

# Understanding drivers of wild rice proliferation in the Great Lakes: A stepping stone towards ecological restoration



**Core Question:** Why is wild rice becoming increasingly scarce in southern regions of Michigan?

Wild rice, known as manoomin in Anishinaabemowin, holds profound cultural and ecological significance in the Great Lakes region. For Indigenous tribes, it is a traditional staple food and a vital spiritual connection to the land. Ecologically, it provides essential habitat and forage for waterfowl and other wetland species. Despite its importance, wild rice has faced a steep decline due to habitat destruction and coastal development. In Michigan, researchers are particularly concerned by a trend of reduced abundance in the southern portions of the state, where temperature and weather fluctuations appear to be driving habitat loss.

Michigan is home to two distinct species of wild rice. *Zizania palustris* is typically found in the north and produces larger seeds favored by harvesters; *Zizania aquatica* has a historical southern range and smaller seeds. Currently, these two species are often managed and studied under a single umbrella, leaving their individual responses to environmental change unclear. Preliminary data suggest they react differently to stressors, however. For example, one study found that rising temperatures negatively affected the maturation of the northern species, while another field study

associated higher temperatures with increased biomass for the southern species.

To address these knowledge gaps, this project will investigate the growth rates of both species across different latitudes and environmental conditions. Scientists will conduct parallel experiments at two locations in Michigan to capture the southern extent of each species' range. By growing the plants in controlled environments that mimic natural soil and water variations, the researchers aim to provide updated population estimates and identify the specific factors causing scarcity in the south. This work will assist conservation groups in protecting Michigan's rare natural communities, ensuring that this culturally and ecologically irreplaceable plant can be restored and maintained for future generations.

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