Western Lake Erie Coastal Conservation Vision Project
Engaging stakeholders to create a shared regional vision that integrates ecological and social values, providing solutions for people and nature
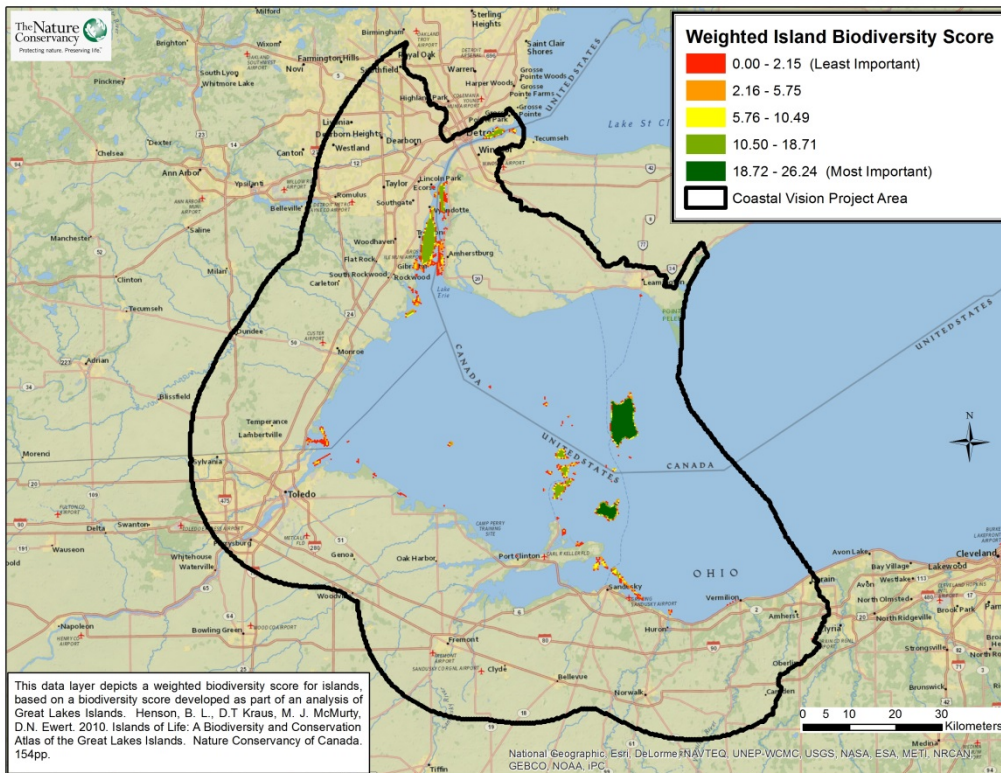
Lake Erie Island Biodiversity

Take Home Points

- The 1,773 islands in Lake Erie provide unique and critical habitat for many species, especially nesting birds.

- Islands in Western Lake Erie support a vigorous tourism industry, attracting more than a million visitors per year.

- The LEBCS established a goal of having 30% of island area in conservation ownership

Weighted biodiversity score for islands. The WLEB analysis area is outlined in black, with the eight high-ranked islands indicated in red. Note that some islands are small and are therefore difficult to see at this scale.

Islands in relation to regional ecological and social values

Islands are unique and important habitats for migratory birds and for a variety of rare plants and animals in the Western Lake Erie Basin (WLEB). There are 1,773 islands in Lake Erie and its two connecting channels, the Detroit and Niagara Rivers[1]. Islands in the Lake Erie basin provide native species with refuge from some of the pathogens, invasive species, and overabundant species that challenge their survival in mainland habitats. They also tend to be less threatened by inappropriate development and habitat fragmentation, and their surrounding waters may even create a refuge for heat-sensitive northern species by acting as a buffer against high temperatures[2]. Colonial nesting waterbirds flock to the rocky, isolated shores of Lake Erie's islands to find safe areas to build their nests. Wetlands along coasts that are protected from high-energy waves provide habitat for spawning fish and for rare native plants and animals, such as the Lake Erie watersnake (*Nerodia sipedon insularum*). The isolation and natural landscapes of the Lake Erie islands draw people to their shores as well. The Western Lake Erie islands are particularly popular, drawing more than a million visitors each year[3]. Tourism is the mainstay of these island economies and also supports mainland businesses by creating demand for such services as entertainment, lodging, food, and transportation. Travelers to islands who come through the two closest mainland counties of Erie and Ottawa, Ohio, spend nearly $1.5 billion for these services at the counties' local businesses, generating over $2 million in local and state tax revenue. Island stakeholders have particularly identified the need to grow nature-based tourism, which is a growing interest among Ohio residents and across the nation[4]. The Western Lake Erie Coastal Conservation Vision Project (WLECCV) includes this data layer to illustrate the economic and ecological value of island biodiversity and of stakeholders' interest in developing a sustainable tourism industry founded on their islands' natural wonders.

Related Human Well-being Layers: Beaches, eBird, Hunting

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Islands data layer

The Lake Erie Biodiversity Conservation Strategy (LEBCS) established a goal of having 30% of island area in conservation ownership in order to protect their unique habitats and species. This data layer facilitates this goal by showing priority areas for protection in terms of biodiversity. The layer depicts a weighted-area biodiversity score for islands, based on a biodiversity score developed through a previous analysis of Great Lakes Islands[5]. That process incorporated biodiversity data from Michigan, Ohio, Pennsylvania, and New York State Heritage Programs and from the Ontario Conservation Data Centre, and accounted for the biological diversity, physical diversity, protection status, and threats to each island's biodiversity[6]. For the WLECCV project, a weighted biodiversity score was calculated by multiplying the total area of islands within each 10 ha planning unit by the biodiversity score from the Islands analysis, then dividing by 125. The Great Lakes Islands analysis designated islands that scored higher than 125 as high priority for conservation, so this calculation either increased or decreased the final score depending on whether an island was a high or low priority in the Great Lakes Islands analysis.

Data sources and potential limitations

This data layer includes data from the U.S. and Canada that was compiled by scientists at the Ontario Ministry of Natural Resources, Nature Conservancy of Canada, and The Nature Conservancy in Michigan to form the Great Lakes Islands Database[7].

References and links

1. Henson, B.L., D.T. Kraus, M.J. McMurtry, and D. N. Ewert. 2010. *Islands of Life: A Biodiversity and Conservation Atlas of the Great Lakes Islands*. Nature Conservancy of Canada. 154pp. http://www.conservationgateway.org/ConservationByGeography/NorthAmerica/wholesystems/greatlakes/basin/migratorybirds/Pages/Islands-of-Life.aspx
2. Pearsall, D., *et al.* 2012. *Returning to a Healthy Lake: Lake Erie Biodiversity Conservation Strategy*.
3. Ohio Sea Grant. *Self-guided tours to natural wonders & historic trails: explore the Lake Erie Islands- A guide to nature and history along the Lake Erie Coastal Ohio Trail*. http://ohioseagrant.osu.edu/_documents/publications/GS/GS-025ExploretheLakeErieIslandsAGuidetoNatureandHistoryAlongtheLakeErieCoastalTrail.pdf
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5. Henson, B., *et al.* 2010. *Islands of Life*.
6. Henson et al. 2010. *Islands of Life*.
7. Henson et al. 2010. *Islands of Life*.

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