

Protecting Migratory Birds in the Great Lakes Region

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Global Perspective & Overview of Migratory Birds in the Great Lakes Region

Population declines are occurring among North American and European wetland, forest, shrubland, and, especially, grassland migratory bird species. These declines result from the cumulative impacts of multiple threats that affect migratory birds during the breeding season, during migration and on their wintering grounds. Threats include habitat loss, degradation and fragmentation; mortality from striking towers and structures; contaminants; changes in timing of food availability with climate change; and loss of food. Although some threats result in dramatic changes, such as mass mortality under certain weather conditions or following application of pesticides, more often threats result in incremental declines.

Conservation of wide-ranging species, such as migratory birds in the Great Lakes region, is especially challenging because not only must sites for breeding, wintering, and migration stopover be protected, but the sites must also be explicitly linked across continental and hemispheric scales. Protecting only breeding, wintering or stopover sites, however, without considering how they are connected, fails to protect migratory birds. Birds may be highly vulnerable to changes at sites, landscapes, or regions and thus require creative approaches to conservation at all spatial scales, including hemispheric. Complex levels of coordination are required to address the many issues faced by migratory birds, including such overarching issues as climate change.

The Great Lakes state programs, in coordination with The Nature Conservancy's Migratory Bird Program, must address these challenges across the region by integrating continental and system-scale approaches with species-specific knowledge, to direct conservation of migratory bird populations and habitat. System approaches focus on landscape-level activities integrated across continents and countries. Species-specific approaches are needed to



Conservation efforts have helped the Kirtland's warbler population rebound from 170 pairs in the 1970s to nearly 1,700 pairs found last year in northern Michigan.

test assumptions used in system level approaches, to provide information required for protection of species of greatest conservation concern, and enable direct spatial links between each state and migration and wintering sites.

Because of their appeal to the public, birds galvanize interest in conservation and serve as an umbrella for protection of other species, plant communities and landscapes. Birds also result in sustainable development activities, such as ecotourism and waterfowl hunting, especially where there are large concentrations of birds during migration, such as Point Pelee, Ontario; Magee Marsh, Ohio, Hawk Ridge, Minnesota, or Whitefish Point, Michigan. Populations of rare species with small ranges, such as the Kirtland's warbler, also result in elevated public interest. People come from around the world to view birds at these, and other, sites in the Great Lakes region.

Migratory Birds in the Great Lakes Region: Challenges & Opportunities

The role of stakeholders in protecting migratory birds within the Great Lakes region falls into three primary goals: (1) conserving habitat within the Great Lakes region for viable, self-sustaining populations of species, especially those in which the Great Lakes

region is an important part of the breeding range for species of high conservation concern, and for stopover sites, (2) conserving key wintering and stopover habitat south of the Great Lakes region so habitat for each phase of the life cycle is protected, and (3) adapting our conservation work to account for projected climate change.

Accomplishment of these goals builds the support system, the network of sites that migratory birds require. To accomplish each of these goals strategic habitat protection is needed, supplemented by critical research, and aligned with efforts of key partners, so that our conservation programs can be assessed for their effectiveness and refined as needed.

Goal 1: *Conserving habitat within the Great Lakes region*

Protecting breeding habitat in the Great Lakes region. The Great Lakes region supports large numbers of species and numbers of breeding birds; hundreds of species successfully raise young (“source” populations) in our extensive forests, wetlands, open habitats, and Great Lakes islands. High proportions of the world’s populations of some species, including ring-billed gull, black-billed cuckoo, sedge wren, veery, golden-winged warbler, black-throated blue warbler and nearly 100% of the world’s population of Kirtland’s warbler, breed in the Great Lakes region.

The region contains some of the largest expanses of remaining unfragmented forest, and imbedded habitats, in the country. Large numbers of many species of migratory birds, including many species identified by Partners of Flight as species of conservation concern, inhabit these areas.

We have excellent opportunities to protect viable populations of migratory birds in both the northern forested regions of the region in Ontario, Minnesota, Wisconsin, Michigan, and New York and, in the basin’s southern states, in southern Illinois, Indiana and Ohio. In these landscapes our focus should be the protection of habitat tracts of 10,000 or more acres in landscapes that are 70% or more in natural cover. In addition, large, relatively isolated extensive forests (e.g., Baraboo Hills, WI; Allegan State Game Area, MI, Upper St. Joseph River, IN, MI; Oak Openings, OH), and large tracts of other habitats such as grasslands (e.g., Efrogmson restoration at Kankakee Sands, IN), are important areas to focus restoration efforts which expand the existing amount of habitat cover for the benefit of birds and other conservation targets.

In addition to areas of contiguous forests, the Great Lakes shorelines and islands are important breeding areas for waterbirds and shorebirds that require our attention. In the Great Lakes region, piping plovers nest only on extensive beaches and a high

proportion of nesting gulls, terns and herons nest on Great Lakes islands or in marshes. Protection of those shorelines and islands should be a continuing focus of our work.

Outcome I

Within the Great Lakes region, identify and protect populations of breeding birds, especially high priority species for which the Great Lakes region supports >20% global breeding population (e.g., Kirtland’s warbler, golden-winged warbler).

Key Strategies: *What We Must Do*

- Design and implement large scale protection efforts (e.g., acquisitions, working forest easements) with specific consideration to the conservation of high priority migratory bird species.
- Acquire or otherwise protect inholdings in and near large ownerships (>10,000 acres) south of the largely forested areas of the northern Great Lakes (e.g., Baraboo Hills, WI; Kettle Moraine, WI; Mississippi River Valley, MN, WI; Allegan State Game Area, MI; Upper St. Joseph River, IN, MI; Oak Openings, OH).
- Collaborate with the Upper Mississippi River and Great Lakes Region Joint Venture to identify source populations and cost effective methods (e.g., occupancy models) to identify source populations.
- Secure funding for long-term management (e.g., habitat management, cowbird control programs) on Kirtland’s warbler breeding grounds to ensure survival of the species.
- Develop conservation strategies for viable breeding populations of species of high concern that are integrated with other conservation targets.

Protecting stopover sites in the Great Lakes region. Effective conservation programs for migratory birds requires that we link breeding populations to wintering and stopover sites (places where birds stop to feed and refuel between breeding and wintering areas) so that birds have habitat and safe refuge throughout their life cycle. Most mortality of adult migratory landbird species takes place during migration. Rangewide efforts are required. A network of sites must be built starting in the Great Lakes region, ultimately expanding outside the region.

The Great Lakes region is globally important for migratory birds for stopover sites (resting and refueling sites during migration) and breeding sites. Hundreds of millions of birds, from loons to hummingbirds, migrate through the region each

spring and fall, dependent on the diverse range of habitats for food, shelter and rest. Globally significant concentrations of tundra swans, canvasbacks, broad-winged hawks, and songbirds cluster on or near the Great Lakes shorelines during spring and fall migration. All habitats are used – from offshore shoals and reefs in the Great Lakes to urban parks in Chicago, Milwaukee, Detroit, Duluth, Cleveland, Toronto and Rochester.

We cannot protect all stopover sites so we must focus strategically. We must build “bridges” over troubled waters and lands and abate threats to landscapes where stopover sites are most threatened: Great Lakes shorelines, islands, and highly altered urban and agricultural landscapes where only scraps of habitat remain. Some of these critical stopover sites take us to areas we do not traditionally work, such as urban and highly modified agricultural landscapes, and thus require innovative conservation approaches and techniques.

Outcome II

Protect/manage stopover sites near Great Lakes shorelines in: 1) the most highly altered landscapes (western and southern Lake Michigan, southern Lake Huron, Lake Erie, Lake Ontario); 2) areas such as Lake Superior with localized threats (e.g., where there are high concentrations of birds with high threats) and inland in the most highly altered landscapes, especially central Midwest.

Key Strategies: *What We Must Do*

- Implement conservation strategies for the western Lake Erie basin stopover work; ensure integration with Important Bird Area project of Audubon and planning efforts of other partners.
- Complete stopover models along the north shore of Lake Superior in Minnesota, Great Lakes watersheds (Lake Michigan and Lake Superior) of Wisconsin, Chicago Wilderness, and Lake Ontario watershed, New York.
- Work with Natural Resources Conservation Service to fund stopover site easements, especially in highly modified agricultural landscapes.
- Provide recommendations to industry and governments regarding siting of wind turbines relative to stopover sites.
- Encourage ongoing efforts of partners to implement “lights out” programs in tall buildings during migration.
- Work with established partners, such as the Upper Mississippi River and Great Lakes Region Joint Venture, and Ducks Unlimited, to protect

stopover sites, and build capacity of other partners to integrate stopover site protection with other conservation work.

- Build partnerships with corporations that have major land holdings on the Great Lakes to promote ecologically sound alternative energy, support regional stopover efforts, and manage their lands for migrants.
- Encourage and support research needed to refine models for conservation application.

Goal 2: *Conserving habitat outside the Great Lakes region*

Effective protection of migratory birds demands that we look well beyond the borders of our states and the Great Lakes region. Well-focused efforts, integrated with The Nature Conservancy’s priorities south of the Great Lakes region, including international projects, are needed to complete the protection package.

This is most easily done for species with limited ranges, such as Kirtland’s and golden-winged warblers, but we need to encourage techniques that establish specific linkages of breeding populations to specific migration and wintering sites outside the Great Lakes region. Application of genetic or chemical markers (e.g., isotopes, forms of elements with different mass), or use of satellite transmitters are likely approaches to establish linkages.

Where we lack this information, or there is no specific connectivity, then it is important to protect habitat all across the winter range of each species or for groups of species that winter together.

Outcome III

Implement rangewide protection by strategically linking breeding, wintering and stopover areas.

Key Strategies: *What We Must Do*

- Support and maintain the rangewide Kirtland’s Warbler project, including research, outreach and education in The Bahamas, continued research, management, and monitoring in Michigan, and research to understand the interrelationship between these two areas.
- Establish inter-jurisdictional partnerships, including support of ongoing working groups, based on the conservation importance of particular species, or suites of species, that support priority international projects (e.g., cerulean warbler and golden-winged warbler working groups). Ensure that coordination is explicit with other Nature Conservancy operating units and the Migratory Bird Program.

- Establish wintering and stopover locations of breeding, Midwestern bird species of high concern through new studies. Once identified, support projects in North America outside the Great Lakes region, including international projects, to protect wintering and stopover sites. In the interim, support Migratory Bird Program and Nature Conservancy country programs to protect sites throughout winter ranges, focusing on highest quality sites.
- Actively support research programs that establish specific linkages between breeding, migrating and wintering populations of bird species, especially those of high conservation concern.

Goal 3: *Adapting migratory bird conservation to climate change*

Many bird species currently breeding in the Great Lakes region are projected to be replaced by species now breeding in the southern United States. Because birds are relatively mobile, most of these species may persist in other parts of North America, especially Canada, as climate changes.

A few species with very limited distributions (e.g., Kirtland’s Warbler, Golden-winged Warbler) may be threatened by projected climate change if suitable ecosystems are lacking north of their current ranges. Migrating birds may undergo new stresses due to changes in plant species composition, land use, changes in water levels of the Great Lakes, and rate of climate change at different latitudes and longitudes.

Outcome IV

Ensure survival of bird species occurring in the Great Lakes region, especially those of high conservation concern, with climate change.

Key Strategies: *What We Must Do*

- Ensure there is a portfolio of large blocks of protected areas throughout the Great Lakes region that will be located within each climate zone.
- Ensure habitat for stopover sites is distributed throughout the Great Lakes region.
- Model future distribution of species of high conservation concern, and conserve areas within and outside the Great Lakes region projected to support these species.

Conclusion

The Great Lakes region is of global significance to migratory birds. The goals, outcomes, and strategies outlined in this document provide concrete steps needed to ensure that migratory birds are protected comprehensively. Implementation of these strategies, in collaboration with partners, would serve as a model for how The Nature Conservancy can achieve protection of birds, and associated species, communities, and landscapes, in an ever-changing world.