding	Palustrine	mineral soil wetland	emergent marsh
	Hibernating/Overwintering	Estuarine	intertidal	emergent marsh
	Nursery/Juvenile	Palustrine	mineral soil wetland	emergent marsh

Goal and Objectives for Freshwater marsh nesting birds

Goal: Maintain breeding populations at or above current levels

Objective 1 : Document abundance, distribution and trend of freshwater and salt marsh bird populations

Measure: *Breeding population estimate, colony distribution, long term trends*

Objective 2 : Identify threats and environmental stressors and identify sub-populations at risk

Measure: *List threats and stressors, assess impacts on productivity, delineate geographic regions and populations at risk*

Objective 3 : Increase availability of suitable marsh bird habitat to support viable populations of native marsh bird species

Measure: *Locations, size, proximity to other suitable habitat*

Objective 4 : Obtain increased knowledge of the breeding ecology, foraging habits, and basic demography of these species

Measure: *Physiology, pathology, productivity, gene flow, locations, habitats, prey species, bioenergetics, immigration/ emigration rates*

Objective 5 : Reduce contaminant levels in the environment and species populations

Measure: *Water, sediment, forage levels, as well as species blood, feather and egg levels, and fledgling success*

Recommended Actions

Curriculum development:

- * Utilize education as a tool for reducing wetland loss and the possible detrimental effects of human disturbance.

Fact sheet:

- * Promote the establishment of buffer areas around agricultural fields and developments.

Habitat management:

- * Restore wetland habitat and improve water level control
- * Evaluate the extent to which management actions can reduce nest and chick losses via predator management and water level regulation.
- * Promote the use of Farm Bill and Landowner Incentive program funds to manage and restore appropriate habitat.
- * Adapt wetland management practices throughout the range of these species so they can simultaneously benefit waterfowl, marsh birds, and other water birds.
- * For endangered, threatened or rapidly declining marsh bird species/populations protect all sites currently in use, and all historic sites of suitable habitat.

Habitat monitoring:

- * Identify and prepare a catalog of key migratory staging, molting areas, and wintering grounds.

Recommended Actions

- * Prepare a catalog, where possible, of breeding sites identifying and mapping sites at a course scale to select sites worthy of monitoring.
- * Investigate diet and nutrition in relation to breeding habitat quality and prey populations.

Habitat research:

- * Evaluate habitats by a variety of techniques at multiple scales to better understand the micro- and macro habitat features important to nest site selection.
- * Conduct controlled experiments to see which management actions are effective locally in producing habitat suitable for marsh birds.
- * Further evaluate the effectiveness of artificial nest platforms for increasing nest success or densities of Black Tern, emphasizing placement of platforms where nest substrates appear to be limiting or where terns may be encouraged to nest in areas of low disturbance.

Invasive species control:

- * Identify invasive species which have the potential to negatively impact marsh birds and quantify impact.
- * Reduce the spread and colonization of new sites by invasive exotic species.
- * Where feasible, control invasive species, which are known to have detrimental affects on marsh birds, to reduce negative impact, i.e. promote the implementation of biological controls to combat purple loosestrife.

Life history research:

- * Conduct demographic studies at selected sites across the species breeding range to identify "source" and "sink" populations, thus the regions most important for maintaining a breeding population.
- * Conduct studies of habitat use, prey availability, and diet at migratory staging and molting areas and wintering grounds to assess possible threats and limiting factors.
- * Investigate aspects of behavioral ecology, such as mate selection, mate fidelity, spacing behavior, coloniality, dispersal, and post fledging parental care.
- * Periodically monitor the levels of contaminants in marsh birds and their eggs to assess trends and determine effects on eggshell thinning, behavioral modification, chick development, nesting success, and juvenile survival.

Modify regulation:

- * Concurrently with management actions, efforts should be pursued vigorously to protect the quality and quantity of available wetland habitat and minimize wetland loss.

New legislation:

- * Develop and implement a noxious weed law to control the introduction and distribution of invasive exotic species.

New regulation:

- * Maintain water quality in nesting marshes and discourage use of pesticides on public lands to prevent reduction of insect populations and contamination of wetlands.

Recommended Actions

Population monitoring:

- * Refine monitoring techniques to better detect population trends and determine the cause of these changes.
- * Initiate baseline population surveys to determine abundance and distribution and periodically resurvey to detect trends
- * Study metapopulation dynamics and demography, focusing on such parameters as survival, age at first breeding, recruitment, dispersal, and the factors that affect them, using color-banded or radio-tagged birds.

Regional management plan:

- * Collaborate with existing planning initiative such as the North American Waterbird Plan, Bird Conservation Regional Plans and other regional efforts.

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Taxa Group: Bird

Species Group: Grassland birds

Threats:

Grassland bird species of greatest conservation need in New York State include upland sandpiper (*Bartramia longicauda*), grasshopper sparrow (*Ammodramus savannarum*), bobolink (*Dolichonyx oryzivorus*), eastern meadowlark (*Sturnella magna*), northern harrier (*Circus cyaneus*), short-eared owl (*Asio flammeus*), sedge wren (*Cistothorus platensis*), and Henslow's sparrow (*Ammodramus henslowii*).

Other bird species that would benefit from efforts to conserve grassland birds include: horned lark (*Eremophila alpestris*) and vesper sparrow (*Pooecetes gramineus*), American kestrel (*Falco sparverius*), savannah sparrow (*Passerculus sandwichensis*), wintering raptors, ring-necked pheasant (*Phasianus colchicus*), barn owl (*Tyto alba*), nesting waterfowl, and killdeer (*Charadrius vociferus*). American woodcock (*Scolopax minor*), discussed under Early Successional Bird Species, also utilize grasslands for singing grounds and night roosting. Migrating shorebirds may also make use of some grasslands.

In New York, threats include loss, degradation, and fragmentation of grassland habitats due to: loss of farms, more intensive agriculture, reversion to shrub and forest, human development, and fire suppression.

When looking at this diverse list of species, it would appear to be a daunting task to do research or manage for each of these species separately. A more workable approach is to select "focus" species to be the primary driving force, while trying not to forget the diversity of the group as a whole.

Based on these considerations, the following "focus species" have been identified for New York's Grassland Bird Conservation Plan (GBCP, to be developed): Upland Sandpiper, Northern Harrier, Grasshopper Sparrow, Henslow's Sparrow, Bobolink, E. Meadowlark, sedge wren, and wintering Short-eared Owl (reference GBCP). "Second Tier" species would include all other grassland species listed in the first paragraph above, and breeding Short-eared Owl.

Grasslands come in a range of types from agricultural hayfields and pastures, to airports and golf courses, to old fields, to pine barrens. Bog, beaver meadows, and other marsh habitats can also provide habitat for some species. Although considered to be one suite of species that utilize grasslands, the specific preferences for habitat can vary greatly. Henslow's Sparrows utilize older fields, with little shrub cover, but with relatively tall grass and heavy thatch. Upland Sandpipers utilize grasslands with a matrix of vegetative structure; from taller, thicker stands for nesting to shorter more open areas for foraging. Many species, especially Henslow's Sparrow and Upland Sandpipers, are area sensitive, preferring larger grasslands of at least 75 to 100 or more acres. Short-eared Owls need residual standing cover and high microtus populations in winter for foraging. In order to provide for the needs of all grassland birds, a variety of grassland types and ages will be needed. This will require a variety of habitat management methods be utilized over the landscape to assure that the specific needs of all species are adequately conserved.

The widespread and dramatic declines in most grassland-dependent species in NY makes the conservation of remaining grasslands of substantial size important. The NYS Grassland Group has determined that in order to maintain and conserve grasslands in NY over the long term, the largest, most important core grassland areas need to be identified, and our efforts focused there. This will increase the potential that the larger core grasslands will be the highest priority for funding for research and conservation efforts. Most grasslands of substantial size provide important habitats, however, the viability of small, isolated grasslands over the very long term is probably low. With limited resources and manpower, it is imperative that core, high priority, grasslands be defined and be the first to receive conservation efforts. This will maximize the probability of maintaining viable populations of rare grassland species over the long term. While this delineation process is on going, a draft map of core grassland areas has been prepared.

Economic factors that influence dairy farming will play a key role in the future of grasslands in NY. Probably the most serious threat would arise from failure to address the issue of maintaining the viability of dairy farming, especially smaller “family” farms. Grassland habitats are being lost due to conversion to development, row crops, more intensive agriculture, and reversion to shrublands and forests. As grasslands are lost, many of the remaining grasslands become even more scattered and isolated. This further reduces the ability of these grasslands to function as part of the overall grassland ecosystem. Farming methods that result in more frequent and earlier mowing are a very serious threat. Many of the fire dependent pine barren type communities also support grassland species. Due to fire suppression, many of these habitats have undergone significant changes and no longer support grassland species.

Protecting and managing grasslands is a monumental task that will require considerable amounts of funding. Most farmers can not afford to set aside grasslands until after the nesting season. Active management of grasslands is done through somewhat costly methods such as mowing or burning. Where the funding will come from to pay for the management action is a critical question. Light grazing can also be used as a tool, but in most cases, intensive grazing doesn’t provide substantial benefit to most grassland species.

The future of grassland birds in NY relies on finding new mechanisms to conserve grasslands, and making better, more focused use of existing funding sources such as the Farm Bill Programs. Unfortunately, the Northeast has a poor track record for competing with other parts of the country for some of the key program funds, such as the Conservation Reserve Program. The long term ability to conserve grassland birds will probably hinge on our ability to more effectively direct funds from federal subsidy programs into core priority grasslands.

Trends:

Historic distribution and abundance.

Grassland birds have been shown to be an important part of the original avifauna in many parts of the Northeast, and their habitats were greatly enhanced by Indian activities in many places. For most of the past three centuries, most of the Northeast region has undergone major changes in forest cover, due to logging and clearing for agriculture, and then subsequent land abandonment and reforestation. The distribution and abundance of grassland birds expanded with increased clearing of land for agriculture following colonization of NY by European settlers, and then began to decrease as these farms were abandoned and reverted to forest.

Current distribution and abundance.

In the latter part of the 20th century, in much of NY, substantial losses of grassland have occurred due to development, widespread farmland abandonment, and reforestation. Grassland habitats have been declining fairly rapidly in the last few decades. Further, more intensive agricultural practices and the conversion of many grasslands to row crops have resulted in less habitat available for grassland birds. The remaining core grasslands are of conservation concern (Wells and Rosenberg 1999).

Population trends for most grassland bird species have been documented from Breeding Bird Survey (BBS) data. According to Breeding Bird Survey data during the period from 1966-2002, in NY, several grassland species exhibited precipitous declines, such as: Grasshopper sparrow 95%, Henslow’s sparrow 94%, Vesper sparrow 93%, Eastern meadowlark 84%, and Savannah sparrow 59%. Several other species are also believed to be in precipitous decline, but are not adequately sampled by BBS to determine a precise trend. Populations of all grassland bird species of concern declined from 0.3 to 15% per year between 1966 and 2002 (Table 1).

Post (2004) completed an analysis of Breeding Bird Survey (BBS) data. Of the 8 grassland species included in analysis, none of them showed a significant increasing trend. In USFWS Region 5 and NY 63 % (5/8) were declining, and the remainder (3) showed no significant trend. Survey-wide, 75 % (6/8) percent of species were declining, with the other 2

species having no significant trend. The vast majority of the species in this suite were declining. The apparent declines for upland sandpiper and northern harrier in NY and USFWS Region 5 are not significant, probably due to inadequate detection on BBS routes.

Henslow's Sparrow declined -25.4 (p=0.005) during the period of 1980-2002.

TABLE 1

Species	Total percent decline in NY, 1966-2002	BBS TREND DATA FOR GRASSLAND BIRDS (1966-2002, % change per year)		
		NY	USFWS Region 5	Survey Wide
Grasshopper sparrow	95%	- 8.2	- 4.8	- 3.6
Henslow's sparrow	94%	- 7.9	-7.5	- 4.6
Vesper sparrow	93%	-7.2	- 5.1	- 4.6
Eastern meadowlark	84%	- 5.0	- 4.3	- 2.9
Savannah sparrow	59%	- 2.5	- 2.1	ns (+ 0.9)
Bobolink		ns (- .4)	ns (-.06)	- 1.6
Upland sandpiper		ns (-5.1)	ns (-2.8)	ns (+.9)
Northern harrier		ns (-3)	ns (-1.3)	- 1.1
Species with positive trend		0	0	0
Species with negative trend		5	5	6
Species with ns trend		3	3	2
% species in decline*		63 (5/8)	63 (5/8)	75 (6/8)

ns = not a statistically significant (p < 0.1) trend (includes abundant species whose trend estimate is close to 0, and species which have larger trend estimates, but which are not detected by BBS in sufficient numbers to determine a significant trend).

* calculated as: number of species declining ÷ total number of species.

SEQR - No Action Alternative:

These species will continue to be a part of NY's avifauna for some time, but in declining numbers and distribution, with eventual extirpation of some species.

Species in the Group and their Management Status						
Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Dickcissel (<i>Spiza americana</i>)						Migratory
Eastern meadowlark (<i>Sturnella magna</i>)					P	Migratory
Sedge wren (<i>Cistothorus platensis</i>)		X		GS3B,SAN5	T	Migratory
Bobolink (<i>Dolichonyx oryzivorus</i>)			S5	G5	P	Migratory
Henslow's sparrow (<i>Ammodramus henslowii</i>)		X	S3B,SAN	G4	T	Migratory
Grasshopper sparrow (<i>Ammodramus savannarum</i>)			S4	G5	P SC	Migratory

Vesper sparrow (<i>Pooecetes gramineus</i>)		S5	G5	P SC	Migratory
Horned lark (<i>Eremophila alpestris</i>)		S5	G5	P SC	Migratory
Short-eared owl (<i>Asio flammeus</i>)	X	S2	G5	E	Resident
Upland sandpiper (<i>Bartramia longicauda</i>)	X	S3B	G5	T	Migratory
Northern harrier (<i>Circus cyaneus</i>)	X	S3B,S3N	G5	T	Resident

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Northern harrier (<i>Circus cyaneus</i>)	Unknown	SW Lake Ontario	Unknown
		Susquehanna	Unknown
		SE Lake Ontario	Unknown
		NE Lake Ontario - St. Lawrence	Unknown
		Lower Hudson - Long Island Bays	Decreasing
		Lake Erie	Unknown
		Allegheny	Unknown
		Delaware	Unknown
		Upper Hudson	Unknown
Lake Champlain	Unknown		
Upland sandpiper (<i>Bartramia longicauda</i>)	Unknown	Delaware	Decreasing
		Lake Champlain	Decreasing
		Lake Erie	Decreasing
		Lower Hudson - Long Island Bays	Decreasing
		NE Lake Ontario - St. Lawrence	Decreasing
		SE Lake Ontario	Decreasing
		Susquehanna	Decreasing
		SW Lake Ontario	Decreasing
		Upper Hudson	Decreasing
Allegheny	Decreasing		

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Short-eared owl (<i>Asio flammeus</i>)	Unknown	Lake Champlain	Unknown
		Lake Erie	Unknown
		Lower Hudson - Long Island Bays	Decreasing
		NE Lake Ontario - St. Lawrence	Unknown
		SE Lake Ontario	Unknown
		Susquehanna	Unknown
		SW Lake Ontario	Unknown
Horned lark (<i>Eremophila alpestris</i>)	Unknown	Delaware	Decreasing
		Lake Champlain	Decreasing
		Lake Erie	Decreasing
		Upper Hudson	Decreasing
		SW Lake Ontario	Decreasing
		Susquehanna	Decreasing
		SE Lake Ontario	Decreasing
		NE Lake Ontario - St. Lawrence	Decreasing
		Lower Hudson - Long Island Bays	Decreasing
		Allegheny	Decreasing
Vesper sparrow (<i>Pooecetes gramineus</i>)	Unknown	Delaware	Decreasing
		Lake Champlain	Decreasing
		Lake Erie	Decreasing
		Lower Hudson - Long Island Bays	Decreasing
		NE Lake Ontario - St. Lawrence	Decreasing
		SE Lake Ontario	Decreasing
		Susquehanna	Decreasing
		SW Lake Ontario	Decreasing
		Upper Hudson	Decreasing
		Allegheny	Decreasing

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Grasshopper sparrow (<i>Ammodramus savannarum</i>)	Unknown	Allegheny	Decreasing
		Delaware	Decreasing
		Lake Champlain	Decreasing
		Lake Erie	Decreasing
		Lower Hudson - Long Island Bays	Decreasing
		NE Lake Ontario - St. Lawrence	Decreasing
		SE Lake Ontario	Decreasing
		Susquehanna	Decreasing
		SW Lake Ontario	Decreasing
Henslow's sparrow (<i>Ammodramus henslowii</i>)	Unknown	Upper Hudson	Decreasing
		Allegheny	Decreasing
		NE Lake Ontario - St. Lawrence	Decreasing
		Lake Erie	Decreasing
		SW Lake Ontario	Decreasing
		Susquehanna	Decreasing
Bobolink (<i>Dolichonyx oryzivorus</i>)	Unknown	SE Lake Ontario	Decreasing
		SW Lake Ontario	Decreasing
		Susquehanna	Decreasing
		SE Lake Ontario	Decreasing
		NE Lake Ontario - St. Lawrence	Decreasing
		Lower Hudson - Long Island Bays	Decreasing
		Lake Erie	Decreasing
		Lake Champlain	Decreasing
		Delaware	Decreasing
		Allegheny	Decreasing
Upper Hudson	Decreasing		

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Sedge wren (<i>Cistothorus platensis</i>)	Allegheny	Allegheny	Unknown
	Delaware	Lake Champlain	Unknown
	Lake Champlain	Lake Erie	Unknown
	Lake Erie	NE Lake Ontario - St. Lawrence	Unknown
	NE Lake Ontario - St. Lawrence	SE Lake Ontario	Unknown
	Lower Hudson - Long Island Bays	Susquehanna	Unknown
	SE Lake Ontario	SW Lake Ontario	Unknown
	Susquehanna	Upper Hudson	Unknown
	SW Lake Ontario		
	Upper Hudson		
Eastern meadowlark (<i>Sturnella magna</i>)	Unknown	Delaware	Decreasing
		Upper Hudson	Decreasing
		SW Lake Ontario	Decreasing
		Susquehanna	Decreasing
		SE Lake Ontario	Decreasing
		NE Lake Ontario - St. Lawrence	Decreasing
		Lower Hudson - Long Island Bays	Decreasing
		Lake Erie	Decreasing
		Lake Champlain	Decreasing
	Allegheny	Decreasing	
Dickcissel (<i>Spiza americana</i>)	Unknown	Allegheny	Unknown
		Lake Erie	Unknown

Species Distribution - Ecoregion			
Species	Historical	Current	Stability

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Northern harrier (<i>Circus cyaneus</i>)	Unknown	Great Lakes	Unknown
		High Allegheny Plateau	Unknown
		Lower New England Piedmont	Unknown
		North Atlantic Coast	Unknown
		Northern Appalachian/Boreal Forest	Unknown
		St. Lawrence-Lake Champlain Valley	Unknown
		Western Allegheny Plateau	Unknown
Upland sandpiper (<i>Bartramia longicauda</i>)	Unknown	Great Lakes	Decreasing
		High Allegheny Plateau	Decreasing
		Lower New England Piedmont	Decreasing
		North Atlantic Coast	Decreasing
		Northern Appalachian/Boreal Forest	Decreasing
		St. Lawrence-Lake Champlain Valley	Decreasing
		Unknown	Decreasing
Short-eared owl (<i>Asio flammeus</i>)	Unknown	Great Lakes	Unknown
		High Allegheny Plateau	Unknown
		Lower New England Piedmont	Unknown
		North Atlantic Coast	Unknown
		Northern Appalachian/Boreal Forest	Unknown
		St. Lawrence-Lake Champlain Valley	Unknown
		Western Allegheny Plateau	Unknown

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Horned lark (<i>Eremophila alpestris</i>)	Unknown	Great Lakes	Decreasing
		High Allegheny Plateau	Decreasing
		Western Allegheny Plateau	Decreasing
		North Atlantic Coast	Decreasing
		St. Lawrence-Lake Champlain Valley	Decreasing
Vesper sparrow (<i>Pooecetes gramineus</i>)	Unknown	Great Lakes	Decreasing
		High Allegheny Plateau	Decreasing
		Lower New England Piedmont	Decreasing
		Western Allegheny Plateau	Decreasing
		St. Lawrence-Lake Champlain Valley	Decreasing
		Northern Appalachian/Boreal Forest	Decreasing
Grasshopper sparrow (<i>Ammodramus savannarum</i>)	Unknown	Great Lakes	Decreasing
		High Allegheny Plateau	Decreasing
		Lower New England Piedmont	Decreasing
		North Atlantic Coast	Decreasing
		Northern Appalachian/Boreal Forest	Decreasing
		St. Lawrence-Lake Champlain Valley	Decreasing
		Western Allegheny Plateau	Decreasing

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Henslow's sparrow (<i>Ammodramus henslowii</i>)	Unknown	Great Lakes	Decreasing
		High Allegheny Plateau	Decreasing
		Western Allegheny Plateau	Decreasing
		St. Lawrence-Lake Champlain Valley	Decreasing
Bobolink (<i>Dolichonyx oryzivorus</i>)	Unknown	Great Lakes	Decreasing
		High Allegheny Plateau	Decreasing
		Western Allegheny Plateau	Decreasing
		St. Lawrence-Lake Champlain Valley	Decreasing
		Northern Appalachian/Boreal Forest	Decreasing
		North Atlantic Coast	Decreasing
Sedge wren (<i>Cistothorus platensis</i>)	Great Lakes	Great Lakes	Decreasing
	High Allegheny Plateau	High Allegheny Plateau	Decreasing
	Lower New England Piedmont	Western Allegheny Plateau	Decreasing
	North Atlantic Coast	North Atlantic Coast	Decreasing
	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Decreasing
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Decreasing
	Western Allegheny Plateau		

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Eastern meadowlark (<i>Sturnella magna</i>)	Unknown	Western Allegheny Plateau	Decreasing
		St. Lawrence-Lake Champlain Valley	Decreasing
		Northern Appalachian/Boreal Forest	Decreasing
		North Atlantic Coast	Decreasing
		Lower New England Piedmont	Decreasing
		High Allegheny Plateau	Decreasing
		Great Lakes	Decreasing
Dickcissel (<i>Spiza americana</i>)	Unknown	Western Allegheny Plateau	Unknown

Critical Habitats for Species in the Group				
Species	Life Stage or Use	System	SubSystem	Habitat
Northern harrier (<i>Circus cyaneus</i>)	all	Lacustrine	warm water shallow	other
	all	Palustrine	mineral soil wetland	emergent marsh
	all	Palustrine	mineral soil wetland	meadow
	all	Terrestrial	open upland	grasslands
Upland sandpiper (<i>Bartramia longicauda</i>)	Breeding	Terrestrial	open upland	grasslands
	Feeding	Terrestrial	open upland	grasslands
	Roosting/Congregating	Terrestrial	open upland	grasslands
Short-eared owl (<i>Asio flammeus</i>)	all	Palustrine	mineral soil wetland	meadow
	all	Terrestrial	open upland	grasslands
Horned lark (<i>Eremophila alpestris</i>)	Breeding	Terrestrial	open upland	beach/shoreline
	Breeding	Terrestrial	open upland	cultural
	Breeding	Terrestrial	open upland	grasslands
Vesper sparrow (<i>Pooecetes gramineus</i>)	Breeding	Terrestrial	open upland	cultural
	Breeding	Terrestrial	open upland	grasslands

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Grasshopper sparrow (<i>Ammodramus savannarum</i>)	Breeding	Terrestrial	open upland	grasslands
Henslow's sparrow (<i>Ammodramus henslowii</i>)	Breeding	Terrestrial	open upland	grasslands
Bobolink (<i>Dolichonyx oryzivorus</i>)	Breeding	Terrestrial	open upland	grasslands
Sedge wren (<i>Cistothorus platensis</i>)	Breeding	Palustrine	mineral soil wetland	meadow
	Breeding	Terrestrial	open upland	grasslands
Eastern meadowlark (<i>Sturnella magna</i>)	Breeding	Terrestrial	open upland	grasslands
Dickcissel (<i>Spiza americana</i>)	all	Terrestrial	open upland	grasslands
	Breeding	Terrestrial	barrens/woodlands	cultural
	Breeding	Terrestrial	open upland	grasslands

Goal and Objectives for Grassland birds

Goal: Maintain viable breeding populations of grassland bird species, and provide sufficient habitat to support wintering populations of short-eared owl and northern harrier.

Objective 1 : Coordinate research, management, and conservation efforts to more effectively conserve NY's grassland birds.

Measure: *A comprehensive Grassland Bird Conservation Plan is completed, and all interested partners communicate regularly to develop and implement strategies for grassland bird conservation.*

Objective 2 : Determine population status (distribution, abundance, trend) for all grassland species, including any that are not adequately sampled by BBS.

Measure: *Monitoring protocols are developed and implemented, and population status of all species is known.*

Objective 3 : Determine the amount of habitat needed, and the cost of conserving that area as productive grasslands, to support the full array of grassland bird diversity.

Measure: *Cost to conserve adequate habitat is determined.*

Objective 4 : Maintain an adequate number of focus areas with adequate habitat within each focus area to maintain viable populations of the greatest diversity of grassland species as possible.

Measure: *Focus areas are identified and adequate acreages of suitable habitat within those areas are conserved.*

Objective 5 : Maintain self-sustaining populations of as many grassland bird species in New York as possible as part of the biodiversity of the state for at least the next 20 years.

Measure: *Populations of all or most species are still present in New York in 2025.*

Objective 6 : Maximize the amount of applicable federal financial incentives (e.g., NRCS, USFWS programs), as well as state and other funding sources, into core priority grassland areas.

Measure: *Funding is directed into core grassland areas.*

Recommended Actions

Easement acquisition:

- * Identify ownership of grasslands in core focus areas, and focus Landowner Incentive Program (LIP) funding for use in conserving the most important privately-owned grasslands in the state, and distribute \$400,000 per year from LIP to conserve priority grasslands.

Habitat management:

- * Develop habitat management guidelines and action plans for priority focus grassland bird species.

Habitat research:

- * Evaluate the effects of specific farming and management practices, such as: timing of mowing, intensity of grazing, frequency of mowing, mowing versus haying versus prescribed fire, and width of buffer strips on productivity of grassland birds.

Other acquisition:

- * Incorporate priority grassland focus areas into the NYS Open Space Plan

Other action:

- * Work with public land managers, including NRCS, USFWS, DEC and others, to better direct funding and other resources to the highest priority areas and projects for grassland habitat management.

The ability to focus funding sources in core priority grasslands will be key. If the funding sources from National Resource Conservation Service (NRCS) can not be adequately focused in priority areas, then this will cripple the ability to conserve the most critical grassland areas and will result in continued declines in grassland birds even within these focus areas.

Recommended Actions

- * Develop an outreach program to educate the public and land managers on the need for, and wildlife benefits of, grasslands. Also provide technical guidance on what and how to benefit grassland species.

Outreach to private landowners will be a key first step to educate the public about the importance of their lands to grassland birds. So much of this habitat exists on private lands that their cooperation will be the ultimate deciding factor on whether species declines can be halted. Their cooperation at the level needed for meaningful change will probably hinge on some form of subsidies.

Population monitoring:

- * Develop and implement supplemental monitoring programs for grassland bird species that are not adequately sampled by BBS to determine precise population trends and evaluate effectiveness of conservation efforts. Use long term trend data to determine effectiveness of grassland conservation efforts.
- * Complete inventory of potential grassland habitat for species present, distribution, and relative abundance of priority species.

Statewide management plan:

- * Complete a comprehensive Grassland Bird Conservation Plan that coordinates research, management, and conservation efforts to more effectively conserve NY's grassland birds.

Identify priority species and delineate priority focus areas for conservation and management.

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Taxa Group: Bird

Species Group: High Altitude Conifer Forest Birds

Threats:

Bicknell's thrush (*Catharus bicknelli*), a NYS Special Concern Species, is the focal species for this habitat suite. Other species, such as blackpoll warbler, also occupy this habitat type and will benefit from conservation efforts.

Globally, Bicknell's thrush have a relatively limited breeding range, and narrow habitat preferences. This results in a relatively small overall population size. These factors make Bicknell's thrush potentially very vulnerable to habitat loss or degradation.

In NY the threats include: acid rain, global warming, disease and insect outbreaks that affect high elevation conifers. Biggest threat could be on wintering grounds.

Long term viability of these species as a breeder in NY needs to be assessed. Some reports suggest that global warming may result in the loss of virtually all of the Bicknell's thrush habitat in NY.

In NY, Bicknell's thrush prefers high altitude regenerating coniferous forests and have been confirmed in the Adirondacks and Catskills only. While population estimates are rough, NY certainly has a substantial (perhaps even up to 40-50%) portion of the world's population. In the Adirondacks this species is found primarily above 2800 feet, and in the Catskills it is found primarily above 3500 feet. Regenerating spruce/fir "waves" (regenerating thickets) are a typical preferred habitat. The distribution of this species has been the subject of substantial study, but this species is not adequately monitored to determine long term trends, hence we don't have any clear indications about the status of the population in NY. A monitoring program is needed to determine long term trends.

In NY, loss of breeding habitat has not been proven to be a threat in large part because almost all of the peaks with known breeding occurrences are on state land and protected by forest preserve regulations. Degradation of habitat as a result of acid rain and global warming are likely factors that will affect future populations but these global environmental issues have to be addressed at higher levels of policy outside of NY.

There is considerable concern over the status of the wintering grounds in the Dominican Republic, which are suffering severe losses from human alteration. Losses of wintering habitat could result in population losses regardless of the status of breeding habitat. Conserving breeding habitat may not offset the declines, if the cause of the decline is loss of wintering habitat.

Ski area development is often suggested as a potential threat. However, ski trail development has not been shown to always have a negative impact. It certainly can have negative impacts, but potential effects will vary with a number of variables, including: patch size of habitat, size of area affected, width of trail, and trail design (e.g., "glading" which removes most of understory is considered to be a negative) can all be important factors. Narrow ski trails where the vegetation on the edges is feathered back (i.e., kept in a young regenerating state) can actually support high densities of breeding Bicknell's Thrush.

More research is needed on this species breeding strategies, and habitat requirements. Long term monitoring to determine population trends is high priority.

Acid rain is a potential threat. Acid rain can reduce the vitality or outright kill conifer forests, can reduce prey quantity, and could be reducing populations of land snails which are an important source of calcium during the breeding season. Global warming could also have a significant detrimental impact on high elevation conifer forests, potentially greatly

reducing the amount of preferred habitat in NY.

The vast majority of the distribution of Bicknell's in NY is found within the NYS Forest Preserve. No logging is allowed there, which prevents most almost all human development that could reduce habitat but also means little active habitat management could be accomplished. This means natural processes (and in very limited areas ski areas) will have to provide the early regenerating fir/spruce waves preferred by Bicknell's. The Olympic Regional Development Authority at Whiteface is working with interested parties, including DEC, in regards to expansion of that ski area.

Trends:

Not well known. Vermont Institute of Natural Science has developed a Mountain Bird watch Program which has determined distribution (peaks occupied), but no reliable trend data is available. Acid rain and global warming may lead to long term loss and degradation of habitat leading to declines.

SEQR - No Action Alternative:

Uncertain. While NY has a high percentage of the worlds population of Bicknell's thrush, it appears that the most serious issues facing this species will be resolved outside of NY. Problems on the wintering range and the long term effects of acid rain and global warming could result in declines or extirpation of this species (in NY).

Species in the Group and their Management Status						
Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Bicknell's thrush (<i>Catharus bicknelli</i>)		X	S2S3B	G4	P SC	Migratory

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Bicknell's thrush (<i>Catharus bicknelli</i>)	Unknown	Lake Champlain	Unknown
		NE Lake Ontario - St. Lawrence	Unknown
		Upper Hudson	Unknown

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Bicknell's thrush (<i>Catharus bicknelli</i>)	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Unknown

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Bicknell's thrush (Catharus bicknelli)	Breeding	Terrestrial	forested	northern coniferous
	Breeding	Terrestrial	forested	other

Goal and Objectives for High Altitude Conifer Forest Birds

Goal: Maintain Bicknell's thrush as a viable breeding population for 20 years.

Objective 1 : Develop active management recommendations for this species.

Measure: *Recommended management determined and agreed to by species and forest management experts.*

Objective 2 : Evaluate the long term viability of this species as a part of NY's breeding fauna.

Measure: *Evaluation completed.*

Objective 3 : Monitor long-term population trend.

Measure: *Monitoring plan implemented.*

Objective 4 : Obtain current and reliable data to determine the distribution and abundance of Bicknell's thrush in New York.

Measure: *Reliable status information available.*

Recommended Actions

Habitat research:

- * Develop a study to determine if active management (creation of habitat, such as regenerating fir waves) can be an effective management tool.

Other action:

- * Evaluate the long term viability of this species as a part of NY's breeding fauna.

Population monitoring:

- * Continue the Mountain Birdwatch monitoring protocol on all Adirondack and Catskill peaks where Bicknell's thrush are known to occur; implement other long term monitoring if needed to determine population trend.

Recommended Actions

Statewide management plan:

- * Develop a management plan for high elevation birds, including Bicknell's thrush.

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Taxa Group: Bird

Species Group: Loggerhead Shrike

Threats:

The causes of declines in loggerhead shrike populations, and present and future threats are poorly understood. However, there is general agreement among most shrike biologists that the loss, fragmentation, and degradation of suitable habitat (both in the breeding range and wintering range) are the major underlying causes of declines in loggerhead shrike populations (Pruitt 2000). A combination of other factors are probably limiting the ability of shrike populations to recover from declines. Other likely factors include nest predation, exposure to pesticides, collisions with vehicles, adverse weather/climate change, and interspecific competition (Pruitt 2000). Loss of breeding habitat and collisions with vehicles are clearly major factors in the decline of the loggerhead shrike in New York (Novak 1989. Pruitt 2000). A more recent threat identified in birds in Ontario is that loggerhead shrikes are apparently quite susceptible to West Nile Virus. In addition, Ontario work seems to be more clearly substantiating that shrike pairs tend to prefer to nest close to other pairs, a situation that would more firmly implicate habitat fragmentation as an important factor in the decline.

Trends:

Based on North American Breeding Bird Survey data, the loggerhead shrike is one of the most persistently declining species surveyed by BBS, with an average rate of decline of 3.7% per year survey wide during the 1966-1998 period. These declines are prevalent across most states, provinces, and physiographic strata and most north central and northeastern states do not have enough observations to provide adequate statistical analysis (Pruitt 2000).

The loggerhead shrike is already extirpated from New England and is essentially extirpated as a breeding species from New York. The last record of confirmed breeding for the loggerhead shrike in NY was in 1988. No records of probable (or confirmed) breeding have been recorded in New York during the current Atlas 2000 Breeding Bird Atlas effort covering the years 2000-2004. Migration records have also declined to the point of extirpation. Although still reported as both a spring and fall migrant on an annual basis through the late 1990s, in recent years it has not even been reported annually in the state during both the spring and fall seasons.

National Audubon Society Christmas Bird Count data reveal that wintering populations, like breeding populations, are declining. From 1959-1988, the loggerhead shrike declined at a rate of 1.7% annually survey wide (Pruitt 2000).

SEQR - No Action Alternative:

With no action the loggerhead shrike will remain essentially extirpated as a breeding species, as well as a very rare migrant in New York State. With no action the only likely scenario under which the species would begin breeding in the state again or increase in numbers during migration would be the result of significant success with the captive breeding and release program that was initiated in Ontario in 1997. If the Ontario program leads to an increase in the breeding population in that province, it could be expected that New York would see an increase in sightings of migrants as they pass through to nesting sites in Ontario with perhaps occasional individuals short-stopping and remaining to nest in New York.

Species in the Group and their Management Status						
Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Loggerhead shrike (<i>Lanius ludovicianus</i>)		X	S1B,SZN	G4	E	Migratory

Species Distribution - Watershed Basin

Species	Historical	Current	Stability
Loggerhead shrike (<i>Lanius ludovicianus</i>)	Lake Champlain Lake Erie Lower Hudson - Long Island Bays NE Lake Ontario - St. Lawrence SE Lake Ontario Susquehanna SW Lake Ontario	Unknown	Decreasing

Species Distribution - Ecoregion

Species	Historical	Current	Stability
Loggerhead shrike (<i>Lanius ludovicianus</i>)	Great Lakes High Allegheny Plateau Lower New England Piedmont St. Lawrence-Lake Champlain Valley	Unknown	Decreasing

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Loggerhead shrike (<i>Lanius ludovicianus</i>)	Breeding Feeding	Terrestrial Terrestrial	open upland open upland	cultural grasslands

Goal and Objectives for Loggerhead Shrike

Goal: Determine the feasibility of restoring a breeding population of loggerhead shrikes to New York State.

Objective 1 : Compare the acreage of suitable habitat in several selected areas in New York with the acreage in the three remaining loggerhead shrike core breeding areas in Ontario in order to determine if New York areas may be suitable for a release effort.

Measure: *Data on acreage in pasture, hay, row crops, woodlots, road density, etc. for three areas in Ontario and several areas in NY.*

Objective 2 : Conduct a more detailed, on-the ground examination of one or more areas in NY that appear to have suitable habitat for release of birds and determine landowner interest and support for such a program.

Measure: *Database/map of farms with suitable shrike breeding habitat. Database of supportive landowners.*

Objective 3 : Evaluate the Canadian Wildlife Service Loggerhead Shrike captive breeding and release efforts with respect to the potential to apply these techniques to New York

Measure: *One measure would be a site visit (or visits) to the Ontario breeding/release facilities with a trip report documenting how a similar facility could be developed for New York.*

Objective 4 : Monitor the overall success of the Ontario breeding and release effort.

Measure: *One measure would be to see an increase in migrant birds passing through New York, including at least some color banded birds (though not all could be expected to be banded as shrikes are known to remove bands).*

Recommended Actions

Captive breeding:

- * Research/learn the techniques employed in Ontario in their captive breeding efforts and either support those efforts in exchange for release of birds in New York or develop a similar program in New York. Work cooperatively with the Eastern Loggerhead Shrike Recovery Team in Canada on this process.

Easement acquisition:

- * Cooperative agreements or easements may be required or desirable in areas that may be suitable for a release effort.

Fact sheet:

- * Prior to any release of birds a fact sheet and landowner educational effort similar to that employed in Ontario should be developed to develop support or acceptance among the local landowners as most shrikes would occur on private lands.

Habitat management:

- * Determine whether specific habitat management such as planting of hedgerows, removal of shrubs in pastures, or former pastures, where they have become too dense, etc. may be desirable or necessary in some areas prior to any release efforts.

Recommended Actions

Habitat research:

- * Examine habitat data on the three core breeding areas in Ontario and evaluate several areas in New York for similar characteristics. Habitat data should include acreage in various cover types and road density information. Work cooperatively with the Eastern Loggerhead Shrike Recovery Team in Canada on this process.

References

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- Novak, P. G. 1989. Breeding ecology and status of the loggerhead shrike (*Lanius ludovicianus*) in New York State. MS thesis, Cornell University, Ithaca, NY. 156 pp.

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Taxa Group: Bird
Species Group: Osprey

Threats:

Habitat loss/alteration, human activity/disturbance, changes in the fish prey base, contaminant effects, and mortality.

Osprey habitat is estuaries/lakes and are often associated with salt marshes. Loss of marsh habitat and degradation of estuaries and their baitfish has happened over the last 50 years.

Menhaden and winter flounder are arguably the most important food fish for NY coastal nesting ospreys. Both stocks have declined precipitously over the past decade or so.

Trends:

The osprey has made a good recovery since the DDT induced decline caused by eggshell thinning back in the 1950's and 1960's. There has been enough of an improvement to see its status in New York State change from endangered to threatened to a species of special concern. However, there still remain areas of real concern, even on Long Island, its stronghold in the state. Some island sub-populations have shown declines in recent years (e.g. Gardiner's Island), and there is speculation that changes in the fisheries and the increasing cormorant population may be playing a role. The other major population, in the Adirondacks, appears to be holding steady with some apparently weather-related fluctuations in young production.

SEQR - No Action Alternative:

Without continued protection and management this species will suffer. Many of the nests are on artificial platforms that need periodic replacement.

Species in the Group and their Management Status						
Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Osprey (<i>Pandion haliaetus</i>)			S4B	G5	P SC	Migratory

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability

Species Distribution - Watershed Basin

Species	Historical	Current	Stability
Osprey (<i>Pandion haliaetus</i>)	Allegheny	Allegheny	Increasing
	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Stable
	Lake Champlain	Lake Champlain	Stable
	Lake Erie	Lower Hudson - Long Island Bays	Stable
	Lower Hudson - Long Island Bays	NE Lake Ontario - St. Lawrence	Increasing
	NE Lake Ontario - St. Lawrence	SE Lake Ontario	Increasing
	Upper Hudson	Upper Hudson	Stable

Species Distribution - Ecoregion

Species	Historical	Current	Stability
Osprey (<i>Pandion haliaetus</i>)	Great Lakes	Great Lakes	Increasing
	Lower New England Piedmont	High Allegheny Plateau	Increasing
	North Atlantic Coast	Lower New England Piedmont	Stable
	Northern Appalachian/Boreal Forest	North Atlantic Coast	Stable
	St. Lawrence-Lake Champlain Valley	Northern Appalachian/Boreal Forest	Stable
		St. Lawrence-Lake Champlain Valley	Increasing

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Osprey (<i>Pandion haliaetus</i>)	Breeding	Estuarine	unknown	unknown
	Breeding	Lacustrine	unknown	unknown
	Breeding	Marine	unknown	unknown
	Breeding	Palustrine	unknown	unknown
	Breeding	Riverine	unknown	unknown
	Breeding	Terrestrial	barrens/woodlands	unknown
	Breeding	Terrestrial	open upland	unknown

Goal and Objectives for Osprey

Goal: To ensure the perpetuation of the osprey in suitable habitat throughout New York State.

Objective 1 : Restore salt marsh habitat.

Measure: *Restore sustainable populations of prey base, particularly menhaden and winter flounder.*

Objective 2 : Establish at least 815 osprey territorial pairs as follows: 500 pairs in the North Atlantic Coast ecoregion, 100 in the Northern Appalachian-Boreal Forest ecoregion, 80 in the St. Lawrence/Champlain Valley ecoregion, 50 each (cont. in objective below)

Measure: *Osprey nests are periodically identified, monitored, managed, productivity determined, and mapped as determined to be necessary.*

Objective 3 : Ensure definitive protection for a minimum of half of the territorial pairs listed above in each region, e.g. at least 250 in the North Atlantic Coast ecoregion, 50 in the Northern Appalachian-Boreal Forest ecoregion, etc.

Measure: *The minimum number of osprey territories in each ecoregion will be protected in perpetuity.*

Objective 4 : Protect extant salt marsh.

Measure: *Acreage of Spartina dominated salt marsh.*

Objective 5 : in the Great Lakes and High Allegheny Plateau ecoregions, and 15 in the Lower New England/Northern Piedmont ecoregion, and 20 in the Western Allegheny Plateau.

Measure:

Recommended Actions

Development rights acquisition:

- * Pursue conservation easements or outright purchase of essential osprey habitats.

Easement acquisition:

- * Pursue conservation easements or outright purchase of essential osprey habitats.

Educational signs:

- * Develop signs/displays and post where appropriate in essential habitat areas to inform the public of the need to protect the species and limit disturbance.

Recommended Actions

Fact sheet:

- * Develop materials and post where appropriate in essential habitat areas to inform the public of the need to protect the species and limit disturbance.

Habitat management:

- * Review and comment on any plans to ensure that any proposed actions would not be detrimental to essential osprey habitat or its use. Osprey nest platforms should be maintained and new ones placed when appropriate.
Encourage restoration and protection of Long Island salt marsh habitat through coordination with local NGO's and existing management plans.

Habitat monitoring:

- * Review and comment on any plans to ensure that any proposed actions would not be detrimental to essential osprey habitat.

Habitat research:

- * Conduct studies into habitat quality involving changes in fisheries populations, possible impact of increasing cormorant populations, etc. Support marine fishery investigations/research into critical forage species in the coastal region, i.e. winter flounder and menhaden.

Life history research:

- * Record notable new aspects of the species' ecology, especially pertaining to any local declines.

Other acquisition:

- * Pursue conservation easements or purchase of essential osprey habitat.

Other action:

- * Ensure that information on all new osprey nests are submitted to the Natural Heritage Program as appropriate.

Other management plan:

- * Prepare individual management plans as necessary.

Population monitoring:

- * Annually or periodically monitor the population (or certain regions of the population) to maintain a feel for the number of territorial pairs and reproductive outcome.

Private fee acquisition:

- * Pursue conservation easements or purchase of essential habitat.

Recommended Actions

State fee acquisition:

- * Pursue conservation easements or purchase of essential habitat.

State land unit management plan:

- * Ensure needs of ospreys are incorporated into all UMPs where suitable habitat may exist.

Statewide baseline survey:

- * Periodically monitor the population and its reproductive outcome.

References

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- Poole, A.F. 1989. Ospreys a natural and unnatural history. Cambridge Univ. Press, Cambridge.
- Bull, J. 1998. Bull's Birds of New York State. Emanuel Levine, editor. Cornell Univ. Press, Ithaca, NY.
- Andrle, R. F., and J. R. Carroll, eds. 1988. The atlas of breeding birds in New York State. Cornell Univ. Press, Ithaca, NY.
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Taxa Group: Bird

Species Group: Peregrine Falcon

Threats:

Habitat disturbance/loss, human activity/disturbance, contaminant effects, limitations in nest sites and food supply, lack of legal protection of habitat, collisions and shooting.

Trends:

The peregrine falcon has made a good comeback in New York State and elsewhere since the nationwide restoration program began in the mid- 70's. While the species had become extirpated as a breeder in NY by the early 1960's, we now have close to 50 pairs. Many of those pairs depend on intensive management to insure their success, due to their location on bridges and buildings. Necessary maintenance (e.g. painting, sandblasting, etc.) and other work at these sites requires careful planning so as not to impede the production of young. Without the cooperation obtained annually from bridge authorities and building owners, many of these sites would fail. Nest boxes placed at many of the urban sites to increase productivity require periodic maintenance/replacement. In the Adirondacks, cliff closures are required near some nest sites to protect the birds from undue disturbance during critical time periods. Recreational cliff climbing has increased in popularity. Today's peregrine population needs help from wildlife managers and others if it is to continue to prosper.

SEQR - No Action Alternative:

The population would likely decline if no action is taken. Millions of dollars have been spent over many years to restore this species to NY and the rest of the eastern US, where it was totally extirpated as a breeding bird by the early 1960's. All of this work could be in jeopardy without continued protection, management and research.

Species in the Group and their Management Status						
Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Peregrine falcon (<i>Falco peregrinus</i>)			S3B	G4	E	Resident

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability

Species Distribution - Watershed Basin

Species	Historical	Current	Stability
Peregrine falcon (Falco peregrinus)	Delaware	Delaware	Increasing
	Lake Champlain	Lake Champlain	Increasing
	Lower Hudson - Long Island Bays	Lake Erie	Stable
	NE Lake Ontario - St. Lawrence	Lower Hudson - Long Island Bays	Increasing
	SE Lake Ontario	NE Lake Ontario - St. Lawrence	Increasing
	Susquehanna	SE Lake Ontario	Increasing
	Upper Hudson	Susquehanna	Stable
		SW Lake Ontario	Stable
	Upper Hudson	Increasing	

Species Distribution - Ecoregion

Species	Historical	Current	Stability
Peregrine falcon (Falco peregrinus)	Great Lakes	Great Lakes	Increasing
	High Allegheny Plateau	High Allegheny Plateau	Stable
	Lower New England Piedmont	Lower New England Piedmont	Increasing
	North Atlantic Coast	North Atlantic Coast	Increasing
	Northern Appalachian/Boreal Forest	Northern Appalachian/Boreal Forest	Increasing
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Increasing

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Peregrine falcon (Falco peregrinus)	Breeding	Terrestrial	alpine/mountain	cliffs & open talus
	Breeding	Terrestrial	open upland	cultural

Goal and Objectives for Peregrine Falcon

Goal: To ensure the future existence of the peregrine falcon throughout New York State.

Objective 1 : Champlain Valley and High Allegheny Plateau regions, and at least 15 in the Great Lakes region.

Measure:

Objective 2 : Ensure definitive protection for a minimum of half of the territorial pairs listed above in each region, e.g. at least 25 each in the Northern Appalachian-Boreal Forest and the Lower New England-Piedmont region, etc.

Measure: *The minimum number of peregrine falcon territories in each ecoregion will be protected in perpetuity.*

Objective 3 : Establish 180 territorial pairs as follows: at least 50 each in the Northern Appalachian-Boreal Forest and the Lower New England-Northern Piedmont regions, at least 25 in the North Atlantic Coast region, at least 20 each in the St. Lawrence-(see below)

Measure: *Peregrine falcon nests are annually identified, monitored, managed, productivity determined, and mapped.*

Recommended Actions

Development rights acquisition:

- * Pursue conservation easements or outright purchase of essential peregrine falcon habitats.

Easement acquisition:

- * Pursue conservation easements or outright purchase of essential peregrine falcon habitats.

Educational signs:

- * Develop signs/displays and post where appropriate in essential habitat areas to inform the public of the need to protect the species and limit disturbance.

Fact sheet:

- * Develop materials and post where appropriate in essential habitat areas to inform the public of the need to protect the species and limit disturbance.

Habitat management:

- * Review and comment on any plans to ensure that any proposed actions would not be detrimental to essential peregrine falcon habitat or its use. Place nest boxes on bridges and buildings where appropriate, and maintain and replace as necessary. Promote the construction of nesting towers where appropriate.

Recommended Actions

Habitat monitoring:

- * Review and comment on any plans to ensure that any proposed actions would not be detrimental to essential peregrine falcon habitat or its use.

Habitat research:

- * Conduct radio-telemetry studies as well as field observations to determine essential peregrine falcon habitat.

Life history research:

- * Through population monitoring and banding, determine site-fidelity, turnover, migration and wintering movements, home-ranges, mortality, longevity, etc. of peregrine falcons.

Other acquisition:

- * Pursue conservation easements or purchase of essential peregrine falcon habitat.

Other action:

- * Ensure that all new peregrine falcon information is submitted to the Natural Heritage /BCD database.

Other management plan:

- * Prepare individual management plans as necessary.

Population monitoring:

- * Annually monitor and determine the number of territorial peregrine falcons and their reproductive outcome. Collect eggs and carcasses for analysis. Rehabilitate injured birds for release when possible.
- * Gather wintering information when possible.

Private fee acquisition:

- * Pursue conservation easements or purchase of essential peregrine falcon habitat.

State fee acquisition:

- * Pursue conservation easements or purchase of essential peregrine falcon habitat.

State land unit management plan:

- * Ensure needs of peregrine falcons are incorporated into all UMPs where suitable habitat may occur.

Statewide baseline survey:

- * Annually monitor and determine the number of territorial peregrine falcons and their reproductive outcome.

Recommended Actions

Web page:

- * Keep the webpage current .

References

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Taxa Group: Bird

Species Group: Salt marsh breeding birds

Threats:

Habitat loss due to erosion, development, and sea level rise. Habitat loss is also occurring by fragmentation by ditching and conversion of Spartina marsh into other vegetative types. Habitat conversion by the invasive Phragmites reed is occurring on many areas of high marsh and along the upland borders and edges of many of the interior mosquito control ditches. Mosquito control efforts can negatively impact the Spartina marsh habitat, especially when intact stands of Spartina are converted to open water pools for mosquito control. Some species are also threatened by increased human disturbance of nesting activities. For the Black Rail, Laughing Gull, Forster's Tern, and Gull-billed Tern the breeding distributions within New York State are extremely limited and could easily be threatened by a very local event such as an oil spill, severe storm, plane crash, boat accident, and the associated recovery efforts. Laughing Gulls in particular are at risk since the main breeding colony is located just off the end of the runway at JFK airport and experience harassment and control activities associated with reducing bird/aircraft strikes.

Trends:

Population trends vary among species of salt-marsh nesting birds, but are poorly known for most species. Most are stable or possibly increasing with the exception of the two species of sparrows which are likely declining.

Due to their secretive nature and ability to elude detection, Black and Clapper rail population trends are difficult to assess.

Seaside Sparrow and Saltmarsh Sharp-tailed Sparrow are declining as their habitat is lost.

Laughing Gull population is stable recently after declining slightly due to control efforts to reduce air strike hazards at JFK airport.

Willet numbers seem to be increasing as the species expands into the region after first starting to breed on Long Island in 1966.

Gull-billed Tern numbers are stable and low. This species is at the extreme edge of its range and has shown no signs of significantly increasing its population on Long Island.

Forster's Tern numbers have fluctuated greatly throughout the years, after first breeding in 1989, but seem to have shown marked increases in recent years. Some of this may be actual variation in population size, but much of it may be due to the difficulty in separating this species from the more numerous Common Tern with which it often shares colonies.

SEQR - No Action Alternative:

If no action is taken to prevent the continued loss and conversion of salt marsh habitat it is likely that the populations of several of these species will continue to decline, possibly to the point of being extirpated. Without restoration of high marsh areas to remove Phragmites invasions and allow the Spartina marsh to migrate inland with sea level rise, the increased erosion and habitat fragmentation will slowly and surely eliminate this habitat type from the state. Many areas of salt marsh habitat will be prevented from migrating inland as the sea level rises by the existing bulkheading and fill deposition along the upland borders of the marsh.

Some species, like Laughing Gull, Forster's Tern, Gull-billed Tern, and Willet may be able to adapt to the remaining available habitat, or shift to other habitat types such as beaches, or man-made structures and rooftops. Others like the rails and sparrows seem to need habitat block size to exceed a certain threshold to establish and maintain a breeding population. Once the habitat size drops below the necessary threshold, the species often disappears from that block.

Species in the Group and their Management Status						
Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Willet (<i>Catoptrophorus semipalmatus</i>)			S1	G5	P	Migratory
Forster's tern (<i>Sterna forsteri</i>)			S1	G5	P	Migratory
Gull-billed tern (<i>Sterna nilotica</i>)			S1	G5	P	Migratory
Laughing gull (<i>Larus atricilla</i>)			S1	G5	P	Migratory
Seaside sparrow (<i>Ammodramus maritimus</i>)			S2S3	G4	P SC	Migratory
Saltmarsh sharp-tailed sparrow (<i>Ammodramus cau</i>)		X	S3	G4	P	Migratory
Black rail (<i>Laterallus jamaicensis</i>)			S1B	G4	E	Resident

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Black rail (<i>Laterallus jamaicensis</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown
Saltmarsh sharp-tailed sparrow (<i>Ammodramus caudacut</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
Seaside sparrow (<i>Ammodramus maritimus</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
Laughing gull (<i>Larus atricilla</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
Gull-billed tern (<i>Sterna nilotica</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Stable
Forster's tern (<i>Sterna forsteri</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Increasing
Willet (<i>Catoptrophorus semipalmatus</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Increasing

Species Distribution - Ecoregion			
Species	Historical	Current	Stability

Species Distribution - Ecoregion

Species	Historical	Current	Stability
Black rail (<i>Laterallus jamaicensis</i>)	North Atlantic Coast	North Atlantic Coast	Unknown
Saltmarsh sharp-tailed sparrow (<i>Ammodramus caudacut</i>)	North Atlantic Coast	North Atlantic Coast	Decreasing
	Lower New England Piedmont	Lower New England Piedmont	Unknown
Seaside sparrow (<i>Ammodramus maritimus</i>)	North Atlantic Coast	North Atlantic Coast	Decreasing
	Lower New England Piedmont		
Laughing gull (<i>Larus atricilla</i>)	North Atlantic Coast	North Atlantic Coast	Decreasing
Gull-billed tern (<i>Sterna nilotica</i>)	North Atlantic Coast	North Atlantic Coast	Unknown
Forster's tern (<i>Sterna forsteri</i>)	North Atlantic Coast	North Atlantic Coast	Increasing
Willet (<i>Catoptrophorus semipalmatus</i>)	North Atlantic Coast	North Atlantic Coast	Increasing

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Black rail (<i>Laterallus jamaicensis</i>)	all	Estuarine	intertidal	emergent marsh
	all	Marine	intertidal	emergent marsh
	Breeding	Estuarine	intertidal	emergent marsh
	Feeding	Estuarine	intertidal	emergent marsh
	Feeding	Estuarine	intertidal	mudflats
	Hibernating/Overwintering	Estuarine	intertidal	emergent marsh
	Nursery/Juvenile	Estuarine	intertidal	emergent marsh
	Roosting/Congregating	Estuarine	intertidal	emergent marsh
Saltmarsh sharp-tailed sparrow (<i>Ammodramus caudacutus</i>)	all	Estuarine	intertidal	emergent marsh
	all	Marine	intertidal	emergent marsh
	Breeding	Estuarine	intertidal	emergent marsh
	Breeding	Marine	intertidal	emergent marsh
	Feeding	Estuarine	intertidal	emergent marsh

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Saltmarsh sharp-tailed sparrow (Ammodramus caudacutus)				
	Feeding	Marine	intertidal	emergent marsh
	Hibernating/Overwintering	Estuarine	intertidal	emergent marsh
	Hibernating/Overwintering	Marine	intertidal	emergent marsh
	Roosting/Congregating	Estuarine	intertidal	emergent marsh
	Roosting/Congregating	Marine	intertidal	emergent marsh
Seaside sparrow (Ammodramus maritimus)				
	all	Estuarine	intertidal	emergent marsh
	all	Marine	intertidal	emergent marsh
	Breeding	Estuarine	intertidal	emergent marsh
	Breeding	Marine	intertidal	emergent marsh
Laughing gull (Larus atricilla)				
	Breeding	Estuarine	intertidal	emergent marsh
	Feeding	Estuarine	deep subtidal	pelagic
	Feeding	Estuarine	intertidal	emergent marsh
	Feeding	Estuarine	intertidal	shoreline
	Feeding	Estuarine	shallow subtidal	pelagic
	Feeding	Marine	deep subtidal	pelagic
	Feeding	Marine	intertidal	emergent marsh
	Feeding	Marine	intertidal	shoreline
	Feeding	Marine	shallow subtidal	pelagic
	Feeding	Terrestrial	coastal	beach/shoreline
	Feeding	Terrestrial	coastal	cultural
Gull-billed tern (Sterna nilotica)				
	Breeding	Estuarine	cultural	shoreline
	Breeding	Estuarine	intertidal	emergent marsh
	Breeding	Terrestrial	coastal	beach/shoreline
	Feeding	Estuarine	deep subtidal	pelagic
	Feeding	Estuarine	shallow subtidal	pelagic
	Feeding	Marine	deep subtidal	pelagic
	Feeding	Marine	shallow subtidal	pelagic
Forster's tern (Sterna forsteri)				
	Breeding	Estuarine	cultural	shoreline
	Breeding	Estuarine	intertidal	emergent marsh
	Breeding	Terrestrial	coastal	beach/shoreline
	Feeding	Estuarine	deep subtidal	pelagic
	Feeding	Estuarine	shallow subtidal	pelagic
	Feeding	Marine	deep subtidal	pelagic
	Feeding	Marine	shallow subtidal	pelagic
Willet (Catoptrophorus semipalmatus)				

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Willet (<i>Catoptrophorus semipalmatus</i>)	Breeding	Estuarine	cultural	shoreline
	Breeding	Estuarine	intertidal	emergent marsh
	Breeding	Estuarine	intertidal	sand/gravel
	Breeding	Estuarine	intertidal	shoreline
	Breeding	Marine	intertidal	emergent marsh
	Breeding	Marine	intertidal	sand/gravel
	Breeding	Marine	intertidal	shoreline
	Breeding	Terrestrial	coastal	beach/shoreline
	Breeding	Terrestrial	coastal	dunes
	Breeding	Terrestrial	coastal	sand/gravel bar
	Feeding	Estuarine	intertidal	emergent marsh
	Feeding	Estuarine	intertidal	mudflats
	Feeding	Estuarine	intertidal	sand/gravel
	Feeding	Estuarine	intertidal	shoreline
	Feeding	Estuarine	shallow subtidal	mud
	Feeding	Estuarine	shallow subtidal	sand/gravel
	Feeding	Marine	intertidal	emergent marsh
	Feeding	Marine	intertidal	emergent marsh
	Feeding	Marine	intertidal	mudflats
	Feeding	Marine	intertidal	sand/gravel
	Feeding	Marine	intertidal	shoreline
	Feeding	Marine	shallow subtidal	mud
	Feeding	Marine	shallow subtidal	sand/gravel
	Feeding	Terrestrial	coastal	beach/shoreline
	Feeding	Terrestrial	coastal	dunes
	Feeding	Terrestrial	coastal	sand/gravel bar

Goal and Objectives for Salt marsh breeding birds

Goal: Stabilize or increase breeding populations relative to current levels

Objective 1 : Determine basic population demographics.

Measure: *adult/juvenile mortality, recruitment, movement.*

Objective 2 : Determine current population levels and trends

Measure: *State, Federal and NGO surveys and censuses with standardized protocol*

Objective 3 : Develop a systematic, long-term and comprehensive monitoring program

Measure: *Distribution, trends*

Objective 4 : Identify focus areas for management and restoration activities

Measure: *Location, present habitat characteristics, Management/Restoration actions needed.*

Objective 5 : Identify important breeding and foraging areas

Measure: *Location, Habitat characteristics, threats*

Objective 6 : Protect extant salt marsh.

Measure: *Acreage and distribution of marsh.*

Objective 7 : Restore salt marsh habitat

Measure: *Representation of ecological communities, such as high and low marsh, tidal creeks, pannes, and mudflats, and indicator species.*

Recommended Actions

Habitat management:

- * Develop coordinated and specific habitat management and restoration projects for identified focus areas.
- * Integrate bird conservation interests in agency planning, management, research, restoration and permitting actions, within the context of agency missions.
- * Protect extant salt marsh habitat through:
 1. Developing and implementing a salt marsh management and restoration plan.
 2. Mapping extant salt marshes in the Lower Hudson/Long Island Bays Watershed.
 3. Implementing a "no net increase" in shoreline armoring for all estuaries, bays and harbors in the watershed.
 4. Protecting land and requiring upland buffers associated with salt marsh habitat.
 5. Establishing vegetated buffers landward of salt marshes.
 6. Protecting salt marsh platforms of shoals and flats created by temporary barrier island breaches and overwash fans.
 7. Modifying tidal wetlands laws, regulations and policies to address seas level rise.

Habitat monitoring:

- * Regularly monitor status and trends of salt marsh habitat through aerial surveys and site-based monitoring.

Recommended Actions

Habitat research:

- * Identify strategies and develop a plan for slowing the loss of emergent tidal salt marsh to erosion, fragmentation, and invasive species.

Habitat restoration:

- * Alternative methods of mosquito control should be investigated to allow the modification of mosquito ditching to restore native ecological habitats, by allowing vegetated tidal wetlands to take precedence over mosquito control efforts in some areas. Mosquito ditches should be removed/closed when possible.
- * Financial incentives for landowners to remove bulkheads and plant native vegetation in an upland buffer area to protect salt marshes.
- * Work with State, Federal, Local, and NGOs to identify tidal wetlands and fund their restoration to intact emergent salt marsh. Develop coordinated and specific habitat restoration projects for identified focus areas.
- * Develop NYS guidelines for salt marsh restoration. The guidelines should include information on the following:
 1. Phragmites control.
 2. Reconnecting disjunct or fragmented salt marshes.
 3. Reducing nutrient loading into salt marshes from road run-off, septic systems, fertilizers, etc.
 4. Naturalizing and softening the shoreline.
 5. Natural and "soft" alternatives to bulkheads.

Invasive species control:

- * Develop plan for addressing habitat loss to invasive Phragmites reed.

Life history research:

- * Identify critical habitat components for supporting each species.

Population monitoring:

- * Initiate statewide, comprehensive salt marsh-breeding bird survey for Seaside Sparrow, Salt marsh Sharp-tailed Sparrow, Black Rail, and Clapper Rail. Resurvey active sites annually, and all habitat sites every 5 years. Continue annual tern surveys and gull surveys every three years as part of Long Island Colonial Waterbird Survey.

Statewide baseline survey:

- * Initiate statewide, comprehensive salt marsh-breeding bird survey for Seaside Sparrow, Salt marsh Sharp-tailed Sparrow, Black Rail, and Clapper Rail.

Statewide management plan:

- * Develop coordinated, statewide management plan that takes into consideration differences in habitat needs, species distribution, life histories, and human impacts.

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Taxa Group: Bird
Species Group: Transient shorebirds

Threats:

Population status and conservation needs of transient shorebirds (species that pass through, but don't breed in NY) are poorly known. Basic natural history information is lacking for many of these species, and there are no reliable population estimates or indices for most. In addition to this lack of information, these species face a variety of threats during migration and winter periods, especially outside of New York.

Potential threats include: direct loss, degradation and/or human disturbance of important foraging areas (for migration and winter) throughout the western hemisphere; possible direct losses of birds to hunting in some nations where protective legislation and/or enforcement are lacking; and effects of environmental contaminants such as oil spills and pesticide use.

Specific activities that may affect shorebird foraging areas include beach nourishment, sand mining, water pollution, shoreline armoring/use of bulkheads, off-road vehicle use, motorboat use in shallow coastal waters, and other recreational activities.

Trends:

More reliable data are needed to quantify population trends, but the U.S. Shorebird Conservation Plan (USSCP) identified nearly all of these species as declining or severely declining in population size, or have a low population size (e.g., purple sandpiper - 15,000 birds range-wide) and trend unknown.

SEQR - No Action Alternative:

Without the recommended actions, many of these species will remain at risk of short or long-term population declines in New York and throughout their range.

Species in the Group and their Management Status						
Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Dunlin (<i>Calidris alpina</i>)					P	Migratory
Semipalmated sandpiper (<i>Calidris pusilla</i>)					P	Migratory
Sanderling (<i>Calidris alba</i>)					P	Migratory
Ruddy turnstone (<i>Arenaria interpres</i>)					P	Migratory
Greater yellowlegs (<i>Tringa melanoleuca</i>)					P	Migratory
American golden-plover (<i>Pluvialis dominica</i>)					P	Migratory
Black-bellied plover (<i>Pluvialis squatarola</i>)					P	Migratory
Buff-breasted sandpiper (<i>Tryngites subruficollis</i>)			SNRN	G4	P	Migratory
Short-billed dowitcher (<i>Limnodromus griseus</i>)			SNRN	G5	P	Migratory
Red knot (<i>Calidris canutus</i>)		X	SNRN	G5	P	Migratory

Purple sandpiper (<i>Calidris maritima</i>)	SNRN	G5	P	Migratory
Marbled godwit (<i>Limosa fedoa</i>)	SNRN	G5	P	Migratory
Hudsonian godwit (<i>Limosa haemastica</i>)	SNRN	G4	P	Migratory
Whimbrel (<i>Numenius phaeopus</i>)	SNRN	G5	P	Migratory

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Whimbrel (<i>Numenius phaeopus</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown
	SE Lake Ontario	SE Lake Ontario	Unknown
	SW Lake Ontario	SW Lake Ontario	Unknown
Hudsonian godwit (<i>Limosa haemastica</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Stable
	SE Lake Ontario	SE Lake Ontario	Unknown
	SW Lake Ontario	SW Lake Ontario	Unknown
Marbled godwit (<i>Limosa fedoa</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown
Purple sandpiper (<i>Calidris maritima</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown
	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Unknown
Red knot (<i>Calidris canutus</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Decreasing
Short-billed dowitcher (<i>Limnodromus griseus</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown
	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Unknown
Buff-breasted sandpiper (<i>Tryngites subruficollis</i>)	SE Lake Ontario	Lake Erie	Unknown
	SW Lake Ontario	SW Lake Ontario	Unknown
	Upper Hudson	SE Lake Ontario	Unknown
	Lake Erie	Upper Hudson	Unknown
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Black-bellied plover (Pluvialis squatarola)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown
	SE Lake Ontario	SE Lake Ontario	Unknown
	SW Lake Ontario	SW Lake Ontario	Unknown
American golden-plover (Pluvialis dominica)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown
	SW Lake Ontario	SW Lake Ontario	Unknown
	Lake Erie	Lake Erie	Unknown
Greater yellowlegs (Tringa melanoleuca)	Lower Hudson - Long Island Bays	Lake Erie	Unknown
	SE Lake Ontario	SE Lake Ontario	Unknown
	SW Lake Ontario	SW Lake Ontario	Unknown
	Lake Erie	Lake Erie	Unknown
Ruddy turnstone (Arenaria interpres)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown
	SE Lake Ontario	SE Lake Ontario	Unknown
	SW Lake Ontario	SW Lake Ontario	Unknown
	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Unknown
Sanderling (Calidris alba)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown
	SE Lake Ontario	SE Lake Ontario	Unknown
	SW Lake Ontario	SW Lake Ontario	Unknown
	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Unknown
Semipalmated sandpiper (Calidris pusilla)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown
	SE Lake Ontario	SE Lake Ontario	Unknown
	SW Lake Ontario	SW Lake Ontario	Unknown
	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Unknown

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Dunlin (<i>Calidris alpina</i>)	SE Lake Ontario	SW Lake Ontario	Unknown
	Lower Hudson - Long Island Bays	SE Lake Ontario	Unknown
	SW Lake Ontario	Lower Hudson - Long Island Bays	Unknown
	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Unknown
	Atlantic Ocean - NY Bight		

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Whimbrel (<i>Numenius phaeopus</i>)	Great Lakes	Great Lakes	Unknown
	North Atlantic Coast	North Atlantic Coast	Unknown
Hudsonian godwit (<i>Limosa haemastica</i>)	Great Lakes	Great Lakes	Unknown
	North Atlantic Coast	North Atlantic Coast	Unknown
Marbled godwit (<i>Limosa fedoa</i>)	North Atlantic Coast	North Atlantic Coast	Unknown
Purple sandpiper (<i>Calidris maritima</i>)	North Atlantic Coast	North Atlantic Coast	Unknown
Red knot (<i>Calidris canutus</i>)	North Atlantic Coast	North Atlantic Coast	Decreasing
Short-billed dowitcher (<i>Limnodromus griseus</i>)	North Atlantic Coast	North Atlantic Coast	Decreasing
Buff-breasted sandpiper (<i>Tryngites subruficollis</i>)	Lower New England Piedmont	Great Lakes	Unknown
	North Atlantic Coast	North Atlantic Coast	Unknown
	Great Lakes	Lower New England Piedmont	Unknown
Black-bellied plover (<i>Pluvialis squatarola</i>)	North Atlantic Coast	North Atlantic Coast	Unknown
	Great Lakes	Great Lakes	Unknown

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
American golden-plover (<i>Pluvialis dominica</i>)	North Atlantic Coast	North Atlantic Coast	Unknown
	Great Lakes	Great Lakes	Unknown
Greater yellowlegs (<i>Tringa melanoleuca</i>)	Great Lakes	Great Lakes	Unknown
	North Atlantic Coast	North Atlantic Coast	Unknown
Ruddy turnstone (<i>Arenaria interpres</i>)	North Atlantic Coast	North Atlantic Coast	Unknown
	Great Lakes	Great Lakes	Unknown
Sanderling (<i>Calidris alba</i>)	North Atlantic Coast	North Atlantic Coast	Unknown
	Great Lakes	Great Lakes	Unknown
Semipalmated sandpiper (<i>Calidris pusilla</i>)	North Atlantic Coast	North Atlantic Coast	Unknown
	Great Lakes	Great Lakes	Unknown
Dunlin (<i>Calidris alpina</i>)	North Atlantic Coast	North Atlantic Coast	Unknown
	Great Lakes	Great Lakes	Unknown

Critical Habitats for Species in the Group				
Species	Life Stage or Use	System	SubSystem	Habitat
Whimbrel (<i>Numenius phaeopus</i>)	Feeding	Estuarine	intertidal	shoreline
	Feeding	Terrestrial	coastal	beach/shoreline
Hudsonian godwit (<i>Limosa haemastica</i>)	Feeding	Estuarine	intertidal	mudflats
	Feeding	Palustrine	mineral soil wetland	other
Marbled godwit (<i>Limosa fedoa</i>)	Feeding	Estuarine	intertidal	mudflats
Purple sandpiper (<i>Calidris maritima</i>)	Feeding	Estuarine	intertidal	rocky

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Purple sandpiper (<i>Calidris maritima</i>)	Feeding	Marine	intertidal	rocky
Red knot (<i>Calidris canutus</i>)	Feeding	Estuarine	intertidal	emergent marsh
	Feeding	Estuarine	intertidal	mudflats
	Feeding	Marine	intertidal	sand/gravel
Short-billed dowitcher (<i>Limnodromus griseus</i>)	Feeding	Estuarine	intertidal	shoreline
	Feeding	Marine	intertidal	shoreline
Buff-breasted sandpiper (<i>Tryngites subruficollis</i>)	Feeding	Estuarine	intertidal	mudflats
	Feeding	Terrestrial	open upland	cultural
	Feeding	Terrestrial	open upland	grasslands
Black-bellied plover (<i>Pluvialis squatarola</i>)	Feeding	Estuarine	intertidal	shoreline
	Feeding	Terrestrial	coastal	beach/shoreline
American golden-plover (<i>Pluvialis dominica</i>)	Feeding	Terrestrial	open upland	cultural
	Feeding	Terrestrial	open upland	grasslands
Greater yellowlegs (<i>Tringa melanoleuca</i>)	Feeding	Palustrine	mineral soil wetland	emergent marsh
	Feeding	Palustrine	mineral soil wetland	pond/lake shore
	Feeding	Terrestrial	coastal	beach/shoreline
Ruddy turnstone (<i>Arenaria interpres</i>)	Feeding	Estuarine	intertidal	shoreline
	Feeding	Marine	intertidal	shoreline
	Feeding	Terrestrial	coastal	beach/shoreline
Sanderling (<i>Calidris alba</i>)	Feeding	Estuarine	intertidal	shoreline
	Feeding	Marine	intertidal	shoreline
	Feeding	Terrestrial	coastal	beach/shoreline
Semipalmated sandpiper (<i>Calidris pusilla</i>)	Feeding	Estuarine	intertidal	mudflats
	Feeding	Marine	intertidal	shoreline
	Feeding	Palustrine	mineral soil wetland	pond/lake shore
Dunlin (<i>Calidris alpina</i>)				

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Dunlin (Calidris alpina)	Feeding	Estuarine	intertidal	mudflats
	Feeding	Estuarine	intertidal	shoreline
	Feeding	Marine	intertidal	shoreline
	Feeding	Palustrine	mineral soil wetland	pond/lake shore

Goal and Objectives for Transient shorebirds

Goal: To maintain or enhance transient (non-breeding) shorebird populations that regularly occur in New York.

Objective 1 : Develop a conservation plan for transient (non-breeding) shorebirds that regularly occur in New York, to include objectives and actions that we can assist with, both inside and outside of New York State.

Measure: *A written plan is developed which identifies objectives and actions that New York can assist with to sustain shorebird resources that regularly occur in New York State.*

Objective 2 : Identify and delineate important foraging areas and resources used by transient shorebirds in New York.

Measure: *Important areas are delineated and mapped, and critical habitat features (e.g., food items, substrates) and timing of use are described.*

Objective 3 : Initiate annual shorebird monitoring programs, using established protocols, at 5-10 locations in New York State.

Measure: *Number of monitoring sites with observers and procedures identified.*

Objective 4 : Protect important foraging areas from permanent loss, degradation or adverse human disturbance, especially during critical periods, to ensure that essential energy needs are met to sustain high productivity and survival of these birds.

Measure: *Important foraging areas remain available and productive for use by significant numbers of shorebirds during critical migration periods.*

Objective 5 : Support or participate in shorebird conservation efforts throughout the Western Hemisphere that would benefit populations that regularly occur in New York.

Measure: *New York is an active participant in, or supporter of, regional and international shorebird conservation initiatives.*

Recommended Actions

Fact sheet:

- * Develop educational materials about conservation needs of shorebirds in New York, and promote habitat protection measures.

Habitat management:

- * As important foraging areas become known, identify potential threats and protect those habitats (i.e., beaches, tidal flats, shoals, etc.) from permanent alteration, degradation or adverse human disturbances. Management may include acquisition, easements, establishing seasonal use restrictions, and posting or fencing, etc. as is currently done for beach-nesting birds.

Habitat research:

- * Conduct field studies to document ecology of transient shorebirds on Long Island, including important food items, habitat use (e.g., importance of tidal flats) and time/activity budgets.
- * Compile data and input from birders to derive a map showing important shorebird foraging and resting areas in New York.

Other action:

- * Provide technical support, funding, or political support as needed, to further international shorebird conservation efforts.

Population monitoring:

- * Identify specific locations, procedures, and observers (volunteer or other) for conducting annual shorebird surveys at 5-10 locations in New York, and initiate surveys as soon as possible.

State land unit management plan:

- * On State-owned or other public lands, ensure that management plans consider shorebird needs and appropriately restrict site development and seasonal uses that may adversely affect critical shorebird foraging areas.

Statewide management plan:

- * Develop a conservation plan for transient (non-breeding) shorebirds that regularly occur in New York, to include objectives and actions that we can assist with both inside and out of New York State.

References

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- Shorebird Management Manual (Helmets, 1992)
- Bull's Birds of New York State (Levine, 1998)
- Migratory Shorebirds of New York State: a Preliminary Assessment of Occurrence Data (draft report by Schneider, 2003)
- Draft Shorebird Conservation Management Plan Outline - Proposal Notes (Gawalt, 2004)

Western Hemisphere Shorebird Reserve Network, Draft Strategic Plan: 2004-2008 (Duncan, 2004)

U.S. Shorebird Conservation Plan (Browne et al. 2001) - available at www.manomet.org

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Taxa Group: Bird
Species Group: Wintering waterbirds

Threats:

Collectively, population status and habitat requirements of migratory waterfowl and waterbirds that winter in New York are poorly understood. Basic natural history information is lacking for many of these species, and there are few reliable population estimates or indices for most. In addition to this lack of information, these species face a variety of threats during migration and winter periods in New York and elsewhere.

The greatest potential threats to this group as a whole include: loss of habitat to coastal and offshore developments or activities that may result in large scale alteration of bay or ocean substrates (e.g., dredging, sand mining, development of barrier islands, scouring of littoral areas by commercial shellfish harvesting, etc.); potential impacts of wind energy or offshore oil developments though loss of habitat or direct mortality from collisions with structures, spills, or intensive human disturbance; diseases such as Type E botulism (in the Great Lakes) and brown tide, which has devastated eelgrass beds on Long Island; entanglement in offshore fishing gear, exposure to oil spills or contaminants, and over harvest of hunted species. Species that use coastal marshes and tidal flats also face long-term loss of habitat due to rising sea levels.

Potentially larger threats to seabirds may be global warming and other large-scale environmental changes, especially those affecting ocean currents. These changes are likely to cause northward shifts in species' ranges and may result in elimination of low-lying colonies (outside of New York) and changes in oceanographic features that are exploited by marine birds for feeding.

Trends:

Several million individuals of more than 65 species of waterfowl, sea birds and other water birds occur in eastern U.S. waters during migration or winter. How many of these winter in New York is unknown. Although more reliable data are needed, analysis of existing survey and harvest data along with new surveys and studies conducted during the 1990s indicate population declines for 10 of the 15 North American sea duck species, including some that regularly occur in New York. Winter waterfowl counts in New York indicate no significant trend for most species since the 1970s, but annual counts fluctuate widely from year to year making detection of trends difficult. Most other wintering waterbirds are believed to be stable or increasing in the eastern U. S. (Nisbet 1995).

SEQR - No Action Alternative:

Without the above actions, many of the above species will remain at risk of excessive mortality or reduced productivity, leading to long-term population declines in New York and throughout their range.

Species in the Group and their Management Status						
Species	Federal Listing	NE Concern	State Rank	Global Rank	State Protection	Migratory Status
Red-necked phalarope (<i>Phalaropus lobatus</i>)					P	Migratory
Greater scaup (<i>Aythya marila</i>)			SNRN	G5	G	Migratory
Common eider (<i>Somateria mollissima</i>)					G	Migratory
Harlequin duck (<i>Histrionicus histrionicus</i>)		X			P	Migratory

Surf scoter (<i>Melanitta perspicillata</i>)			G	Migratory
White-winged scoter (<i>Melanitta fusca</i>)			G	Migratory
Black scoter (<i>Melanitta nigra</i>)			G	Migratory
Long-tailed duck (<i>Clangula hyemalis</i>)			G	Migratory
Atlantic brant (<i>Branta bernicla</i>)	SNRN	G5	G	Migratory
Horned grebe (<i>Podiceps auritus</i>)			P	Migratory
Razorbill (<i>Alca torda</i>)				Migratory
Northern pintail (<i>Anas acuta</i>)			U	Migratory
Lesser scaup (<i>Aythya affinis</i>)				Migratory
Cory's shearwater (<i>Calonectris diomedea</i>)				Migratory
Greater shearwater (<i>Puffinus gravis</i>)				Migratory
Little gull (<i>Larus minutus</i>)				Migratory
Bonaparte's gull (<i>Larus philadelphia</i>)				Migratory
Thayer's gull (<i>Larus thayeri</i>)				Migratory
Red-throated loon (<i>Gavia stellata</i>)			P	Migratory

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Atlantic brant (<i>Branta bernicla</i>)	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Stable
Greater scaup (<i>Aythya marila</i>)	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Decreasing
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Decreasing
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Decreasing
	SE Lake Ontario	SE Lake Ontario	Decreasing
	Lake Erie	Lake Erie	Increasing
Common eider (<i>Somateria mollissima</i>)	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Increasing
Harlequin duck (<i>Histrionicus histrionicus</i>)	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Stable
Surf scoter (<i>Melanitta perspicillata</i>)	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Unknown
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
White-winged scoter (Melanitta fusca)	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Unknown
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown
Black scoter (Melanitta nigra)	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Unknown
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown
Long-tailed duck (Clangula hyemalis)	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Unknown
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown
	NE Lake Ontario - St. Lawrence	Lower Hudson - Long Island Bays	Unknown
	SE Lake Ontario	SE Lake Ontario	Unknown
	SW Lake Ontario	SW Lake Ontario	Unknown
	Lake Erie	Lake Erie	Unknown
Red-throated loon (Gavia stellata)	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Unknown
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Unknown
	SE Lake Ontario	SE Lake Ontario	Unknown
	SW Lake Ontario	SW Lake Ontario	Unknown
	Lake Erie	Lake Erie	Unknown
Horned grebe (Podiceps auritus)	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Unknown
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown
	NE Lake Ontario - St. Lawrence	NE Lake Ontario - St. Lawrence	Unknown
	SE Lake Ontario	SE Lake Ontario	Unknown
	SW Lake Ontario	SW Lake Ontario	Unknown
	Lake Erie	Lake Erie	Unknown
Red-necked phalarope (Phalaropus lobatus)	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Unknown
	Lower Hudson - Long Island Bays	Lower Hudson - Long Island Bays	Unknown

Species Distribution - Watershed Basin			
Species	Historical	Current	Stability
Northern pintail (<i>Anas acuta</i>)	SE Lake Ontario	NE Lake Ontario - St. Lawrence	Unknown
	Lower Hudson - Long Island Bays	SW Lake Ontario	Unknown
	SW Lake Ontario	SE Lake Ontario	Unknown
	NE Lake Ontario - St. Lawrence	Lower Hudson - Long Island Bays	Unknown
Lesser scaup (<i>Aythya affinis</i>)	Lower Hudson - Long Island Bays	SE Lake Ontario	Stable
	SE Lake Ontario	SW Lake Ontario	Stable
	SW Lake Ontario	Lower Hudson - Long Island Bays	Stable
	Lake Erie	Lake Erie	Stable
Cory's shearwater (<i>Calonectris diomedea</i>)	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Unknown
Greater shearwater (<i>Puffinus gravis</i>)	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Unknown
Little gull (<i>Larus minutus</i>)	SW Lake Ontario	SW Lake Ontario	Unknown
	Lake Erie	Lake Erie	Unknown
Bonaparte's gull (<i>Larus philadelphia</i>)	SW Lake Ontario	Lake Erie	Unknown
	Lake Erie	SW Lake Ontario	Unknown
Thayer's gull (<i>Larus thayeri</i>)	SW Lake Ontario	SW Lake Ontario	Unknown
	Lake Erie	Lake Erie	Unknown
Razorbill (<i>Alca torda</i>)	Atlantic Ocean - NY Bight	Atlantic Ocean - NY Bight	Unknown

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Atlantic brant (<i>Branta bernicla</i>)	North Atlantic Coast	North Atlantic Coast	Stable
Greater scaup (<i>Aythya marila</i>)	North Atlantic Coast	North Atlantic Coast	Decreasing
	Great Lakes	Great Lakes	Stable

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Common eider (<i>Somateria mollissima</i>)	North Atlantic Coast	North Atlantic Coast	Increasing
Harlequin duck (<i>Histrionicus histrionicus</i>)	North Atlantic Coast	North Atlantic Coast	Stable
Surf scoter (<i>Melanitta perspicillata</i>)	North Atlantic Coast	North Atlantic Coast	Unknown
White-winged scoter (<i>Melanitta fusca</i>)	North Atlantic Coast	North Atlantic Coast	Unknown
Black scoter (<i>Melanitta nigra</i>)	North Atlantic Coast	North Atlantic Coast	Unknown
Long-tailed duck (<i>Clangula hyemalis</i>)	North Atlantic Coast	North Atlantic Coast	Unknown
	Great Lakes	Great Lakes	Unknown
Red-throated loon (<i>Gavia stellata</i>)	North Atlantic Coast	North Atlantic Coast	Unknown
	Great Lakes	Great Lakes	Unknown
Horned grebe (<i>Podiceps auritus</i>)	North Atlantic Coast	North Atlantic Coast	Unknown
	Great Lakes	Great Lakes	Unknown
Red-necked phalarope (<i>Phalaropus lobatus</i>)	North Atlantic Coast	North Atlantic Coast	Unknown
Northern pintail (<i>Anas acuta</i>)	North Atlantic Coast	North Atlantic Coast	Unknown
	Great Lakes	Great Lakes	Unknown
	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Unknown
Lesser scaup (<i>Aythya affinis</i>)	Great Lakes	Great Lakes	Stable
	North Atlantic Coast	North Atlantic Coast	Stable
Cory's shearwater (<i>Calonectris diomedea</i>)	North Atlantic Coast	North Atlantic Coast	Unknown

Species Distribution - Ecoregion			
Species	Historical	Current	Stability
Greater shearwater (<i>Puffinus gravis</i>)	North Atlantic Coast	North Atlantic Coast	Unknown
Little gull (<i>Larus minutus</i>)	Great Lakes	St. Lawrence-Lake Champlain Valley	Unknown
	St. Lawrence-Lake Champlain Valley	Great Lakes	Unknown
Bonaparte's gull (<i>Larus philadelphia</i>)	St. Lawrence-Lake Champlain Valley	Great Lakes	Unknown
	Great Lakes	St. Lawrence-Lake Champlain Valley	Unknown
Thayer's gull (<i>Larus thayeri</i>)	St. Lawrence-Lake Champlain Valley	St. Lawrence-Lake Champlain Valley	Unknown
	Great Lakes	Great Lakes	Unknown
Razorbill (<i>Alca torda</i>)	North Atlantic Coast	North Atlantic Coast	Unknown

Critical Habitats for Species in the Group				
Species	Life Stage or Use	System	SubSystem	Habitat
Atlantic brant (<i>Branta bernicla</i>)	Feeding	Estuarine	intertidal	other
	Feeding	Estuarine	shallow subtidal	other
	Feeding	Terrestrial	open upland	cultural
Greater scaup (<i>Aythya marila</i>)	Hibernating/Overwintering	Estuarine	deep subtidal	unknown
	Hibernating/Overwintering	Estuarine	shallow subtidal	unknown
	Hibernating/Overwintering	Lacustrine	cold water deep	unknown
	Hibernating/Overwintering	Lacustrine	warm water deep	unknown
Common eider (<i>Somateria mollissima</i>)	Hibernating/Overwintering	Marine	deep subtidal	rocky
	Hibernating/Overwintering	Marine	shallow subtidal	rocky
Harlequin duck (<i>Histrionicus histrionicus</i>)	Hibernating/Overwintering	Marine	deep subtidal	rocky
	Hibernating/Overwintering	Marine	shallow subtidal	rocky

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Surf scoter (Melanitta perspicillata)	Hibernating/Overwintering	Estuarine	deep subtidal	unknown
	Hibernating/Overwintering	Marine	deep subtidal	unknown
White-winged scoter (Melanitta fusca)	Hibernating/Overwintering	Estuarine	deep subtidal	unknown
	Hibernating/Overwintering	Marine	deep subtidal	unknown
Black scoter (Melanitta nigra)	Hibernating/Overwintering	Estuarine	deep subtidal	unknown
	Hibernating/Overwintering	Marine	deep subtidal	unknown
Long-tailed duck (Clangula hyemalis)	Hibernating/Overwintering	Estuarine	deep subtidal	unknown
	Hibernating/Overwintering	Lacustrine	cold water deep	unknown
	Hibernating/Overwintering	Marine	deep subtidal	unknown
Red-throated loon (Gavia stellata)	Feeding	Lacustrine	cold water deep	unknown
	Hibernating/Overwintering	Marine	deep subtidal	unknown
Horned grebe (Podiceps auritus)	Hibernating/Overwintering	Lacustrine	cold water deep	unknown
	Hibernating/Overwintering	Marine	deep subtidal	unknown
Red-necked phalarope (Phalaropus lobatus)	Feeding	Estuarine	shallow subtidal	unknown
	Feeding	Marine	deep subtidal	unknown
Northern pintail (Anas acuta)	Feeding	Palustrine	mineral soil wetland	emergent marsh
	Feeding	Terrestrial	open upland	other
Lesser scaup (Aythya affinis)	Feeding	Estuarine	shallow subtidal	unknown
	Feeding	Lacustrine	cold water deep	unknown
	Feeding	Lacustrine	warm water deep	unknown
Cory's shearwater (Calonectris diomedea)	Hibernating/Overwintering	Marine	deep subtidal	pelagic
	Hibernating/Overwintering	Marine	deep subtidal	pelagic
Greater shearwater (Puffinus gravis)	Hibernating/Overwintering	Marine	deep subtidal	pelagic
Little gull (Larus minutus)				

Critical Habitats for Species in the Group

Species	Life Stage or Use	System	SubSystem	Habitat
Little gull (<i>Larus minutus</i>)	Hibernating/Overwintering	Riverine	deepwater river	rocky bottom
Bonaparte's gull (<i>Larus philadelphia</i>)	Hibernating/Overwintering	Riverine	deepwater river	rocky bottom
Thayer's gull (<i>Larus thayeri</i>)	Hibernating/Overwintering	Riverine	deepwater river	rocky bottom
Razorbill (<i>Alca torda</i>)	Hibernating/Overwintering	Marine	deep subtidal	pelagic

Goal and Objectives for Wintering waterbirds

Goal: Maintain or increase populations of non-breeding waterfowl/water birds that migrate through or winter in New York.

Objective 1 : As important habitats become known, protect those areas from permanent loss or excessive human disturbances that could diminish their value to migrating or wintering waterfowl/water birds.

Measure: *Continued use by wintering waterfowl/water birds of important foraging and resting areas.*

Objective 2 : Develop more reliable population monitoring programs for migrating or wintering waterfowl/water birds that regular occur in New York.

Measure: *Periodic estimates of population size or trends for each of the above species.*

Objective 3 : Document important foraging and resting areas for migrating and wintering waterfowl/water birds in New York State.

Measure: *Maps delineating regular fall and winter concentration areas for all species.*

Objective 4 : Identify and estimate major causes of mortality (e.g., harvest, disease, oil spills, entanglement, etc.) that could affect populations of migrating or wintering waterfowl/water birds that regular occur in New York.

Measure: *Documentation of mortality causes, and estimates of annual or periodic losses due to major mortality factors.*

Recommended Actions

Recommended Actions

Habitat management:

- * Protect important waterfowl/water bird foraging areas from long-term destruction or development, excessive human disturbance, oil spills, environmental contaminants, and other potential impacts, through environmental permit reviews, etc.

Habitat research:

- * Characterize and map important foraging areas (e.g., submerged aquatic vegetation, mussel beds) for waterfowl/water birds wintering on Long Island.
- * Document habitats used by northern pintails during spring migration and staging in the St. Lawrence Valley and Lake Plains regions of New York.

Life history research:

- * Determine contaminant levels (e.g., mercury, other metals, PCBs, other organochlorines) in samples of the above waterfowl/water birds wintering in New York to assess potential impacts on reproduction or survival. Obtain samples as opportunities arise.
- * Document and estimate annual mortality of waterfowl/water birds in New York associated with Type E botulism and other major mortality factors, as opportunities arise.

Modify regulation:

- * Establish hunting regulations that will ensure long-term conservation of waterfowl populations migrating through or wintering in New York.
- * Reduce or modify ocean dumping and disposal practices that may damage important water bird habitats or result in debris (e.g., lead, plastics) that can cause waterbird mortality.

Other action:

- * Because most of the species in this group non-breeding visitors to the eastern U.S., NY should provide technical, financial or political support as needed, to further international waterfowl/water bird conservation efforts.

Regional management plan:

- * Work with regional marine resource managers to identify common interests and potential conflicts (e.g., commercial fishing/shell fishing techniques, aquaculture development, entanglement, oil spill response plans) with needs of wintering water birds. More intensive studies are needed of interactions between commercial fisheries and seabirds.

Statewide baseline survey:

- * Cooperate in development and conduct of baseline surveys or monitoring programs to determine population status of wintering waterfowl/water birds species in New York and/or eastern North America, at 10-year (or more frequent) intervals.

References

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Powers, Kevin D. 1983. Pelagic Distributions of Marine Birds Off the Northeastern United States. Prepared by Manomet Bird Observatory, Manomet, MA 02345. NAOO Technical Memorandum NMFS-F/NEC-27.

Sea Duck Joint Venture documents, including:

Sea Duck Joint Venture Strategic Plan at http://www.seaduckjv.org/pdf/StratPlan2001_06.pdf

Sea Duck Status reports at http://www.seaduckjv.org/meetseaduck/species_status_summary.pdf

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