

## EXECUTIVE SUMMARY

# Protecting Migratory Birds in the Great Lakes Region

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**M**igratory birds serve as a flagship for biodiversity protection. Several species, including the endangered Kirtland's warbler, have much or all of their breeding range in the Great Lakes region. For other species the Great Lakes region provides critical migration stopover habitat.

Population declines are occurring among many species of migratory birds. Birds may be susceptible to changes at site to hemispheric scales. Threats include loss of breeding, wintering and stopover habitats, collisions with anthropogenic (related to humans) structures, contaminants, and other factors. These threats become cumulative, resulting in gradual declines in bird populations.

Conservation of migratory birds is especially challenging because effective protection measures must be integrated across breeding, wintering and migration stopover sites. This requires high levels of coordination across many jurisdictions at broad spatial scales.

### **Desired Outcomes**

- Increase viable populations of breeding birds: Identify and protect viable populations of migratory birds, especially those species with >20% of their continental breeding population within the Great Lakes region.
- Increase amount and quality of key stopover sites: Protect and restore function of stopover sites for migratory birds, with an emphasis on areas with high concentrations of migrants and in landscapes where stopover sites are in short supply (e.g., highly altered urban and agricultural landscapes).
- Identify and protect key wintering sites: Work with the Migratory Bird Program and international programs of The Nature Conservancy, and collaborators, to protect high quality winter habitats across the range of a suite of migratory species, especially for those species with a high proportion of their continental breeding population in the Great Lakes region. Support research which permits the identification of wintering areas through chemical and genetic markers so that explicit linkages between breeding and wintering areas can be defined.

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### **Key Strategies: What We Must Do**

- Model distribution of viable populations of breeding birds: Collaborate with partners to identify and map locations of viable populations of breeding species of high conservation concern in the Great Lakes region.
- Protect large habitat expanses for breeding birds: Overlay distribution of migratory species of high conservation concern on landscapes dominated by natural cover and target protection of habitat blocks >10,000 acres in these landscapes. Restore and enhance large core areas within isolated large habitat patches located in highly altered landscapes.
- Complete stopover models for each of the Great Lakes: Complete identification and mapping of the most important stopover sites for waterfowl, shorebirds, and landbirds within each of the Great Lake basins.
- Use Conservation Action Planning to identify stopover site protection strategies: Identify and implement strategies that effectively conserve stopover sites: Describe conservation strategies needed, stratified by Great Lake, to protect stopover sites. Build on pilot management projects with P.E.T. Ltd. (Ohio) and outreach programs with DTE Energy.

- Implement integrated, rangewide conservation programs: Maintain ongoing work to integrate assessment and implementation of conservation work throughout the range of the Kirtland's warbler. Apply lessons learned from this effort to other species, possibly Piping Plover and others, where breeding season and wintering season linkages are sufficiently known.
  - Establish connectivity between breeding and wintering areas: Support stable isotope research to establish linkages between breeding and wintering sites for migratory species, especially species of high conservation concern.
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### **Key Challenges, Opportunities & Questions**

Migratory birds are very mobile, so conservation programs must be designed at spatial scales requiring high levels of coordination within the Great Lakes region, with other regions of the United States, and internationally.

Areas for breeding, wintering, and during migration must account for changing environmental conditions and include large habitat blocks for breeding birds, especially. Because of these factors, we will need cost effective measures of success that allow us to estimate population viability throughout the life cycle and population response to changing environmental conditions.

Consequences of projected climate change on breeding birds have been described at broad scales but much remains to be learned to predict future breeding, wintering and stopover areas, especially at fine scales and for species with narrow ecological requirements, such as the Kirtland's warbler or piping plover. To ensure long-term survival of migratory birds, projected changes in distributions of migratory birds, and available habitat, must be made.