

A Century's Perspective of Changes in the Aquatic Macrophyte Flora of Western Lake Erie: What's Next?

David L. Moore (dmoore@utica.ucsu.edu). Department of Biology, Utica College of Syracuse University, Utica, NY 13502-4892

Aquatic macrophyte communities associated with western Lake Erie were first studied systematically by Adrian J. Pieters in 1898. Since then, the marshes and associated wetlands have been impacted by both natural and anthropogenic stresses. Normal long term and short term fluctuations in precipitation in the watershed have produced periods of high and low water levels with associated impacts on the macrophyte flora. Land use has profoundly altered much of the drainage basin, shoreline and lake sediments. Throughout much of the first 75 years of this century water quality was degraded by increased sediment and nutrient loads as well as loss of macrophyte habitat. Displacement of native macrophyte flora by non-indigenous plant species has altered the macrophyte community structure. In the last 25 years, with improved sewage treatment and reduced phosphorous input, water quality has steadily improved. The introduction, spread, and mixed impacts of *Dreissena polymorpha* Pall. has wrought additionally profound and generally positive effects on both distribution and composition of the submersed macrophyte communities. Implementation of effective biological controls portends eventual management of *Lythrum salicaria* L., the principle invader of lake-associated marshes. The submersed macrophyte communities after nearly a century of decline and simplification in structure are rebounding to the degree that in some localities they are regarded as weedy. Wetland restoration (a mixed proposition), protection, and preservation is a positive trend and continued efforts in that direction should be part of long range objectives and planning.