

# Monitoring and Mapping of Avian Resources over the Great Lakes

## Why is this Project So Important?

This project makes significant contributions toward filling critical data gaps in the knowledge of waterbird distribution and abundance in the open waters of the Great Lakes. Deliverables include aerial survey findings and waterbird distribution models that will be used to inform nearshore spatial planning, conservation activities, wildlife management efforts, and planning decisions for offshore wind energy development.

The Great Lakes region contains **10,000 miles of shoreline** and a watershed area of **more than 300,000 square miles**. Lakes within this watershed area provide important breeding, feeding, and resting areas for many birds including the Bald Eagle, Common Loon, and Double-crested Cormorant, among others.

Much of the Great Lakes coastal aquatic and terrestrial landscapes that once supported migrating birds have been lost or degraded, yet **the region supports hundreds of millions of migrants** during both spring and fall migration.

## Project Status and Next Steps

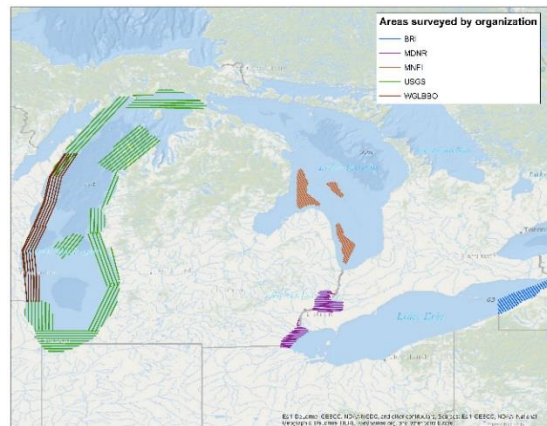
The project is now in its third phase, in which a team of researchers are exploring modeling methods that will help summarize aerial survey information for conservation and planning activities.

For more information, visit the Great Lakes Commission's project website at <http://www.glc.org/work/avian-resources>

## Monitoring Scope and Findings

The **survey area** includes portions of Lake St. Clair, Lake Erie, Lake Michigan, and Lake Huron.

### Map of the Surveyed Areas



**Over 1.8 million individual birds** were observed during the two monitoring phases of this project that occurred during fall, winter, and spring seasons between September 2012 and June 2014.

Study Area	Bird Count	% of Total
Lake St. Clair	1,401,982	76%
Lake Erie	276,392	15%
Lake Michigan	141,589	8%
Lake Huron	9,545	1%

**More than 53 different species of waterbirds were observed** during the monitoring phase, including **40 species that are found in pelagic (open water) habitats** during at least some part of their annual life cycle. **52 of the 53 species are protected** either by federal or state laws.



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## Most Commonly Observed Species by Study Area During Surveys (2012-2014)

Lake St. Clair, Detroit River, & Western Lake Erie		
Species	Individuals Observed	Percentage of Total Observed
Canvasback	563,822	17%
Scaup	390,269	11%
Redhead	59,680	2%
Unknown Diver	33,392	1%

Eastern Lake Erie		
Species	Individuals Observed	Percentage of Total Observed
Red-breasted Merganser	2,197	22%
Bonaparte's Gull	1,594	16%
Unidentified Gull	1,400	14%
Unidentified Merganser	1,248	12%
Herring gull	1,067	11%

Lake Huron		
Species	Individuals Observed	Percentage of Total Observed
Long-tailed Duck	9,388	48%
Large Gulls	1,428	7%
Canada Goose	818	4%
Swans	153	1%
Unidentified Sea Ducks	144	1%

Eastern and Southern Lake Michigan		
Species	Individuals Observed	Percentage of Total Observed
Long-tailed Duck	60,444	37%
Gull	12,949	8%
Merganser	7,954	5%
Scaup	6,423	4%

Western Lake Michigan		
Species	Individuals Observed	Percentage of Total Observed
Long-tailed Duck	69,115	50%
Red-breasted & other Merganser	29,923	22%
Duck, species	12,105	9%
Bonaparte's Gull	7,872	6%
Scaup, species	4,675	3%